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[[[Revisions still to do: Intro, Silver et al. in V, Helphand in VI, Kantorovich in VII.]]

Strategic Position: Working Power over Production, and How Labor History, Economics,
and Sociology Have Ignored It

Or,

Working Power over Production: Labor History, Industrial Work, Economics, Sociology,
and Strategic Position

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Introduction: Reasons, Consequences, Previews

Who will read this book?

Its subject is labor in conflict with capital in the modern world. Many who have picked the book up will now put it down. “...labor in conflict with capital in the modern world.” Just nine words, and already such sleepiness. Why read on?

The subject is so old, so rarely now on the mind of educated readers anywhere, so tiresome. Intellectuals figure they have heard it all before, and now that “the modern world” means “the American world,” they are sure the story is finally over: labor lost, forever. Capital does not read, but its big owners and managers do, and while they keep

an eye on the conflict, they figure they have bureaucratized it, discounted it, hedged against it, and will always move a jump ahead of any serious problem. Labor does not read either, but workers living from regular paychecks do, and while they pay close attention to the conflict, they cannot agree any longer what to do about it, or if there is anything to do about it, but just suffer it. The labor movement, organized labor, unions, in the United States the AFL-CIO, insists on the conflict, but promises cooperation with capital in return, and seems able to do little more now than express indignation at its continual losses. As for the casuals, on-calls, and temps working at part-time jobs and part-time wages, and those who work at home or out on a job, but not for wages, housewives, freelancers, independent contractors, the self-employed, and beyond them the marginals, informals, illegals, undocumented, the *clandestinos*, hustling a living however they can from day to day, and beyond them the unemployed, and prisoners, all labor's own dreaded reserves, they all have other kinds of struggles to fight. How could a book on labor and capital interest them?

Besides, having written this book, I know it is not easy to read. It is mostly history, in pieces, as examples, and inevitably unresolved. It offers neither entertainment nor rebirth, neither survey nor instruction. It is as clean as I could get it of romance or illusion, about persons, causes, and ideologies, a book intended for serious students of a serious matter. It takes concentration to understand. It is an argument, as tight as I could make it (almost), to move the reader to recall or recognize the force of certain tiresome but mighty facts, above all labor and capital in the modern world, and to see through them, in the old idea of the division of labor, a new meaning of great, real power. The subject of labor in conflict with capital may be dead, but if not, if it is live, it is dangerous

to the actually existing order of the world. The argument here comes into focus on a now almost entirely forgotten concept, that modern divisions of labor, however they change in modern economies, have some technically “strategic positions” in them. Wherever these positions may be, shifting as they may, what makes them strategically important is that work there (skilled or not) matters much more than work in other positions (skilled or not), because it holds a division of labor technically together, in production. If work there stops, this forces extensive disruption of work elsewhere. And if the disruption happens in an industry “strategic” in production at large, this forces disruption across the entire economy, even internationally. Such power seems strange in the modern world. It is a power civil, invisible, and at work (of all places), not everywhere at work, but at certain, special places there, often not the obvious places, and if not obvious, not easily discovered either, and often not the same places for very long. Vastly ignored, it is a power of vital material importance in every country, the power to refuse vital force at particular places of urgent material necessity, in some cases to inactivate production essential to the national productive system, and let inertia force material disconnection and spread economic paralysis. Its reality is not easy to understand, much less believe.

Whoever may still be reading may well sigh, “Hard to read, and hard to believe? You bet. This is just a big strike, the old ‘general strike,’ only now he’s calling it the ‘strategic strike.’ May Day, shmay day. Get over it. And if it’s such a BFD, why has everybody but him ignored it? Never happened.” So another potential reader puts the book down and moves on.

That would get wrong what the book is for. Let me offer two short explanations, like in a prospectus. The “strategic” concept here is not of an event, an experience, of

reliving old, wild excitements or anticipating dramatic new crises, End Times for CEOs, CFOs, and CSOs, an Anarchist Rapture. Its premises are the actually engineered structures of leverage in a country's productive installations, including its means of transportation and communication. Ideas of "strategic position" even at work will vary, so that there may be legally strategic, politically strategic, morally or culturally strategic, commercially strategic, financially strategic, or labor-market strategic positions, or several such positions at once; but these are strategic advantages brought from the outside to work, not built into the work. The strategic idea here is of positions at work on which the work at many other positions technically depends. The concept of a technically strategic position at work is of a position engineered into a material structure for collective labor, a position from which the technical leverage over the collective output is powerful, working power over production. "Technical" in many circles has now come to mean something trivial, boring, superficial, procedural, something important persons need not waste their time on, should leave to underlings. I want to show it may instead mean something very important. The argument here, to show this strangely ignored, specifically technical power, which is also the power to stop production, is not about law, politics, morality, culture, commerce, finance, or labor markets. It does not resort to any such field to advocate any general or particular use of working power over production. Its concern is not to promote experiences, but to explain an obscure but always present ability to force material breakdowns and social crises.

Second, although vastly ignored now, workers' technical power over production continually alarmed the public from its early applications in the 19th century until the Cold War. Because workers actually used this power often to broad effects, the notion of

technically strategic positions emerged in public discussion in the 1890s. Because these positions matter most in strategic industries, a concept of them, the suggestion of a theory of the power in them, first appeared explicitly in the United States during World War II. And precisely because the practice of such power and the thinking about it go back so far, this book is mainly a history, to show how the thinking (through much fogginess and vacillation) reached a moment of clarity in the 1950s--then pretty much faded away. The reasons for the concern fading are easy to see. Since World War II much legislation and public policy have been to limit the use workers make of technically strategic positions, and much private investment has gone to abolish established positions by the adoption of new technology. Meanwhile the professionals on whom the serious public depends to form its views, the critics, intellectuals, and academics who might have analyzed the changes in technical power, have concentrated serious public attention on government and business. This is largely why the ignorance of workers' technical power is now so vast: Mystified by the power of state and capital, the public does not recognize, neither does labor, that while the new technology keeps eliminating old strategic positions, it also keeps creating new strategic positions, if not as many, maybe more powerful positions, in the same place or elsewhere. But the workers in these positions, skilled or not, usually know their advantages. They may quietly apply them for special deals, and management, which knows them too, makes the special deals, until capital moves the operation, or trashes its technology for a new one, or goes into another line of business. If such workers in a strategic industry hold to broad commitments, they may so threaten "national safety" and international business that they gain collective control of all work in

the industry's new technology, for broad general benefits, as they did on the U.S. Pacific Coast in 2002.¹

But I want the book to do more than make its contention about labor and tell the history of the concept key to understanding it. This argument about an ignored, invisible, vital working power of massive force may have the consequence that its readers, any of them left, will begin to think differently about labor's conflict with capital. If they can conceive of technically "strategic positions" in production, in a plant, an industry, an economy, even globally, they may develop a capacity for generally "strategic thinking" about labor and capital. I must emphasize that "strategic positions" are only places, objects, or objectives, whereas "strategic thinking" is evaluation of them in the context of conflict. Just thinking about "strategic positions" does not amount to "strategic thinking." Only if you think how one side or the other in the conflict could use these positions, to prevent a battle, or to fight to deceive the other side, or weary it, or flat destroy it, are you beginning to think strategically. I must emphasize too, "strategic thinking" does not mean the public agitation over "strategy" embroiling major U.S. unions for the last several months. "Strategic thinking" (private or public) is not making lists of tasks or goals or hopes, which is so far all that have appeared for the AFL-CIO to resolve at its national convention in July 2005.² Debates over "what we must do" will not yield a strategy, but at best an agenda. Anyway a strategy is not a plan you simply think up and apply while the other side sits still. "Strategic thinking" means calculating the most probable powers and fields of the forces in conflict for the period you intend to fight, calculating what you

¹ Evelyn Iritani and Marla Dickerson, "The Port Settlement: Tallying Port Dispute's Costs," *Los Angeles Times*, November 25, 2002, p. C1; Kathleen McGinn and Dina Witter, "Showdown on the Waterfront: the 2002 West Coast Port Dispute," *Harvard Business School N9-904-045* (April 28, 2004).

² My latest check was March 29, 2005. AFL-CIO, "Strengthening Our Union Movement for the Future: Proposals," <http://www.aflcio.org/aboutaflcio/ourfuture/proposals.cfm>.

can win or lose, deciding among your prospects what you most want to win in the conditions before you, what you have to win, and what you cannot risk losing, and devising a strategy, a general plan of operations, to gain all you can and avoid all the damage you can from a foe doing likewise. But as a way of thinking it means more. It requires at the very start that you think about the nature of the conflict, figure what kind of conflict it is, whether you can change its nature, or have to take it as it is. This is the biggest question about labor in conflict with capital, what kind of conflict it is, because it may be any kind involving free labor at a wage. It may be an individual worker against an individual employer. It may be several small groups of workers each fighting for its particular claim against a small company, or a combination of such groups fighting for a common claim against three or four big companies. Or it may be many different sorts of groups coordinated in a large organization fighting for various claims against a huge corporation. Actually it is all these kinds and others, every day, in every country. And at its most general it involves much more, because, workers being human, free labor at a wage actually happens (has to happen) in the midst of all their other social connections and arrangements, involving many people who are not working for wages, or working at all. Ultimately labor's conflict with capital is like a war of resistance against occupation, a great, long war in which there are several sides, frequent disputes on all sides, shifting alliances, but always the two great original enemies, ever developing new weaponry, intelligence, reserves, strategies, fronts, operational missions, orders of battle, tactics, for a war maybe without an end.

The metaphor is far from perfect, but not too much of a strain. Think of a war in a modern country occupied by a global power, where probably 80% of the 16-to-65

population support the occupation (at least accept it), banking on its promises of safety and happiness. Probably two thirds of the 16-to-65's could not serve in the resistance anyway, for lack of the proper qualifications, most of the third who could serve stay clear of it, too worried about their individual situations to do more than grumble, and most of the rest are just struggling for a better deal under the circumstances, leaving only a remnant in militant action, who often endanger their families, friends, and fellows, but are continually recruiting, continually losing members, continually operating to defeat the occupation. On the other side are the occupiers, masters at distracting and reassuring the occupied, unable to defeat the resistance because they cannot abolish or destroy its source, on which the occupation also depends, but continually changing circumstances to undo struggles for a better deal, and continually attacking the continually regenerated militants. The war may end in a miracle: The occupiers' promises of safety and happiness come true, and the militants give up; the occupiers mellow, so does the resistance, and they all live in pursuit of happiness ever after; all the occupied unite in support of resistance, overthrow the occupation, and make the country their own again; the militants find the right strategy, apply it, liberate the country, and put it right. Secular projections of the war tend to the grim: The war goes on practically forever, the occupation more or less in control indefinitely; the occupiers so mismanage the occupation that they lose control, the resistance takes charge, and mismanages the liberation; the occupiers so ruin the country that neither they nor the resistance can run it, and among the ruins new, improvised organizations emerge, some to plunder far and wide, others to defend their local territories, maybe in time to confederate them. Without wonders force is inevitable, whether or not it comes to any resolution.

This is generally strategic thinking about labor's conflict with capital, when you think technically as well as otherwise how both sides engage in contention so serious. But this kind of thinking has its consequences too, and they may be troubling. As you think how to fight such an occupation, or such a resistance, how to use labor's technically and otherwise strategic powers, or capital's power to divide them and leap ahead, as you think how at least not to lose the struggle, maybe to win it, even technically to win for good, as otherwise you could not win, and think what this winning would mean, you may ask new questions--decidedly not technical questions. You may ask as you would about a war, what the conflict is really for, who is it that the fight is for. You may ask, if labor could ever win such a conflict, how it could not mismanage the liberation, what it would have to do right, what its responsibilities in liberation would be, for whom is it ultimately fighting. You may then begin to ask in this great, long conflict who you are, where do you belong, to whom do you belong, which is your side, which side are you on, who is on the other side, who is alien to you, to whom are you alien. These are old questions in the conflict between labor and capital, questions of "consciousness," as they used to call them, before they confused them with questions of "identity." With whom do you share most in your clearest sense of a world in conflict? Your family? Your friends? Your fellows at work like you at home, or in your trade or profession, or at work where you work, the sisters and brothers there, or your colleagues? Or is it your company? Your business or industry? Your club? Your church, mosque, tabernacle, or temple? Your fellow faithful (or unfaithful) everywhere? Or are you closest to your neighbors? Your townspeople? Your fellow citizens? Or fellows under oath, in uniform. Or fellows on the street, or out of a job, or in prison? Or your color of people? Or fellows of your language

or dialect? Do you line up with people healthy and sound, or with people disabled somehow? The young, or the old? The educated? The uneducated? Men? Women? Gays? Lesbians? Working people anywhere who may never be more than working people, however they work, wherever they work, whoever they are? Or the relieved, the protected, the established, the privileged? Insiders or outsiders? In this great, serious conflict, who are your comrades, to whom will you be true? And for whom will you and your comrades fight, only for yourselves, or for others? Who are your people? Who are “we”?

It is not an idle question, cheap introspection, if you have comrades. Having comrades, being a comrade, the word so hard to hear now demands reflection. One on active duty testifies: “It’s harder to be a comrade than a friend. It’s different than being a brother,” or a sister. “Friends and brothers” and sisters too “forgive your mistakes. They are happy to be with you. You can relax and joke with them. You can take your ease with them--tell them tall tales. Comrades are different. Comrades forgive nothing. They can’t. They need you to be better. They keep you sharp. They take your words literally.” They count on your words, act on them, and are frank in return. As the comrade here has lately praised another, now gone, “You never had to chase your answer. He said it to your face.”³ They have to trust each other, absolutely, because the stakes are so high, not their individual lives, not only their personal honor, but above all their collective honor, the good of their company and that of the people for whom they fight.

The serious question then remains, who are your people, the people to whom your comrades and you commit yourselves? In this great conflict, which capital cannot win (although it may never lose), but labor might win, who are “we”? And what difference do

³ James Gormley, “A Fire Captain’s Eulogy,” *The New York Times*, December 23, 2001, IV, 7.

“we” make? If “we” are only family or friends, or other sorts of forgiving, mutually devoted folk, together you already have all you need, or can have, and will make no difference to the conflict either way. Bless your stars. Enjoy the mutual devotion; let your comrades go, let labor and capital fight for themselves; survive.

But if your people are a broader group or a movement of the kind typically formed in modern society, they may make a difference. It is a classic modern relationship, an association of passing acquaintances or e-correspondents or distant strangers who share some particular fear, interest, duty, purpose, grievance, creed, or culture, who cooperate from calculation or solidarity, maybe both, and are trying to move the occupying power to better a particular condition. Altogether these associations make a definitive difference. Struggles to move power to better particular conditions are democracy. In occasional coalitions and continual rivalry with each other, they benefit one group or movement or another. The gains divide the beneficiaries, and always rouse new movements from new fears, interests, grievances, and so on, more democracy. If a movement begins to cost capital too much, as technically strategic workers demanding more for themselves sometimes do, capital moves, leaves that area, and develops another, democracy’s freedom. These struggles are schools where your comrades and you pay to learn capital’s power in perpetuity, its tight margins on hope and satisfaction, its end to history, because now there can be nothing really new under the sun, except in the market, then only to consume. You go to schools of magic and tragedy. The difference your people make, accepting the occupation, being grateful for investment, free in a world impossible to change, is to contribute to capital’s power. Not unless a movement

technically powerful in production decided to better conditions at large could it threaten to reopen history.

If your people, the “we” you have at heart, are a uniformed civil or armed service, they have their associations too. But mainly they have their department, or their corps, and their unit, their company. And there they already have their comrades, among them yours and you. Between labor and capital these official groups make a great difference. Their struggles are somewhat like ordinary struggles, but in part radically different, because of their sworn public missions and essential duties. The services struggle with the public for the direction and resources necessary for them to do their missions, and against each other for public support and sometimes in the very performance of their duties and critical tasks. Since capital’s modern democratic societies cannot reach a consensus even on building codes, police discretion, or who takes charge at a big fire, much less on war or peace, the public cannot give the services clear, consistent directions or reliable budgetary projections. But the struggles between the services teach your comrades and you to respect capital, resent the public, stick tight to your own service, and institutionally distrust the others. These feuds cannot abate (except in public relations) through any Regional Emergency Management Plan, or even a declaration of war. In the civil services and the military your comrades and you witness the public’s abuse of the oath you swore, using your shared selflessness to cover its selfish schemes. You go to schools of loyalty and tragedy. Under the occupation the great difference “we” make is to protect capital’s safety, peace, and quiet. It is a difference strategically much less technical than political and moral. To take it away need not disturb production, but would disable capital’s government.

Think again: What if this occupied country's society is alien to your people, or "we" are alien to it, because of color, language, customs, ideas, values, religion? For now, like family and friends, they make no difference to capital or labor, but in a crisis between them they may make all the difference. They struggle to survive against integration into modern society, to avoid dissolving into democracy's movements, to keep their own integrity. Their struggles encourage alienation, are schools of estrangement from the regular rivalry for better conditions, schools where your comrades and you learn to make coalitions beyond democracy's borderline. Your people will not join the resistance either. But they live near danger. On their reservations, concentrated in their territory, neighborhoods, communities, in their own movements, underground or up in the open, occasionally edging here into regular movements, there into the resistance, but never for long, they are at once more isolated, more exposed, more suspect, stronger, and more independent. In prison, where many are, some train together for bigger, more dangerous projects later, as mercenaries or pirates; others heal together, deepen their alienation, and turn like prisoners of war to organize their units, subvert official command of them, and leave them only according to a collective plan, militants of an alien cause. Most of your people cannot help contributing to capital's profits, but insofar as they do not gather in technically strategic positions or merge their struggles into the others, they contribute nothing to capital's power or to labor's. Among them your comrades and you learn independent faith and hope. For now this matters only for the survival of deliberately alien communities. But in a great crisis this commitment to something beyond occupation and resistance, not stuck in the market, not for consumption private or public, but something different from the past, some alternative for

the future, this would weaken capital's defenses materially and morally. And if a major coalition of alienated forces allied with the resistance, they would have territorial bases and disciplined communities to support its taking charge. Most of all, more than any other of labor's allies, they would provide the best guarantee that the resistance in charge would not botch liberation by settling back into that old democracy, inviting capital's restoration, but fight beyond the end of an old history, into a new history. The difference "we" may make here, not from any technical position, but because of their independence, now allied as they are in the struggle, but not of it, confident that they can change history, would be to turn liberation into the making of a new world.

But what if your people are who they are only because of some objective criteria, people in principle and maybe all in practice unknown to each other except objectively? What if in particular "we" are one side or the other in the great conflict, capital or labor? Neither side is an association, although both feature associations, Citigroup, for example, or the International Transport Workers' Federation. Your people are in categories, and in these in particular, capital or labor, not because of their feelings or thoughts or status or standard of living, but according to their connections to production in modern economies, either owning finances, means of production, hired labor's effort at work, and the resulting product, or owning abilities to work and the compensation for it. Each side needs the other materially to be what it is. The relationship between them, an alternating current of dependence and conflict, is there whether the people in the relationship know it or not; it is their condition and their situation regardless of their sense of it. Oddly, to know who "we" are objectively requires some subjectivity, independent thinking.

If your people are capital, the occupying power, they now dominate the so far existing modern world. Since private businesses are all theirs (saving weird exceptions), they own besides all their other means of production all the technical positions in production, including the strategic ones, and financially they can change technology or reduce or shut down an entire industry, annihilating massive strategic power, by a click on “send.” Their order is normal, which means democracy is normal, maybe perpetual (if not eternal), and resistance, being inevitable, is normal as well. That capital has protection is normal too, because of militants and aliens, but since history has ended, life without deep change is the norm, and it can stay so. To the degree “we” keep promoting leaders who are sound, canny, prudent, and enterprising, this regime will continue. Its two essential premises are capital’s freedom, to come, go, and make its own rules, and the labor market, or employment for a wage, unemployment, or self-employment. Your comrades and you, thinking for yourselves, may have time to observe capital’s virtues, its stupendous power to deliver things and action for sale, its sunny spirit, its dynamic energy, mobility, and short memory, its standardized measurements, its capacity to plan, motivate, concentrate, and innovate, its censuses, its pragmatic grasp of facts and details, its drive, determination, honesty, and accounting systems. To the degree “we” fall apart, swindle and defy each other, go hog wild, and promote slick or stupid leaders, this regime will crack, and your comrades and you may observe capital’s vices, its stupendous waste, its duplicity, greed, flightiness, and ignorance, its evasion of the costs of the damage it does, its awesome inequalities, its dazzling corruption of public and private affairs, its contempt for dupes and suckers, its absolute shamelessness. In the deep crises where capital might lose to labor, however, “we” figure “we” could soon return to rule, for

another long round of democracy. This is capital's difference in the great conflict, that your people will not lose for good unless they destroy the world, or let their enemy, labor, believe the world could work better without them.

If your people are labor, which most adults under occupation are, they mostly accept capital's domination and continual divisions of them, to which they add their own divisions. The fattest and sassiest, "we" who own two homes, an SUV, and a sweet car or two, and a camper and a boat, still live only a few paychecks from one house and a junker, and only three months more from a foreclosure notice and the repo man. But they are typically indifferent to the ranks of the less bully, "we" who live but five paychecks from the street, who are themselves typically indifferent to the unemployed, who look down on the homeless. As a labor-backed U.S. president once (reportedly) remarked, "It's a recession when your neighbor loses his job; it's a depression when you lose yours." Without any union, bad or good, as most of labor worldwide now stands, "we" organize against each other to grab the lesser evil. In bad unions, rackets, "we" hold onto the lesser evil. In good unions "we" cut deals against each other, poaching contracts, trashing pensions, or taking two-tiered wages. An old story: To the degree labor remains divided, not technically or industrially, but by wealth or income, or politically, racially, or ideologically, or by religion, language, sex, or gender, so that fellow workers fight each other, some gaining, others losing, labor's typical story, it remains in subjection. To the degree it unites, pulls capital into collective bargaining, and applies its united powers for a comprehensive good deal, it approaches economic democracy--full employment, low wage differentials, general insurance, investment in science, health, housing, education, and information--until capital gains more power, and reneges on the deal. To the degree

the resistance uses strategic power in strategic coalitions to fight capital, for example, in alliance with consumer cooperatives, it removes production from capital's to labor's control--well, to some workers' control, those in this production, managing themselves in league with their allies--until capital from elsewhere delivers better goods for less. In labor's feuds, deals, and resistance your comrades and you may witness its virtues, its natural power to work, its pride in work, its capacities for organization, encouragement, and solidarity, its fortitude and long memory, its creativity, curiosity, inventiveness, and discipline, its discriminating sense of justice, its indignation at unfairness. So too you may witness labor's vices, its resignation to the world, its touchy modesty beyond work, its passive, plaintive resentments, its nostalgia, grudges, sacrifices, and irresponsibility, its fears of militants and worries (whatever the movement says) about aliens, its fear of anything very different. In deep crises the resistance wants only to take charge, so that labor stays labor, except in charge; "we" would prefer capital's return than not to be labor. What else but alien influence could move the resistance to coordinate strategic operations to change history? This is labor's difference in the great conflict, that your people will not win for good until it dawns on them they do not need capital, they end their relationship with it, and act on alien support and their own power to make the world new and better for all, even the wretched of the earth.

If you are still reading, if you have thought through these possibilities (maybe others too), and know who your people are, you may know more about your "identity." And having seen who "we" are, you may begin to think, in this conflict, which neither side may ever win, but which labor in changing might conceivably win, what do you do about it? The issue here is action, not how I act, but what action I take. It is another old

question, which they used to call “free will,” or “initiative,” or “choice,” and now call “agency,” although it is actually a question of fidelity, obligation, and commitment. It is a question to resolve among comrades, who will remind you what commitment means.

Books of history vary in the kinds of stories they tell for the arguments they make. This one is a story of searches, my search into past searches for ways to explain, support, or overthrow the modern world’s economic order, my argument being that in the modern world labor (largely unawares) has the material power necessary to make a new order, so that if it decided to (some “if”), it could. At the end is a loaded suggestion about labor history, its use for the present and so for the future too.

My own search started for a practical purpose. I needed to resolve a question in my work on the country of my main professional concern, Mexico. This is the reason for Chapter I: Trying to teach modern Mexican labor history and write about it, I read for guidance maybe 200 modern labor histories about countries all over the world (as well as Mexico); missing from almost all of them was what workers technically, systematically, did at work. Here I show these histories’ typical concentration on “culture,” as if that alone defined workers. Even excellent books skimmed on matters of production. The few that went seriously into them treated them like a ritual; they missed the technical relations. Until I understood how these happened and what they meant, there was much I could not explain to my students or myself. And I did not understand them until I understood an argument by one of the great U.S. labor economists, John T. Dunlop, about “the technical context” and “strategic position.”

Hence Chapter II: I wanted to know where Dunlop got such an idea, how he formed it into a concept crucial to explaining modern labor history and contemporary labor movements, what it meant and how it had affected labor economics. This search took me back into 19th-century Western Europe and United States, when people began thinking of war when they discussed conflicts between employers and workers. Since I was searching printed sources, most of the virtual belligerence I found came from professionals at ideas, intellectuals, academics, public social scientists, private pundits. But often they were lifting the language of war from business and labor, and some of the language came directly from labor leaders. Typically the references were to “strategic strength” in the labor market, seldom to “strategic position” in production. About power in labor markets, Dunlop learned studying economics. About workers’ power over production he learned most as director of research at the U.S. National War Labor Board during World War II, when he had to report how strategic actual (or potential) labor disputes were to U.S. production and military operations. All his professional life, which lasted until he died in 2003, Dunlop taught at Harvard University about power in law, institutions, and values as well as in the market and at work. He claimed a theory that these different kinds of power meshed into an “industrial relations system,” but the lessons he always taught, from practice, were about the disharmony among them, the incompatibilities, friction, discrepancies, conflicts, obstruction, and the wise (and stupid) moves to overcome them or go around them. In practice he proved a masterly strategist in collective bargaining and arbitration, not only because he knew (or could find) where strategic positions of all kinds were, which powers either side could use against the other, and if either could win or both had better settle, but above all because in any dispute he

knew what he wanted, to return workers to production at the highest levels of security and compensation the business could afford. So when Dunlop said “strategic plan,” he did not mean a wish list. He would have scoffed at a plan without a definite purpose, an accurate reading of all the “contexts” of power, agreement on where and when to engage the enemy, provisions for support, and leadership able to use the engagements for the determined purpose. Strategy in theory and practice is to change the balance of forces, maybe just a little, for a few, maybe hugely, for multitudes. Dunlop (to my knowledge) never considered the following prospect, but from his perspective it is nevertheless clear: Well-combined operations, if they included technical stoppages in the right order at the right time, could change the entire structure of power; technically strategic workers could change the legal, moral, and economic rules. No surprise, Dunlop’s concept of technical power went nowhere in labor economics.

From the Dunlopian perspective and respecting his rules, various notions now flying around the U.S. labor movement look naïve or worse. For instance, “density,” union membership in any workforce. Of course the labor movement wants it, but density in general, unspecified, is like numbers in war, too vague to measure the power necessary to concentrate at decisive points. Where is the density technically? How strategic is the industry where it is? Is this density connected to others in strategic departments and industries? What makes these densities an effective alliance? What supports them, protects them? For another instance, reform of the law to favor the labor movement. The notion begs the question. If the movement is weak enough it needs the law in its favor, how can it hope to change the law? Appeals for justice against great propertied interests are not famous for swift or just results. Unless the labor movement will use labor’s

technical power, its major power now, it will not gain the political power to force its legal changes, which moral appeals will then justify. For yet another instance, an economy with more “manufacturing,” in other words, more workers of the kind the labor movement used to organize by the millions. Quite aside from this notion’s fantastic quality, that by petition or command history (but just one stream of it!) will repeat itself, regardless too of the fog around these manufacturing plants (restored to make steel, more cars, rubber, or updated to make nuclear plants, digital servers, probiotics?), no matter the real costs most working people everywhere would pay for U.S. manufacturing dominance now, and forgetting the issue of just who would do these jobs, it is again begging the question. Actually, worse, in the United States in 2005, it is begging business, or the government, or both, for investments to rebuild the labor movement. This is otherworldly. And “otherworldly” is the right word. Campaigns to hog manufacturing (old or new products) in the United States pull the labor movement here politically and morally away from labor movements elsewhere in the world, even as tighter international economic connections offer the U.S. and other movements more powerful opportunities (especially in transport and communications) for technically strategic international cooperation. It is otherworldly of the U.S. labor movement now--whatever its members think--to act as if “we” were only U.S. labor. It would be still worse if it began to act as if it represented the world’s workers. But since modern production, including logistics, transport and communication, is now to a critical degree international, the U.S. movement in the interest of its own members (maybe despite them) must make international commitments, or betray its members, allowing them to betray themselves.

Dunlop himself did not enter these kinds of international questions. But he did compare several countries' industrial relations systems, to explain how cultural, political, and economic factors, including industrial and technical factors in production, go together differently in each country to make its characteristic "web of rules" for conflicts between capital and labor. For an example (particularly useful to me) of how his explanation runs, here in Chapter II I briefly compare the United States and Mexico between 1900 and 1950, to show why industrial and technical powers mattered even more in Mexican than in U.S. labor organizations until World War II, but splintered for political reasons at the outset of the Cold War, a disaster for Mexican labor. In tighter focus I try to show how Dunlop's conception of strategic positions at work helps me understand my particular Mexican concern, modern labor history in the Gulf-Coast state of Veracruz between 1900 and 1950. This is a history of several struggles, of workers in several different industries fighting different kinds of companies, in different cultures of business and resistance, with different ideas of struggle, on different political leads, in different organizations of struggle. Without Dunlop I could give no more than a social explanation of these different struggles for power. But from him I can also tell which industries in the state were nationally strategic in the economy, which were key in politics, which unions were industrially strategic, which were politically strategic, where the technically strategic workers (skilled or not) were, and how they used their power, for broad causes or only for themselves and their racket. I can distinguish between social forces and material forces.

Studying where Dunlop's concept came from, I saw the trouble scholars deep in the background had suffered over the idea of power in economics. For them,

theoretically, power could not happen in markets or production. If power did happen, they argued, it fouled the economy; the market was no longer free exchange, production no longer a firm's transformation of inputs into outputs for maximum returns. Of course they granted power really did happen, but they insisted their theory explained the essence of economic reality best if it ignored the appearance of economic reality, power included. I could see their logic, but it meant in effect they were explaining figments of their imagination. Power really has been essential to modern markets, in capital's great corporations. And it really has been essential to modern production, in technically and industrially divided labor's cooperation at work. Since there really are strategic positions at work, I wondered how far back before Dunlop social science had been denying them, and how much Dunlop's argument, if almost completely wasted on historians and economists, had enlightened other social scientists over the last 50 years.

This is the reason for Chapter III. The first half is the story of my search through the most reputable theories of society from the conscious beginnings of sociology in the 1830s to World War II, hunting for any sort of concept of workers' power in production, their power over production, because they can stop it. I myself was not trying to theorize anything, only trying to find anticipations of Dunlop's argument. The second half is the story of my search through standard European and American sociology from World War II to the start of the current century, trying to trace the effects of Dunlop's argument on contemporary sociologists, to indicate its influence on them. Like the stories of most searches, these are stories mostly of frustration, of finding one after another some of the highest-powered social scientists in the modern Western World staring right at the technically strategic point, but looking right past it, or confusing it with another, or

wandering intellectually around it, almost stumbling over it, but missing it, or even getting the point, then losing it. After Dunlop explained the concept, for a while some labor sociologists took his point, but before long forgot where it came from, began to think it was theirs, forgot what it meant, and eventually let it go to pursue other problems. A few others caught the point themselves, even framed Dunlopian arguments, but to no enduring effect. That interested me too, why neither Dunlop's nor any other argument about workers' technical power went far in the field before it faded away. In part, less than labor economists, but still to a remarkable extent (and not on principle), labor sociologists generally avoided any question of power. In part, as Dunlop himself observed, workers staged fewer dramatic displays of their technical power. Because of the Cold War, legal, political, and moral constraints on labor increased, while the market promised jobs in reward for obedience, a promise labor largely accepted. But closer to the point here, the mainstream sociologists who grasped labor's technically strategic power could not see (any better than the labor movement) what positive use labor might ultimately make of it, what a final objective might be, only more of the same. They focused on the question as long as it seemed scary, then turned to more interesting concerns. On Dunlop's special turf, "industrial relations," a kind of economic sociology, a few specialists remarked on the technically strategic angle, but without his argument's point, or any vision of what labor could win. If a deal is the alpha and the omega, why think how far conflict can go?

It had already dawned on me that I needed to know if the Reds, European or American, had ever thought of technically strategic work. I set to reading them, and found they had, which explains Chapter IV. The first to write about it was not Karl Marx,

or Friedrich Engels, but a young intellectual in the German Social-Democratic Party in the 1890s. He did not call these positions “strategic,” but he certainly saw them that way, and foresaw capital’s “technical development” enabling European labor’s technically strategic workers to force revolutionary conditions. He was clearer than anyone else (but Dunlop) I had read on the subject, clear particularly about the strategic importance of transport and communications, above all railroads, the key to European production and politics then, and he certainly had a vision to far horizons. Following him I found European Social Democrats continually discussing strikes, not just for labor’s ordinary causes (higher wages, shorter hours...), but for radical political demands, mass action, social upheaval, bringing down the government. Social Democratic leaders debated strikes involving railroads explicitly in terms of strategy, “the strategy of overthrow” vs. “the strategy of exhaustion,” right up to 1914, the eve of World War I. I cannot enter their debate, but I do try here to show how they saw the issues of technical, industrial, and political power. Far more than any university then their organizations were the best in the world for teaching a grip on these questions. It is strange (though not for me to pursue) how after the war they lost their focus on them, as if they left them to the sociologists to answer, or not.

But what about the Russian Reds? After all they actually made a revolution. If I had read the West Europeans debating strategic industrial action, I had to see if the Russians had thought of it so explicitly, before or during their political action in 1917, or afterward. Hence another search, hence Chapter V. The short story is, no, the Russians did not think of it so explicitly, at least not until the 1920s. Before 1917 Vladimir Lenin had a very strategic understanding of railroad strikes, and to make the Bolshevik

Revolution in 1917 he dealt with the Russian railroad unions. But when he wrote “strategy,” it was always about armies or politics. So far as I can tell, not until 1921 did he write about production in literally “strategic” terms. Trotsky too understood about railroads, but he never came as close as Lenin to discussing them “strategically.” Of all the Bolsheviks, Stalin probably best understood how railroad unions worked strategically. But he kept (at least in print) to the line of “political strategy and tactics.” I make no judgments here on Bolshevik strategies. I am only trying to show the strategists themselves often acting on labor’s power in technically strategic positions, sometimes putting their ideas in (literally) mechanical terms, but rarely (if ever) describing power or force in any terms but political. This is interesting here, not for whatever it may suggest about the labor history of power in the Soviet Union (a matter of interest now only to professional historians), but for what it suggests about old-time Communist organizing outside the Soviet Union, which reflects some light on other ideas of organizing. At the Communist International’s Lenin School in the 1920s and early ‘30s foreign Communists, some of them Americans, studied (among other subjects) labor and the labor movement in their country, learned the technical and industrial places (and others) where it made most strategic sense to organize, and learned why, always to the political point--to overthrow capital and make their party’s revolution. When they went into practice, they stayed focused on the strategic places, and over and over again used them strategically, because unlike most other sorts of organizers (not to mention sociologists) they suffered no confusion as to their objective.

The best evidence of Communist strategic thinking about labor then I found in the public record not of the Comintern (a political organization), but of the Comintern-run

Red International of Labor Unions. This is the reason for Chapter VI, to show the evidence, because it comes more openly and more direct from the RILU than from anywhere else I know, and because hardly anyone else has publicized it or studied it. The thinking at the RILU congresses and conferences was not high theory. The delegates were not scholars or intellectuals; they were left-wing labor leaders, workers used to fighting for power, most of them Communists, but some radically and on principle independent of any party. They did not attend these meetings to discuss Marx or Lenin or any doctrine, but to talk shop about strategic organization for their cause, labor worldwide in a Red labor movement. Their ideas were practical. Their language was plain. And their sense of labor's technically and industrially strategic bases, battles, and operations was explicit and extensive (already 20 years before Dunlop put the concept in writing). The point here is again not the history, although it might interest historians, or the motive doctrine, which is debatable, but the remarkable example of sustained focus and continued effect. The organizers who learned their lessons in the RILU could keep thinking strategically because they knew where they wanted to go. Despite the tremendous terrors through which the survivors among them lived, worst of all the long Nazi-Fascist-Japanese war on the world, especially on people like them, they kept their strategic sense, and many of them whether they stayed in their old party or not kept fighting for labor for decades, and from technical and industrial as well as other perspectives kept fighting strategically. Some organizers now and some intellectuals who abhor Communist ideas occasionally allow their admiration for old Communist organizers, for their "dedication." Their remarks usually seem to be about morale, in praise of a dedicated spirit. More interesting, more practical, and what I emphasize here

is their mental dedication, that because their minds were on a purpose they were always thinking how to connect means, actions, and ends.

As soon as I decided to search the Red literature, I knew I would need to come up close to the present. I expected to begin the last part in 1945, for the context of the Cold War and its aftermath. But I found it needed to start in 1935, when the only Communists in the world then in control of a country, considering the Nazi-Fascist-Japanese threat to them, decided they could live with capital's democracies, which they did for the next 50-odd years. This explains Chapter VII. There are a lot of threads, because there are a lot of different Reds in the second two-thirds of the 20th century, including the various New Lefts of the last third of the century. But mainly I try to show two lines of trouble through that long history. First is the difficulty Communists had all that time in publicly debating any "strategy" for labor, because coming from them the word would appear to signal a plot against established authorities, democratic, despotic, or Communist; if they had plots, they were not going to discuss them in public. The second line, more open to study, is the difficulty other Reds and Leftists Old and New had in distinguishing between labor's technically strategic power and its social and political power, to the extent that (like sociologists then) they typically did not see or soon forgot the former, and pushed only the latter. Yet again my point is not historical, whatever its historical interest. It is to indicate the long lapse in the Left's public attention to workers' strategic power in production, working power over production, its continual concentration instead on civic movements and elections. Looking hard, I found a few brilliant exceptions, but the Left's general neglect of them makes my point clearer.

The Left could well have geared technical questions into politics in the 1970s, but (as I trace here) missed the chance. An old American Red, using technical cases, argued that capital's progress in technology ("automation") was subdividing modern labor in detail, deskilling it, thereby degrading it. His argument drew the Left, especially the New Left, into a major international debate. Critics mostly attacked his technological resignation. Few noted (I mention some) that capital's new technologies also meant newly combined labor and new skilled positions, or that the increasing technical division of labor could actually increase the power at remaining and new technically strategic positions. No one (I read) noted that in a new coordination of labor some unskilled and deskilled positions could remain or become technically strategic. Instead, the New Left for the most part concluded that in capital's domains the labor movement's old fortresses were the only strongholds labor could ever have, which meant either defending them forever, or assuming labor's irrelevance in any new society. Technically, industrially, this made no sense; if railroads in some countries and soon wired phones everywhere were losing their old importance, transportation and communication mattered more than ever. But it became a common view on the Left, especially in the United States and Britain, that the new industrial terrain (which very few reconnoitered) would probably be hopeless for labor, impossible for a labor movement. Consequently American and British Leftists had precious little but cultural or political advice for unions still struggling over technologies far from new by the 1990s. I try to show here how a serious, coordinated movement could conduct technically strategic operations for labor at large--and not only labor, but many whom capital has now cut from its payrolls. But anyone who wants a

map or a manual for such operations has totally misconceived strategic planning and thinking.

It is worth recalling that Red literature on labor's strategic positions in production early featured international designs against capital's rule. The contemporary Left remains as sharp as ever at financial, commercial, and political analyses of labor's international troubles, national, racial, cultural prejudices, foreign companies ripping off national resources, or from another angle immigration, from yet another trans-border or overseas outsourcing. But it has hardly any technical or industrial analysis to offer labor movements for international cooperation to resist capital, much less go on the offense. Now that the Left's cultural and political strategies for "another world," in their liveliest expressions at the World Social Forums, are evidently useless against capital's projects for the world, its lack of strategic thinking about capital's technical and industrial vulnerabilities worldwide (greater than before because of globalization) leaves labor movements to improvise all their international operations. I emphasize here the thanks capital owes the Left for leaving it so free after the Cold War to expand deunionization everywhere, speculate in pensions and social insurance wherever still funded, whiplash labor markets toward perfection, and if possible implode within a generation.

On the really biggest particular international question, China, the American Left now urges the AFL-CIO to establish relations with the All-China Federation of Trade Unions. (The AFL-CIO is currently about one-tenth the size of the ACFTU.) This turn would be in the obvious interest of the AFL-CIO. If the ACFTU were to persuade the Chinese government to induce Wal-Mart (which buys 70% of its merchandise from China) to accept unions in the United States, it would give an enormous boost to the U.S.

labor movement. If the Left anywhere could persuade the U.S. movement to give the ACFTU technical support against, for example, Monsanto's or Cargill's agro-bio-chemical exports to China, it would do the ACFTU, Chinese labor, and Chinese peasants some good, and maybe win the U.S. movement some colossal allies. But nowhere does the Left appear so engaged. Unless it at least starts politically and technically strategic cooperation between the AFL-CIO and the ACFTU, the two most important labor organizations in the world now, it will fail its main cause in the building century.

Finally Chapter VIII. Here I trace the history of the notion of "strategy" in business. This notion is probably as old as trading outside the tribe. The use of the words, "strategy," "strategic," and so on, to mean a plan or operation or advantage for beating other businesses, probably dates back to the 1830s. It has been popular among businessmen, journalists, and economists in the United States for the last hundred years. (Weirdly, economists one after another have written as if they themselves had just come up with the idea, as if they did not know the idea's history.) At the end I note that among a business's various strategies is its labor strategy, that while it needs to contend strategically with its rivals and enemies in the market, precisely in order to succeed against them it also has to contend with its inevitable enemy in production, its "associates," "partners," employees, or simply workers. It is continuously struggling with them, over differences large and small. And sometimes, to avoid a critical defeat by a rival or an enemy in the market, or gain a critical victory there, it will (if it can) take the risk of installing a new plant or process or system of work, thereby destroying its workers' strategic positions at work. The modern conflict between capital and labor happens then both from day to day in every way it can and in episodic crises that are

specifically technical. Understanding it has to involve considering it in time, has to be historical. Acting on it, taking a side in the conflict, fighting for capital or labor, takes specific historical understanding, particularly of the technical matter, but has to fail unless it looks forward.

Ten years ago the U.S. government's concern "to enhance work-place productivity through labor-management cooperation and employee participation," as per the Dunlop Commission, failed. Ten years ago the AFL-CIO finally dumped its long-established Cold-War leadership. Ever since the U.S. labor movement has been debating "strategy," to try to find the right "strategy" to stop its decline and regain its old influence on national economic and social policy. For the last several months the debate has been urgent, involving threats to break the AFL-CIO apart from inside if it does not put much more assets into unionizing campaigns. Proposals and rebuttals have been earnest, but rarely very informed, consistent, or even clarifying.⁴ Preparations look poor for the resolution due at the AFL-CIO convention just next month.

Most dubious in the debate is the assumption that major labor organizations anywhere can change anything fast or much by any particular act. Most destructive is the attitude therefore that the less done, the less effort wasted. Most confusing, however, is the use of the word "strategy." Excited debaters will roll a list of several aims, aspirations, a condition, three approaches, a prospect, and a plan (assuming moreover a totally passive opponent) all into a single "strategy." They do not distinguish between different strategic fields, morality, markets, politics, social movements, and production.

⁴ For a recent helpful discussion, see the short articles by Jonathan Tasini, Jack Metzgar, Kate Bronfenbrenner, and Juan Gonzalez, "Labor at the Crossroads," *New Labor Forum*, XIV, 2 (Summer 2005), 9-37.

They show no sense of multi-dimensional operations (as if they could fight a modern war without a joint staff). Worst, as usual, they have no focus on what they want to win.

Getting bigger or stronger is not a strategic goal. Consider two atypical previews of the AFL-CIO in 2015. (a) Despite fierce uproars in July 2005 hardly anything changed in structure or strategy. Passionate demands for more organizing continued. Passionate denunciations of China for repressing democratic unions there increased. Service unions almost disappeared, as Wal-Mart expanded into the hotel, restaurant, and care-taking industries. Unions in manufacturing, transportation, and communications shrank to nubbins. Firefighters and police unions disappeared by conversion into National Guard units on permanent active duty in the War on Terror in Northcom, the U.S. Northern Command. Republican Congresses, presidents, legislatures, governors, mayors, and courts restricted application of labor laws to maybe half of the once eligible working population. Nationally, union membership declined to 8% of the remaining eligible workers. The AFL-CIO's 60th national convention resolves, "...these trends cannot continue." (b) In militant outbursts 60-odd unions at the convention in 2005 merged into one general workers' union, the GWU-USA, to organize everyone in the United States who works for a living. It at once established international relations with the ACFTU, which in 2006 committed funds to the GWU to unionize Wal-Mart in the United States. The GWU collapsed in 2008. From a lockout then at U.S. and Canadian Pacific ports and almost simultaneous truckers' strikes at Wal-Mart distribution centers in California, Texas, Indiana, Florida, and Georgia, the ILWU, independent owner-operator trucking organizations, and the Teamsters organized a new U.S. Transport Workers Association, which by 2010, on credit from the ACFTU and defying impotent federal injunctions,

National Guard units refusing orders, forced Wal-Mart to sell its superstores (at cost less depreciation) to a consortium of the USTWA, Wal-Mart's "associates," and the towns where the stores were. Other associations then organized likewise in the energy, communication, health-care, child-care, food, sanitation, construction, and custodial industries, and made similar acquisitions there. In July 2015 these consortia send locally chosen delegates to the first convention of the new World Federation of Globalized Labor, Villages, and Exchanges, meeting in Shanghai, representing an estimated 300 million people in some 300 organizations in 50 countries, aiming to "abolish exploitation everywhere in our common, enduring struggle for peace and justice worldwide."

Neither (a) nor (b) is a prediction. Together they are only exaggerated (?) examples for readers to test their own strategic thinking, in particular about labor's technically or industrially strategic positions, and what use they could be, for whom they could be used.

But the footnotes! If you have come this far, you have noticed them. They are many and long. But do not quail at them. As historians and professors know, but innocent readers do not, you do not have to read them. But do not think they do not matter. Think of them like a foundation. Your house has a foundation; under your apartment's weight-bearing walls are others, all the way down to the building's basic, weight-bearing beams. You do not need to study them, but there would not be a structure without them. The footnotes matter here, not because they contain part of my argument, but because they are the direct sources and evidence for it. They show I am not fooling, not making the story up. If what I am arguing makes sense to you, ignore the footnotes. If you doubt my

claims, look at my sources, and check them yourself. But why the different languages? Because where English translations from other languages exist for these sources, they are often “free translations,” interpreting the author’s thought, for example, inserting “strategic” where the author did not actually write it. I did not want someone else’s interpretation, but as close a translation as I could get from the actual words the author used, being very careful about the originals. If you can read the originals, you can check them; if you cannot, because you have had more important things to do than learn to read other languages, ask someone who can to check them for you. I worked hard on these notes, because my argument about labor in conflict with capital depends on them, and I want the reader to see the dependence in all its depth and breadth.

Chapter I. Doing Labor History: Feelings, Work, Material Power

The industrial revolutions in Mexico between 1880 and 1910 were strong and manifold in the rich Gulf-Coast province of Veracruz, politically the country's most important state. British, American, French, Spanish, and Mexican entrepreneurs organized big new businesses there with the then latest technology in transportation, construction, electricity, textiles, sugar, distilling, brewing, coffee, garment-making, flour milling, tobacco, and oil (including refining). In conflict with them, workers in certain industries there--transportation, textiles, and tobacco--formed between 1900 and 1910 militant organizations to demand their collective recognition, improve their working conditions, reduce their hours, and raise their wages. During the political and social

revolutions in Mexico from 1910 to 1920, the violence of which was minor in Veracruz, workers in unions there gained more than in any other state. For the next 25 years the country's strongest and most combative labor movements were most often the movements in Veracruz, ordinarily fighting each other, but always fighting business for power. In 1946-47, still hostile to each other, they led organized labor's national struggle against the government's post-war pro-business turn. The struggle's failure in 1948 opened a new epoch in Mexico's development, its Cold-War dedication to business.

In 1968 I started research on a history of industrial workers in Veracruz, 1880-1948. I little knew even how to think about this history, a labor history. But the best guide, I thought, was E.P. Thompson, and I went looking for Mexican proletarian poets, popular traditions in Veracruz's industrial towns, customs in workers' resistance to exploitation there.⁵ I soon found some (Fernando Celada, Virgencitas in the factories, San Lunes). But the more I learned about my subject, the less Thompson helped me understand it; the moral power that memory of old struggles gave in England, I could not find, not in Veracruz. I kept remembering a famous old peroration about "the working class schooled, united, and organized by the mechanism of the process of capitalist production itself," so finally able to expropriate its expropriators.⁶ Ever more often I thought of two other labor historians I had read, David Brody and Eric Hobsbawm. Their focus on capital and workers in modern industries, their attention to technology and workplaces, and their analyses of labor's migrations and divisions, although far from matters Mexican, did help me understand Veracruz. Besides, Brody's "very great" debt to

⁵ E.P. Thompson, *The Making of the English Working Class* (London: Victor Gollancz, 1963).

⁶ Karl Marx, "Das Kapital: Kritik der politischen Oekonomie [1867, 4th ed., 1890]," in Karl Marx and Friedrich Engels, *Werke*, 43 vols. (Berlin: Dietz, 1957-90), XXIII, 790-791. All translations herein are mine, unless otherwise noted.

Oscar Handlin struck me, for it reminded me of “voluntary associations,” the struggle for which seemed to me then the key to my subject; and Hobsbawm’s Leninist Marxism deeply impressed me, first for its assumption of the primacy of imperialism in the 20th century.⁷ Maybe this was why I also began studying industrial companies in Veracruz, 1880-1948, at which I spent as much archival time as I did studying workers for the next 10 years.

Meanwhile labor history was booming. More than that, it was seriously exciting, as the stress of waiting for the biannual *European Labor and Working Class History* and then the *International Labor and Working Class History* newsletters proved.⁸ Among the best new books on industrial workers post-1880, relatively few were of the field’s old kind, “institutional,” as the new critics called it (meaning, I later realized, “no longer inspirational to the young”).⁹ Most were about the field’s usual questions, e.g., working-class organization, strikes, socialism, communism, but in newly and indefinitely thick social contexts, less labor history than labor’s “social history,” many of them (touted so by their authors or not) “history from below.” Of these new “social histories” only a few recalled Brody’s and Hobsbawm’s attention to economic stakes, social systems,

⁷ David Brody, *Steelworkers in America: The Nonunion Era* (Cambridge: Harvard University, 1960), x; E.J. Hobsbawm, *Labouring Men: Studies in the History of Labour* (New York: Basic Books, 1964), 302, 310-313, 321-403.

⁸ Eileen McDowell, Jean Quataert, and Robert Wheeler, editors, *European Labor and Working Class History Newsletter*, 1971-1976; Jeremy Kuhn and Robert Wheeler, editors, *International Labor and Working Class History*, 1976--.

⁹ E.g., Jean Chesneaux, *Le mouvement ouvrier chinois de 1919 à 1927* (Paris: Mouton, 1962), published in English in 1968; Sidney Fine, *Sit-Down: The General Motors Strike of 1936-1937* (Ann Arbor: University of Michigan, 1969); John Lovell, *Stevedores and Dockers: A Study of Trade Unionism in the Port of London, 1870-1914* (London: Macmillan, 1969); John H.M. Laslett, *Labor and the Left: A Study of Socialist and Radical Influence in the American Labor Movement, 1881-1924* (New York: Basic Books, 1970); James Hinton, *The First Shop Stewards’ Movement* (London: George Allen & Unwin, 1973); Bernard H. Moss, *The Origins of the French Labor Movement, 1830-1914: The Socialism of Skilled Workers* (Berkeley: University of California, 1976); Hobart A. Spalding, Jr., *Organized Labor in Latin America: Historical Case Studies of Workers in Dependent Societies* (New York: New York University, 1977); Roger Keeran, *The Communist Party and the Auto Workers Unions* (Bloomington: Indiana University, 1980).

technology, and structures of work.¹⁰ Most concentrated on “culture,” how workers acted in their communities or neighborhoods, in strikes, riots, festivals, and bars, in love, feuds, protests, families, cliques, lodges, clubs, or church, in rituals of rank, deference, and solidarity, especially in regard to ethnicity, race, and religion.¹¹ I admired these histories, their emphasis on dramatic action and its implicit meanings. But I noted that three-quarters of them stopped by 1914, and I wondered if the new masters of the field, Michelle Perrot, e.g., or Joan Scott, or Herbert Gutman, had more than Thompson to teach about the questions before me in Veracruz. I still preferred Brody and Hobsbawm, plus the new (to me) David Montgomery, especially after I spent several months studying 30 years of a Mexican textile company’s 20th-century payrolls. I wanted to learn the history of industrial technology in Veracruz, of industrial occupations there, and what

¹⁰ E.g., Rolande Trespé, *Les mineurs de Carmaux, 1848-1914*, 2 vols. (Paris: Éditions Ouvrières, 1971); Timothy W. Mason, *Sozialpolitik im Dritten Reich: Arbeiterklasse und Volksgemeinschaft* (Opladen: Westdeutscher Verlag, 1977); James E. Cronin, *Industrial Conflict in Modern Britain* (London: Croom Helm, 1979); David Montgomery, *Workers’ Control in America: Studies in the History of Work, Technology, and Labor Struggles* (Cambridge: Cambridge University, 1979).

¹¹ E.g., Melvyn Dobofsky, *We Shall Be All: A History of the Industrial Workers of the World* (Chicago: Quadrangle, 1969); Peter N. Stearns, *Revolutionary Syndicalism and French Labor: A Cause Without Rebels* (New Brunswick: Rutgers University, 1971); Michelle Perrot, *Les ouvriers en grève: France, 1871-1890*, 2 vols. (Paris: Mouton, 1974); Joan W. Scott, *The Glassworkers of Carmaux: French Craftsmen and Political Action in a Nineteenth-Century City* (Cambridge: Harvard University, 1974); Peter Friedlander, *The Emergence of a UAW Local, 1936-1939: A Study in Class and Culture* (Pittsburgh: University of Pittsburgh, 1975); Rodney D. Anderson, *Outcasts in Their Own Land: Mexican Industrial Workers, 1906-1911* (DeKalb: Northern Illinois University, 1976); Ulrich Borsdorf et al., *Arbeiterinitiative 1945: Antifaschistische Ausschüsse der Arbeiterbewegung in Deutschland* (Wuppertal: Peter Hammer, 1976); Alan Dawley, *Class and Community: The Industrial Revolution in Lynn* (Cambridge: Harvard University, 1976); Herbert G. Gutman, *Work, Culture, and Society in Industrializing America: Essays in American Working-Class and Social History* (New York: A.A. Knopf, 1976); Charles Van Onselen, *Chibaro: African Mine Labour in Southern Rhodesia, 1900-1933* (London: Pluto Press, 1976); A. Ross McCormack, *Reformers, Rebels, and Revolutionaries: The Western Canadian Radical Movement, 1899-1919* (Toronto: University of Toronto, 1977); Tamara K. Hareven and Randolph Langenbach, *Amoskeag: Life and Work in an American Factory-City* (New York: Pantheon, 1978); Patrick Joyce, *Work, Society and Politics: The Culture of the Factory in Later Victorian England* (Brighton: Harvester, 1980); Gregory S. Kealey, *Toronto Workers Respond to Industrial Capitalism, 1867-1892* (Toronto: University of Toronto, 1980); Charles More, *Skill and the English Working Class, 1870-1914* (London: Croom Helm, 1980); Richard Price, *Masters, Unions and Men: Work Control in Building and the Rise of Labour, 1830-1914* (Cambridge: Cambridge University, 1980).

industrial workers “actually did” at work, in order to tell how it affected their “daily lives” off work.¹²

Even grander than was the Gramsci Boom. Antonio Gramsci (1891-1937), young Socialist teacher in industrial Turin, Socialist opponent of World War I, Leninist from 1917, chief proponent of industrial soviets in Italy in 1919-20, co-founder of the Communist Party of Italy in 1921, party delegate to the Communist International in 1922, secretary-general of the party from 1923, head of the party’s delegation in Italy’s Parliament 1924-26, preparing the party to go underground 1924-26, leading “bolshevization” of the party in 1926, arrested, tried, and convicted of treason by a Fascist court in 1926, author in prison between 1929 and 1935 of 2,848 manuscript pages on history, politics, and culture, broken in health from 1935, surviving his sentence’s expiration in 1937 to die in hospital six days later, this original Antonio Gramsci became in death many “Antonio Gramsci.”¹³ In 1957 one arose in Italy, to point to “an Italian way of advancing toward socialism” and 20 years down the road “Eurocommunism.”¹⁴ In 1967 another “Gramsci” arose in the United States, to inspire hundreds of young leftist academic intellectuals through the 1970s to try to organize a new American Marxist socialist party, an American Eurocommunism, a last effort at which appeared in *Marxist Perspectives*.¹⁵ Yet another arrived in 1967 in Mexico, first to suffer Mexican Marxist scorn for his “historicism” and “reformism,” then through the 1970s to justify a new

¹² John Womack, Jr., “The Historiography of Mexican Labor [1977],” in Elsa Cecilia Frost et al., eds., *El trabajo y los trabajadores en la historia de México* (El Colegio de México and University of Arizona: Mexico City, 1979), 745-755.

¹³ On the original Gramsci, the best book in English is still John M. Cammett, *Antonio Gramsci and the Origins of the Italian Communist Party* (Stanford: Stanford University, 1967).

¹⁴ Palmiro Togliatti, “Attualità del pensiero e dell’azione di Gramsci,” *Rinascita*, XIV, 4 (April 1957), 145.

¹⁵ Eugene D. Genovese, “On Antonio Gramsci,” *Studies on the Left*, 7 (March-April 1967), 83-108; idem, editor, and Warren I. Susman, president, editorial board, *Marxist Perspectives: A Quarterly of History and Cultural Criticism*, 1978-1980.

Marxist political and cultural criticism.¹⁶ In new translations Gramscian ideas, notions, and words circulated fast on the U.S. and Mexican academic left in the '70s.¹⁷ The idea of “hegemony” proved especially exciting to these (us) “organizers of culture.” If the original Gramsci, thinking of class-divided societies, had meant the public order of socially cultivated consent, domination by cultural action, not official force, the new U.S. and the new Mexican “Gramsci” often seemed to mean simply the prevailing culture, regardless of the struggle to keep it prevalent. The Gramsci Boom greatly encouraged social histories of labor. It certainly affected my effort. Studying a labor movement that came out of three or four (competing) revolutions, I tried to stick (mainly) to a “Gramsci” reflecting on “the function of Piedmont,” or “relations of force,” to follow “class struggle over a long run, . . . the working class, unions, parties, and the state.” But I also recognized a new (or old Thompsonesque?) duty to dwell on popular culture and moral appeals.¹⁸

In 1980 I decided I had done enough research, for I felt pretty sure of my story. Argued from the systems and structures in contention in Mexico, it would be about workers in migration, ethnicity, and localism defeating political ideology, but losing to political bureaucracy, an explanation of their culture to explain their politics. Once I drafted chapters on Mexico’s development and Veracruz’s industrial enterprises particularly, 1880-1910, I got to the industrial workers there, 1880-1910. On them I

¹⁶ Arnaldo Córdova, “Gramsci y la izquierda mexicana,” *La Ciudad Futura*, 6 (August 1987), Supplement 4, 14-15. Cf. José Aricó, *La cola del diablo: Itinerario de Gramsci en América Latina* (Buenos Aires: Puntosur, 1988).

¹⁷ E.g., Quintin Hoare and Geoffrey Nowell Smith, eds. (and trans.), *Selections from the Prison Notebooks of Antonio Gramsci* (International Publishers: New York, 1971); Antonio Gramsci, *El materialismo histórico y la filosofía de Benedetto Croce*, tr. Isidoro Flaumbaum (Mexico City: Juan Pablos, 1975).

¹⁸ John Womack, Jr., “The Mexican Economy During the Revolution, 1910-1920: Historiography and Analysis,” *Marxist Perspectives*, I, 4 (December 1978), 97-98, 122 n48; idem, “The Mexican Revolution, 1910-1920 [1978],” in Leslie Bethell, ed., *The Cambridge History of Latin America*, 11 vols. (Cambridge: Cambridge University Press, 1984-1995), V, 153; idem, “Interview,” in Henry Abelove et al., eds., *Visions of History* (New York: Pantheon, 1984), 251-252, 259.

decided to write first a chapter about their work, which was what they actually did most of their waking lives. I did not expect it would take long, an introductory bit on Genesis (the curse Adam caused), a short section on technologies and occupations, another on job histories, and finally a big section on the social relations of the workers at work, in their workplaces, their culture in production. The next chapter would be about their towns, strikes, and rambling, gambling, and staying out late at night. From these two cultures I would later derive their politics.

I thought I held three aces on culture in production. One was Herman Melville, for how he wrote on work in *Moby Dick*; the other two, academic specialists on labor, John T. Dunlop and Benson Soffer. Of Dunlop's "acute comments" on labor history I had first made note years before in rereading Brody. Criticism of Dunlop's "theoretical framework," which put me off it, I had read soon after in Soffer's theory of skilled workers as "autonomous workmen," whose "particular technical and managerial skills" gave them a "strategic" role in unions (which seemed to me a revelation).¹⁹ Lately, however, I had found new, respectful references to Dunlop, paired with respectful references to Soffer, and in this double light had finally read Dunlop on "industrial relations."²⁰ His idea of a "web of rules" at the workplace, in the creation of which

¹⁹ Brody, *op. cit.*, x; Benson Soffer, "A Theory of Trade Union Development: The Role of the 'Autonomous Workman,'" *Labor History*, I, 2 (Spring 1960), 141-163, Dunlop at 141 n1, 148. Dunlop, professor of Economics at Harvard University since 1950, U.S. secretary of labor 1975-76, was then (1980) Lamont University Professor at Harvard. Soffer, an alumnus of Princeton University's Industrial Relations Section, Ph.D. in Economics, '56, was an assistant professor of industry in the School of Business Administration at the University of Pittsburgh in 1960. {The following is a mistake: jstor shows 7 titles, one with his thesis.} To my knowledge he published nothing else academic; from 1966 to 1981 he was an economist at the U.S. Department of Commerce. For this information I thank the Princeton University Alumni Records Office and Archives.

²⁰ Natalie Zemon Davis, "A Trade Union in Sixteenth-Century France," *Economic History Review*, n.s., XIX, 1 (1966), 52, 58; David Brody, "Review: *Strife on the Waterfront: The Port of New York since 1945*, by Vernon H. Jensen," *American Historical Review*, CXXX, 4 (October 1975), 1064; Christopher L. Tomlins, "AFL Unions in the 1930s: Their Performance in Historical Perspective," *Journal of American History*, CXV, 4 (March 1979), 1025 n7, 1026 n11. Also on Soffer, Montgomery, *op. cit.*, 29 n21, 183;

markets, power at large (political and cultural), and “the technical context” of the work were all “decisive,” much impressed me.²¹ Skilled workers had some control at work, special bargaining power, because of their “strategic position” there, their “indispensability” in production. This was just what Soffer (citing Dunlop) had claimed, what Brody, Hobsbawm, and lately David Montgomery too had argued, and which I thought gave me the key to Veracruz industrial workers’ social relations, in production and in their communities.²² Because skilled workers held “strategic positions,” were “vital,” or “key,” they were the source of organization, Hobsbawm’s “labour aristocracy,” Montgomery’s “manly craftsmen,” and so they would be my *grupo acción*, the strategic minority necessary for Veracruz workers’ voluntary associations.

But I could not get my chapter on work right. To describe Mexican Railway Company workers at work, moving freight and passengers between Mexico City and the port of Veracruz, I could not simply list the jobs they were doing; I had to narrate their action or operations (which proved much harder than I had expected). And as I narrated the work job by job, department by department, including repairs and maintenance, I kept finding the actions and operations connected, the departments connected, interdependent, often in direct cooperation. Individuals at work were only contributing to the collective work of locomotion. Whoever did the jobs, in “autonomy” as per Soffer or not, they were all necessary, all indispensable for the work to happen. How could I narrate thousands of acts simultaneous and continual, not in a Tolstoyan battle, but making trains run? And why did “skilled” or “autonomous” mean “strategic”? If the engineer was “strategic,”

Ronald Schatz, “Union Pioneers: The Founders of Local Unions at General Electric and Westinghouse, 1933-1937,” *ibid.*, CXVI, 3 (December 1979), 595 n27.

²¹ John T. Dunlop, *Industrial Relations Systems* (New York: Henry Holt, 1958), 13-16, 33-35, 64, 94.

²² *Ibid.*, 50-52; Soffer, *op. cit.*, 144-155; Brody, *op. cit.*, 50-91, 125-134, 214-218, 256; Hobsbawm, *op. cit.*, 321-370, 374-385; Montgomery, *op. cit.*, 9-27.

why not as well the fireman, the conductor, and the brakemen, or the machinists, the other shop men, and their helpers, who prepared the engine and cars for their run, or the trackmen, or the telegraphers, or the car loaders? (For want of a nail the shoe was lost, for want of car loaders the freight did not move....) If not “autonomy,” or “indispensability,” what made a particular position “strategic”? Rereading Dunlop, I found a warning: “The rules most dependent upon the technical and market contexts require much grubbing [to find]....”²³ After two years of much grubbing, confusion, and frustration I had an entire chapter on Mexican Railway workers at work, and a notion of which positions were more “strategic” than others, but only a notion. Two more years, and I had a chapter on dock workers in the port of Veracruz, but no “strategic” explanation of their work either. The eight industries I eventually did before I quit grubbing took me almost 20 years on the calendar.

Whatever I was after, I was pursuing it in analysis of matters I never expected to have to understand. At first, narrating Mexican Railway workers’ work, I wrote much about their attitudes, toward their supervisors, each other, and the railroad’s customers. I soon stopped that, to try to write only about their physical and mental engagement in industrial locomotion. If only for the exercise, out of curiosity, I would set aside values, deals, deference, solidarity, jealousy, and such, in order not to confuse them with pure collective production. I wanted to see industrial transportation not with an economist’s eye, or a political scientist’s eye, or a sociologist’s or anthropologist’s or psycho- or cultural historian’s, but with an engineer’s eye (or an old syndicalist organizer’s):

work=Fs, force times space. Then about work on the docks in the port of Veracruz, I tried to focus just on the ships, the cargo, the means of moving it, and how workers used them

²³ Dunlop, *op. cit.*, 97.

to load and unload it. So I continued through the other industries, trying to avoid the workers' wages, income, and geographic or social origins, their subjective connections, customs, or identities at work, or their thoughts or dreams there of anything but their work. I would identify the workers only by sex, maturity, job, and skill. My only metaphors and similes, which I resisted as much as I could, were physical, mechanical, or chemical. Despite the venerable Ronald Fraser and blessed Studs Terkel, I would not write about a particular worker's work, or a particular occupation, trade, or craft, but about all the work necessary in an industry.²⁴ One chapter grew into several, for each industry took its own, and industry by industry they grew severally into a very odd project. From a constant effort at abstraction, a deliberate turn away from culture and class, in order to concentrate strictly on production, I would get different industrial structures of constant capital in motive power, equipment, machinery, and tools of production, industrial divisions of labor, and coordinations in industrial labor processes, industrially specific organizations of many various labor powers for the cooperative extraction of labor in collective production, for without this cooperation, there would be no production. An innocent reader might well wonder, among so many concrete details of work on a railroad, on the docks, for an electric company, in textile mills, on a sugar plantation, in a brewery, in a cigar factory, and for an oil company (in exploration, production, pipe-line construction, pipe-line operation, water transportation, and refining), where the analysis or the abstraction was. But precisely because the stories were (at least attempted) resolutions only of industrial work, they were to show for each industry only all its necessary mechanical, manual, and mental details. And from them I

²⁴ Ronald Fraser, ed., *Work: Twenty Personal Accounts*, 2 vols. (London: Penguin, 1968-69); Studs Terkel, ed., *Working: People Talk about What They Do All Day and How They Feel about What They Do* (New York: Pantheon, 1974).

could tell in each industry which positions were “strategic.” Even so I still could not explain what made them strategic.

Along the way I kept reading new labor histories, looking for a conceptual break. But the more I wrestled with industrial work, the more other labor historians seemed to be missing what I knew still eluded me, the terms in which strategic workers had power. The U.S. historians most exercised over the field, in conclave at DeKalb in 1984, barely blinked at “the labor [or work] process,” in industry or elsewhere, and sought modern workers’ power only in politics, not my subject.²⁵ Some of the best new books were about industrial work, but not about workers at it, which was fine, but not my subject either.²⁶ Others variously excellent were about workers, but about them (mostly) not at work, at other activities instead, strikes, more politics, “living,” mugging scabs, fighting for racial equality, again fine, but again not my subject.²⁷ The ones that frustrated me were (at least considerably) about workers at work, “at the point of production,” as some

²⁵ J. Carroll Moody and Alice Kessler-Harris, eds., *Perspectives on American Labor History: The Problems of Synthesis* (DeKalb: Northern Illinois University, 1989), 7, 15-16, 19-20, 45, 152-200, 207, 213-214.

²⁶ E.g., David F. Noble, *Forces of Production: A Social History of Industrial Automation* (New York: A.A. Knopf, 1984); Sanford M. Jacoby, *Employing Bureaucracy: Managers, Unions, and the Transformation of Work in American Industry, 1900-1945* (New York: Columbia University, 1985).

²⁷ E.g., Bryan D. Palmer, *A Culture in Conflict: Skilled Workers and Industrial Capitalism in Hamilton, Ontario, 1860-1914* (McGill-Queen’s University, 1979); Serge Bonnet and Roger Humbert, *La ligne rouge des hauts fourneaux: Grèves dans le fer lorrain en 1905* (Paris: Denoël, 1981); Nelson Lichtenstein, *Labor’s War at Home: The CIO in World War II* (Cambridge: Cambridge University, 1982); Andrew Gordon, *The Evolution of Labor Relations in Japan: Heavy Industry, 1853-1955* (Cambridge: Harvard University, 1985); David Tamarin, *The Argentine Labor Movement, 1930-1945: A Study in the Origins of Peronism* (Albuquerque: University of New Mexico, 1985); Christopher L. Tomlins, *The State and the Unions: Labor Relations, Law, and the Organized Labor Movement in America, 1880-1960* (Cambridge: Cambridge University, 1985); Michael Kazin, *Barons of Labor: The San Francisco Building Trades and Union Power in the Progressive Era* (Urbana: University of Illinois, 1987); Daniel James, *Resistance and Integration: Peronism and the Argentine Working Class, 1946-1976* (Cambridge: Cambridge University, 1988); Juan Luis Sariago, *Enclaves y minerales en el norte de México: Historia social de los mineros de Cananea y Nueva Rosita, 1900-1970* (Mexico City: La Casa Chata, 1988); Joel Horowitz, *Argentine Unions, the State, and the Rise of Peron* (Berkeley: Institute of International Studies, 1990); Ava Baron, ed., *Work Engendered: Toward a New History of American Labor* (Ithaca: Cornell University, 1991); Ardis Cameron, *Radicals of the Worst Sort: Laboring Women in Lawrence, Massachusetts, 1860-1912* (Urbana: University of Illinois, 1993); David Ruiz, ed., *Historia de Comisiones Obreras (1968-1988)* (Madrid: Siglo Veintiuno de España, 1993).

authors wrote, or “on the shop floor.” I often wondered where “the point of production” was, considering how many workers contributed somehow or other to making any industrial product. If there was not one point, were there many points, connected? Or were there no points, only connections, circuits? Where did they run? And outside manufacturing and maintenance, where was the shop floor? Most of these books represented work only by the title of an occupation, or the names of several, a kind of census of occupations in a particular place, or by only some (never all) individual job descriptions, or by isolated functions in production. They gave no sense of all the work it took even in a particular firm (or institution) for its production to happen.²⁸ Yet more frustrating were excellent books often about their subjects at work and often reading as if they were going to explain the work, how it all actually happened, but not ever delivering.²⁹ Most frustrating (because most promising) were those that would sometimes give the sense of workers in an industrial production, all (practically all) the particular

²⁸ E.g., Donald Reid, *The Miners of Decazeville: A Genealogy of Deindustrialization* (Cambridge: Harvard University, 1985); Peter Winn, *Weavers of Revolution: The Yarur Workers and Chile’s Road to Socialism* (New York: Oxford University, 1986); Leon Fink and Brian Greenberg, *Upheaval in the Quiet Zone: A History of Hospital Workers’ Union, Local 1199* (Urbana: University of Illinois, 1989); Nelson Lichtenstein and Stephen Meyer, eds., *On the Line: Essays in the History of Auto Work* (Urbana: University of Illinois, 1989).

²⁹ E.g., Gérard Noiriel, *Longwy: Immigrés et prolétaires, 1880-1980* (Paris: Presses Universitaires, 1984); Robert H. Zieger, *Rebuilding the Pulp and Paper Workers’ Union, 1933-1941* (Knoxville: University of Tennessee, 1984); Ruth Meyerowitz, “Organizing the United Automobile Workers: Women Workers at the Ternstedt General Motors Parts Plant,” in Ruth Milkman, ed., *Women, Work, and Protest: A Century of US Women’s Labor History* (Boston: Routledge & Kegan Paul, 1985), 235-258; Charles Bergquist, *Labor in Latin America: Comparative Essays on Chile, Argentina, Venezuela, and Colombia* (Stanford: Stanford University, 1986); Frederick Cooper, *On the African Waterfront: Urban Disorder and the Transformation of Work in Colonial Mombasa* (New Haven: Yale University, 1987); Jacquelyn D. Hall et al., *Like a Family: The Making of a Southern Cotton Mill World* (Chapel Hill: University of North Carolina, 1987); Craig Heron, *Working in Steel: The Early Years in Canada, 1883-1935* (Toronto: McClelland and Stewart, 1988); Daniel Nelson, *American Rubber Workers and Organized Labor, 1900-1941* (Princeton: Princeton University, 1988); Gary Gerstle, *Working-Class Americanism: The Politics of Labor in a Textile City, 1914-1960* (Cambridge: Cambridge University, 1989); Philip Scranton, *Figured Tapestry: Production, Markets, and Power in Philadelphia textiles, 1885-1941* (Cambridge: Cambridge University, 1989); Joy Parr, *The Gender of Breadwinners: Women, Men, and Change in Two Industrial Towns, 1880-1950* (Toronto: University of Toronto, 1990); Eric Arnesen, *Waterfront Workers of New Orleans: Race, Class, and Politics, 1863-1923* (New York: Oxford University, 1991); Alain Roux, *Le Shanghai ouvrier des années trente: coolies, gangsters et syndicalistes* (Paris: L’Harmattan, 1993).

operations, job by job, department by department, similar, different, simultaneous, continual, all connected, all (or 95%) indispensable, some “strategic,” but would then confuse this sense.³⁰ Some sort of contradiction kept getting into the story, obscuring an important question, power at work.

The better I did my stories, however, the more they too frustrated me. Hobsbawm had written of “a body of workers technically quite capable of strong collective bargaining.”³¹ I did not know how to think about this “technically.” It was a special kind of connection among workers in industrial work, which some historians were getting right, but (it seemed to me) as if inadvertently, so that they then let it go without noticing, conceptualizing it. The historians who came closest, whom I kept rereading for clues, wrote of who knew whom at work and how they felt about each other, a “network of personal relationships...on the shop-floor,” “social relations within the work place,” workers’ “lives at work,” “workplace culture,” “a skilled-trade subculture.”³² A few of a more theoretical mind argued over a specific history of work for labor history. Others argued for integration of the history of technology and labor history, or did examples of it. But these historians as well, except for one casual reference to “work and technical relations,” called workers’ cooperation in production “social relations” or “a socially

³⁰ Peter Friedlander, *The Emergence of a UAW Local, 1936-1939: A Study in Class and Culture* (Pittsburgh: University of Pittsburgh, 1975); Ronald W. Schatz, *The Electrical Workers: A History of Labor at General Electric and Westinghouse, 1923-1960* (Urbana: University of Illinois, 1983); Donald Filtzer, *Soviet Workers and Stalinist Industrialization: The Formation of Modern Soviet Production Relations, 1928-1941* (London: Pluto Press, 1986); Emily Honig, *Sisters and Strategies: Women in the Shanghai Cotton Mills, 1919-1949* (Stanford: Stanford University, 1986); Barbara S. Griffith, *The Crisis of American Labor: Operation Dixie and the Defeat of the CIO* (Philadelphia: Temple University, 1988); Joshua B. Freeman, *In Transit: The Transport Workers Union in New York City, 1933-1966* (New York: Oxford University, 1989); Steve Babson, *Building the Union: Skilled Workers and Anglo-Gaelic Immigrants in the Rise of the UAW* (New Brunswick: Rutgers University, 1991).

³¹ Hobsbawm, *op. cit.*, 201.

³² E.g., Friedlander, *op. cit.*, xii, xvi-xviii, xxii, xxvi-xxviii, 7, 12-13, 17, 19, 21, 25-26, 38-45, 64, 111-112; Schatz, *op. cit.*, xi-xiv, 30-36, 43, 81-89, 120; Filtzer, *op. cit.*, 1, 116-122, 155, 158, 175, 232; Honig, *op. cit.*, 2, 4, 8, 40-56, 70, 72-78, 104-111, 140-148; Freeman, *op. cit.*, vii-viii, 8-15, 26-35, 45-50, 63-64, 94-97; Babson, *op. cit.*, 3, 64, 116-117, 119, 125-126, 133-140, 147.

constructed” relationship or “social practice” at work.³³ And I could do no better: “social relations in production,” or “social relations at production.” This was still social history, sociology, which was essential, but not engineering. I wanted to conceptualize the engineering of social production, the mechanics of it, the forces and motion in it.

Meanwhile I kept thinking about “strategic positions” at work, places somehow of special consequence there. I reread Brody and Hobsbawm about them and “strategic,” “vital,” “key,” “indispensable” workers.³⁴ Looking again, I found most of the best labor historians of organizations wrote about “strategic position” or “key” workers and their “strategy,” in the economy at large or in certain industries or particular plants.³⁵ Two of

³³ Richard Price, “Rethinking Labour History: The Importance of Work,” in James E. Cronin and Jonathan Schneer, *Social Conflict and the Political Order in Modern Britain* (Croom Helm: London, 1982), 179-214; idem, “The Labour Process and Labour History,” *Social History*, VIII, 1 (January 1983), 57-73; Jonathan Zeitlin, “From Labour History to the History of Industrial Relations,” *Economic History Review*, new ser., XL, 2 (May 1987), 159-184; Philip Scranton, “None-Too-Porous Boundaries: Labor History and the History of Technology,” *Technology and Culture*, XXIX, 4 (October 1988), 722-743, “work and technical relations,” 738; Patricia A. Cooper, “What This Country Needs Is a Good Five-Cent Cigar,” *ibid.*, 779-807; Stephen Meyer, “Technology and the Workplace: Skilled and Production Workers at Allis-Chalmers, 1900-1941,” *ibid.*, 839-864; Robert L. Frost, “Labor and Technological Innovation in French Electrical Power,” *ibid.*, 865-887.

³⁴ Brody, *op. cit.*, 58, 63, 69, 76-77, 85, 140; David Brody, *The Butcher Workmen: A Study of Unionism* (Cambridge: Harvard University, 1964), x, 15, 55, 63, 104, 174, 245; idem, *Labor in Crisis: The Steel Strike of 1919* (Philadelphia: Lippincott, 1965), 28, 30, 69, 163-171; Hobsbawm, *op. cit.*, 14, 172, 188, 193-194, 199-202, 241-243, 248-249, 262, 264.

³⁵ E.g., Fine, *op. cit.*, 136, 138, 143, 208, 221, 266-267, 271, 309; Friedlander, *op. cit.*, 7, 19, 25, 32, 36, 38-39, 48, 57-58, 60, 64-66, 68-69, 73, 78, 80, 83, 111; Melvyn Dubofsky and Willard Van Dyne, *John L. Lewis: A Biography* (New York: Quadrangle, 1977), 56, 61, 66, 81-82, 87, 128, 159-160, 193, 217, 226-227, 242, 256-258; 260, 266, 268, 272, 276-277, 292, 487, 492, 495; Keeran, *op. cit.*, 4, 19, 80-81, 132, 149, 166, 172, 177, 179-180, 183-184; Tomlins, “AFL Unions,” 1022, 1024-1025, 1027, 1029-1037, 1041-1042; idem, *The State and the Unions*, 60-61, 72, 76, 117, 124, 139, 148, 310-311, 313; Lichtenstein, *op. cit.*, 15, 121, 161, 163-164, 166, 168, 233; Nelson Lichtenstein, “‘The Man in the Middle’: A Social History of Automobile Industry Foremen,” in idem and Stephen Meyer, eds., *On the Line: Essays in the History of Auto Work* (Urbana: University of Illinois, 1989), 157, 165; Price, “Rethinking Labour History,” 180, 202-203; Schatz, *op. cit.*, 86-87; Zieger, *op. cit.*, 50-51, 113-114, 176, 216; Bergquist, *op. cit.*, 10, 47-48, 111, 114-117, 122, 133, 164, 332, 353, 355; Filtzer, *op. cit.*, 112-122, 172-175, 180-185, 192, 232; Cooper, *On the African Waterfront*, 78, 138, 165-166; Kazin, *op. cit.*, 45-46, 53-55; Griffiths, *op. cit.*, 25, 42, 47-48, 56, 168-170, 172, 188 n45; Heron, *op. cit.*, 68-69, 118, 123, 125-126; Nelson, *op. cit.*, 3, 5-6, 246, 322; Freeman, *op. cit.*, viii, 3, 42-44, 58, 62-63, 70, 80, 92, 96-97; Steven Tolliday and Jonathan Zeitlin, “Shop Floor Bargaining, Contract Unionism, and Job Control: An On-the-Job Comparison,” in Lichtenstein and Meyer, *op. cit.*, 227-231, 234-235; Arnesen, *op. cit.*, viii, 42, 161-162, 175-176; Babson, *op. cit.*, 1, 5, 9, 12, 106-107, 120, 126, 160, 174-175, 179, 201, 217-223, 237-238. Cf. an excellent study not of organizations, but of families: Hareven and Langenbach, *op. cit.*, 24, 119.

them even cited Soffer on “autonomous workmen.”³⁶ But I could not tell for sure what most of them meant by “strategic.” Sometimes they skipped the position, and described only the workers’ “strategy,” as if position did not matter to a plan or a course of action, offensive, defensive, or evasive. And often, mistaking a strategy’s results for obvious, they gave no sign of how the results happened, economically, socially, politically, or culturally (or all at once). More problematic, they sometimes argued as if the position made the workers strategic, at other times (about the same position and same workers) vice versa. And they were vague on what made either a position or particular workers strategic. Some argued generally an industry’s or an entire sector’s importance in the economy at large, without linking the general argument to particular positions. Others claimed a position’s extraordinary consequence in “the process of production,” or “the labor process,” a technical connection, which often, however, they barely sketched. Yet others argued workers’ “skills,” their technical capacities, often with a disclaimer for exceptions, e.g., dockers. A few argued both technicalities: “strategic” work meant important to production and skilled; it was certain functions, certain jobs, which only particularly skilled workers could do. But what about dockers, or teamsters? Was “strategic” work primarily a sociological or a technical question?

My two clearest new guides were social historians who professed to take technical factors seriously, and did. One, a young historian of industrial labor in Argentina, gave a concise, precise explanation of a light-and-power union’s technically “strategic” power. But he did not explain how he distinguished “strategically” among the country’s other important unions, or which jobs in an electric company or an automobile plant were

³⁶ Schatz, *op. cit.*, 86, 100 n16; Kazin, *op. cit.*, 75. Cf., after Montgomery, *op. cit.*, 9-27, 29 n21, James R. Barrett, *Work and Community in the Jungle: Chicago’s Packinghouse Workers, 1894-1922* (Urbana: University of Illinois, 1987), 34 n32.

technically or otherwise strategic.³⁷ The other, theoretically the most learned, ambitious, and discriminating of all, a young historian of German and American steelworkers, found “strategically important positions” in German and American steel production, and specified that the “production process” (sometimes the “labor process”) was not “social,” but through “technical organization.”³⁸ He explained “strategic positions” as giving technical power, *Störmacht*, “disruptive power,” the potential to disrupt production throughout a plant.³⁹ And he vividly described these positions and “technical conditions” of strategic work.⁴⁰ But for all his analytical energy he kept losing the distinction between social and technical. The only “relations” (*Beziehungen*) he allowed among workers at work were “social relations”; even “paratechnical relations” were “social relations.”⁴¹ Specifically “relations at work” (*Arbeitsbeziehungen*) in the “production process” were “social”; only the relation between a worker (or a work group) and the plant’s raw materials and productive equipment was “technical.” Regardless of *Störmacht* he made much of Soffer’s “autonomous workmen,” and continually had the power of workers in strategic positions coming from a social condition, “functional autonomy.”⁴²

The relations among workers at industrial work remained inconceivable then except in sociology, even to the best labor historians. But my mind would not rest there. I

³⁷ James P. Brennan, *The Labor Wars in Córdoba, 1955-1976: Ideology, Work, and Labor Politics in an Argentine Industrial City* (Cambridge: Harvard University, 1994), 65-70, 108-110, 113, 120, 128, 133, 164, 171, 212, 269, 340-341, 346-347, 360-361.

³⁸ On these positions, Thomas Welskopp, *Arbeit und Macht im Hüttenwerk: Arbeits- und industrielle Beziehungen in der deutschen und amerikanischen Eisen- und Stahlindustrie von der 1860er bis zu den 1930er Jahren* (Bonn: J.H.W. Dietz Nachfolger, 1994), 55, 128, 148, 426, 520, 544, 572, 631, 722, 733. On production as not “social” but “technical,” *ibid.*, 30-32, 52-53, 110, 137-140, 264-266, 288-289, 451-455, 509-511, 520, 526, 528, 543, 572-573, 631, 716-718, 721-726, 730.

³⁹ *Ibid.*, 573, 584, 589, 680, 716.

⁴⁰ *Ibid.*, 25-33, 52-58, 84-112, 271-301, 478-519, 572-584, 589, 716, 730.

⁴¹ *Ibid.*, 25, 29-32, 51-52, 723.

⁴² On Soffer, *ibid.*, 114 n2, 116n6, 117 n7, 125 n22, 127 n26 n28, 129 n30, 132 n37, 143 n1, 147 n7, 159 n26, 165 n36, 189 n25; on “functional autonomy,” *ibid.*, 53-55, 124, 128-136, 142-144, 192-193, 234-235, 538-539, 546-551, 589, 715-722.

still wondered about that “body of workers technically quite capable of strong collective bargaining,” again about “work and technical relations,” about “workplace relationships determined [in part] by...technology,” about “work relations,” even if entirely “social,” somehow “stamped” by technically “specific labor processes.”⁴³ I could not grasp these connections only in terms of “social relations in production,” or “social relations at production,” or “social relations at work.” I still wanted to conceive Veracruz’s forces of industrial production timed in space, an engineer’s idea of industry and industrial plants like a general’s idea of geography and junctions, an industrial map a syndicalist warrior might have drawn for strategically important positions, or a communist central committee used to decide on strategy.

In 1994 I taught the history of Mexican industries and industrial labor for the first time. I had to think what “industrial” meant, and I went back to Saint-Simon--extensive, consciously divided, consciously organized, technical interdependence in production.⁴⁴ I had to conceive the workers industrially, in the technical divisions and integrations of their labor, in order to explain the subject to the students. This was my break. Before long I had found new terms specifically for industrial workers’ connections at work, and it

⁴³ Hobsbawm, *op. cit.*, 201; Scranton, *op. cit.*, 738; Brennan, *op. cit.*, 54; Welskopp, *op. cit.*, 52.

⁴⁴ Henri Saint-Simon, “Lettre d’un habitant de Genève a ses contemporains [1803],” *Oeuvres de Saint-Simon*, 11 vols. (Paris: E. Dentu, 1868-76), I, 26-47; idem, “L’Industrie, ou discussions politiques, morales et philosophiques [1817],” *ibid.*, II, 53-57, 68-83, 120-128; idem, “L’Organisateur [1819],” *ibid.*, IV, 17-26; idem, “Du système industriel [1821],” *ibid.*, V, 35-41, 129-155; idem, “Catéchisme des industriels [1823],” *ibid.*, VIII, 3-71, 178-203. See also Marx, “Das Kapital,” 399-407, 442-443, 485, 508-512; Friedrich Engels, “Von der Autorität [1872-73],” *Werke*, XVIII, 305-308; Alfred Marshall, *Elements of Economics of Industry* (London: Macmillan, 1892), 159-160; M.G.D. [Mark G. Davidson], “Industry, Organization of,” in Robert H.I. Palgrave, ed., *Dictionary of Political Economy*, 3 vols. (London: Macmillan, 1910), II, 404; Richard Schmalensee, “Industrial Organization,” in John Eatwell et al., eds., *The New Palgrave: A Dictionary of Economics*, 4 vols. (London: Macmillan, 1987), II, 803-808. Raymond Williams, *Keywords: A Vocabulary of Culture and Society* (New York: Oxford University, 1976), 137, is wrong about Carlyle’s “industrialism,” which is not necessarily or especially “mechanical” either: Thomas Carlyle, *Sartor Resartus: The Life and Opinions of Herr Treufelsdrökh* [1830] (London: J.M. Dent & Co., 1902), 237, 379.

seemed to me imperative to finish my abstract histories in all the stationary, motive, moving, dead, and live details they required.

But who would care? Any fool culturally or professionally awake knows that for 20 years or more the hot historical issues of Western Civilization have been race, gender, ethnicity, sex, heroes, and signs, and now, finally, right there up front, “self.” Why on earth would anyone now (or still) try to do an industrial sort of history, of modern industrial work (!)? Scholarly appearances aside, is what I propose a only a Borgesian exercise, a maniac’s scheme for an endless, ever updated, ever more complex encyclopedia of industrial archeology? Could it make any useful sense, now, ever?

One indication that it cannot is how few labor historians have lately come close to it, or (so far as I know) are now trying to do anything like it, for just one industry, much less several. As before, among the best new books in the field are some about modern industrial work, but not about workers at it.⁴⁵ Others are about modern industrial workers, but about them (mostly) off work, on strike or in politics or at meetings, and so on.⁴⁶ Those that do treat workers at work almost all treat only particular departments or

⁴⁵ E.g., Aimée Moutet, *Les logiques de l'entreprise: La rationalisation dans l'industrie française de l'entre-deux-guerres* (Paris: L'École des Hautes Études en Sciences Sociales, 1997).

⁴⁶ E.g., Kevin Boyle, *The UAW and the Heyday of American Liberalism, 1945-1968* (Ithaca: Cornell University, 1995); Nelson Lichtenstein, *The Most Dangerous Man in Detroit: Walter Reuther and the Fate of American Labor* (New York: Basic Books, 1995); Robert H. Zieger, *The CIO, 1938-1955* (Chapel Hill: University of North Carolina, 1995); Mónica B. Gordillo, *Córdoba en los '60; La experiencia del sindicalismo combativo* (Córdoba: Universidad Nacional de Córdoba, 1996); Jonathan C. Brown, ed., *Workers' Control in Latin America, 1930-1979* (Chapel Hill: University of North Carolina, 1997); Daniel J. Clark, *Like Night & Day: Unionization in a Southern Mill Town* (Chapel Hill: University of North Carolina, 1997); Timothy J. Minchin, *What Do We Need a Union For? The TWUA in the South, 1945-1955* (Chapel Hill: University of North Carolina, 1997); Daniel Letwin, *The Challenge of Interracial Unionism: Alabama Coal Mining, 1878-1921* (Chapel Hill: University of North Carolina, 1998); Robert Mencherini, *Guerre froide, grèves rouges: Parti communiste, stalinisme et luttes sociales en France: Les grèves “insurrectionnelles” de 1947-1948* (Paris: Syllepse, 1998); Peter Alexander, *Workers, War, and the Origins of Apartheid: Labour and Politics in South Africa, 1939-1948* (Athens: Ohio University, 2000); Eric Arnesen, *Brotherhoods of Color: Black Railroad Workers and the Struggle for Equality* (Cambridge:

operations, and are not so much about the work as about workplaces, or about race or gender or some other “identity.”⁴⁷ Two richly conceptualized histories of the labor movement in the United States, by experts on “social relations” at work, convey a clear strategic sense of power on the job, but do not distinguish its different sorts, commercial, political, industrial, or technical, or (being general studies) explain anything technical.⁴⁸ Only one book, on Mid-Western U.S. packing plants, gives a strategic sense of that work’s technical organization, in explicitly “strategic” terms. But for all his insights this author mistakes the workers in his “strategically important” department (the killing floors) for “skilled,” and neglects the really most important department, power and refrigeration.⁴⁹ Numerous historical studies whose declared subject is work are actually

Harvard University, 2001); Leticia Gamboa Ojeda, *La urdimbre y la trama: historia social de los obreros textiles de Atlixco, 1899-1924* (Mexico City: Fondo de Cultura Económica, 2001); Laurie Mercier, *Anaconda: Labor, Community, and Culture in Montana’s Smelter City* (Urbana: University of Illinois, 2001). It is significant that the author of the very best of these books, maybe the best labor history in the last 10 years, an excellent book in any field of the humanities or social sciences, has his Ph.D. in philosophy: Jack Metzgar, *Striking Steel: Solidarity Remembered* (Philadelphia: Temple University, 2000).

⁴⁷ E.g., Hans Mommsen and Manfred Gieger, *Das Volkswagenwerk und seine Arbeiter im Dritten Reich* (Düsseldorf: ECON, 1996); Joseph A. McCartin, *Labor’s Great War: The Struggle for Industrial Democracy and the Origins of Modern Labor Relations, 1912-1921* (Chapel Hill: University of North Carolina, 1997); Jefferson R. Cowie, *Capital Moves: RCA’s Seventy-Year Quest for Cheap Labor* (Ithaca: Cornell University, 1999); Anne Farnsworth-Alvear, *Dulcinea in the Factory: Myth, Morals, Men, and Women in Colombia’s Industrial Experiment, 1905-1960* (Durham: Duke University, 2000); Arthur J. McIvor and Ronald Johnston, *Lethal Work: A History of the Asbestos Tragedy in Scotland* (East Linton: Tuckwell, 2000); Venus Green, *Race on the Line: Gender, Labor, and Technology in the Bell System, 1880-1980* (Durham: Duke University, 2001); Mirta Zaida Lobato, *La vida en las fábricas: Trabajo, protesta y política en una comunidad obrera, Berisso (1904-1970)* (Buenos Aires: Prometeo, 2001); Gregory J. Downey, *Telegraph Messenger Boys: Labor, Technology, and Geography, 1850-1950* (New York: Routledge, 2002).

⁴⁸ Steve Babson, *The Unfinished Struggle: Turning Points in American Labor, 1877-Present* (Lanham: Rowman & Littlefield, 1999); Joshua B. Freeman, *Working-Class New York: Life and Labor Since World War II* (New York: New Press, 2000).

⁴⁹ Roger Horowitz, “*Negro and White, Unite and Fight!*”: A Social History of Industrial Unionism in Meatpacking, 1930-1990 (Urbana: University of Illinois, 1997), 4, 12-13, 17-20, 26, 41, 49, 72-73, 76, 96, 105, 115-118, 121, 157, 178, 192, 215-216, 248-249. On the “mechanical division,” 23, 187, 217, 219, 222. The best historical examination I know of work in one industry, the clearest, most comprehensive, most carefully conceptualized, most rigorously analytical, and most explicitly “strategic” on industrial and technical positions, is a recent dissertation on Brazil’s first modern steel mill, not yet a book: Oliver Dinius, “*Work in Brazil’s Steel City: A History of Industrial Relations in Volta Redonda, 1941-1968*” (Ph.D., Harvard University, 2004).

about other subjects.⁵⁰ Surveys of the history of modern work, however useful, are largely about labor markets, social conventions, occupations, working conditions, regulations, and emotion, not about variation in industrial systems.⁵¹ In a newish historical anthology on work the editor, a masterly English historian, includes nothing by a historian on any industrial work. He quotes a distinguished historian of the 19th- and 20th-century British working class: "...we know little enough of people's attitude to work at the best of times and have almost no accurate knowledge for the period before the 1930s."⁵² In other words, let us confess our ignorance of "attitudes"; never mind our ignorance of what industrial workers actually did systematically, simultaneously, consecutively, and together at their work, before or after 1930. Some selections in the anthology, from 19th- as well as 20th-century authors (e.g., Richard Henry Dana, Melville, Zola, F. W. Taylor, Robert Frost, Orwell), are on slices of work in industrial operations. But however interesting they all (except the one from *Germinal*) read as if the venerable Fraser or blessed Studs had chosen them. They are not about coordinated labor power in production, but about individual, personal experience, not work, but the feeling of a self at work.

Any history of industrial production now would run against prevailing historical concerns, popular and professional. The anthology's editor could tell "obviously what

⁵⁰ Typical is Jacqueline Jones, *American Work: Four Centuries of Black and White Labor* (New York: W.W. Norton, 1998), which is about unemployment and "race relations."

⁵¹ E.g., Arthur J. Melvor, *A History of Work in Britain, 1880-1950* (Basingstoke: Palgrave, 2001).

⁵² Keith Thomas, ed., *The Oxford Book of Work* (Oxford: Oxford University, 1999), vi. The scholar cited is Ross McKibbin, *The Ideologies of Class: Social Relations in Britain, 1880-1950* (Oxford: Oxford University, 1994), 148. Thomas's selection from Raphael Samuel, "The Workshop of the World: Steam Power and Hand Technology in Mid-Victorian Britain," *History Workshop Journal*, No. 3 (Spring 1977), 6-72, is sterling, but about artisanry ("autonomous workmen?") within industrial work.

most people thought” of his project on work: “What a dreary subject!”⁵³ I guess so; by July 4, 2004, the book’s Amazon.com sales rank was 872,914. When the formidable Gen. Reader (if not watching Simon Schama re-runs) can lay hands on a new David McCullough or Paul Johnson, or an old Stephen Ambrose, he is not likely to look for choice historical readings on work, much less “historical studies of industrial work,” anytime, anywhere. Neither are scholarly professors of history, now interested (traditionally or speculatively) in almost anything but industrial work. If Harvard University library acquisitions through the last 10 years represent their concerns, they publish and read nearly three times as much about war as about gender, one and a half times more about gender than about race, more than twice as much about gender as about labor, 25 times as much about labor as about industrial work, 18 times as much about sex as about industrial work, and one-third more about pornography than about industrial work.⁵⁴ Maybe no less significant: The brilliant young historian of German and American steelworkers has written a second excellent book, a political, social, cultural history of “brotherhood” in pre-industrial German Social Democracy.⁵⁵ Established old American masters of labor history, following Saint Edward and Saint Herb, without thinking twice, would still take work for a valid subject, but only as if it were a school, or an ethical test,

⁵³ Thomas, *op. cit.*, v. Cf. Judith Shulevitz, “The Fall of Man,” review of Susan Faludi, *Stiffed: The Betrayal of the American Man* (New York: William Morrow and Company, 1999), in *The New York Times Book Review*, October 3, 1999, 8-9.

⁵⁴ Harvard OnLine Information Service (HOLLIS), Union Catalogue of the Harvard Libraries, July 4, 2004: “Extended searches” of the “full catalogue” of holdings in all languages, all locations, all formats, published from 1995 to date, show for keywords in titles (including titles of series and chapters) the following: “history,” 29,176; “history war,” 1,420; “history politics,” 1,231; “history gender,” 526; “history race,” 358; “history labor,” 229; “history business,” 222; “history sex,” 163; “history ethnicity,” 125; “history pornography,” 12; and “history industrial work,” 9. The keywords are not exclusive. Because some titles share them, because the words themselves have different meanings in different contexts, because library acquisitions are not the same as holdings read, and for other reasons, this count cannot measure the real distribution of subjects of recent scholarly publication or reading. But it does indicate where the traffic is heavy, and where it is light.

⁵⁵ Thomas Welskopp, *Das Banner der Brüderlichkeit: Die deutsche Sozialdemokratie vom Vormärz bis zum Sozialistengesetz* (Bonn: J.W.H. Dietz Nachfolger, 2000).

important in forming workers' community and culture. Among elder European labor historians one of the sharpest, worried that the field had "become quite boring," lately suggested improvements including remarkably "a history of work," but he evidently means only a social history of "concepts," "meanings," and "practices of work."⁵⁶ The still youngish Anglo-North American avant-garde in labor history, never having had confidence in quantification, or old classifications of historical objects, notions, or categories, would certainly not turn now from the cultural history of labor to anything as extra-literal as a full set of actual material constructs, matrices of modern production. Probably 95% of the papers at recent North American Labor History Conference meetings would have gone just as well at any political or social or cultural history conference; "work" matters only because of the workplace, which matters only because of the culture in production or at work there. For its meeting in October 2004, on "Class, Work and Revolution," NALHC "encourages sessions...from perspectives of gender, race, ethnicity, and sexuality."⁵⁷ Even the new cultural history's most sophisticated, rigorous, and acute rival (a historical sociologist of labor), who also wants a new history of work, urges studies to "demonstrate and specify....exactly how the cultural

⁵⁶ Jürgen Kocka, "How Can One Make Labour History Interesting Again?" *European Review*, IX, 2 (May 2001), 207, 209. Cf. J. Ehmer, "Work, History of," in Neil J. Smelser and Paul B. Baltes, eds., *International Encyclopedia of the Social and Behavioral Sciences*, 26 vols. (Amsterdam: Elsevier, 2001), XXIV, 16569-16574.

⁵⁷ "Class and Politics in Historical and Contemporary Perspective," Twenty-First Annual North American Labor History Conference, October 21-23, 1999; "Labor and the Millennium: Class, Vision, and Change," Twenty-Second Annual North American Labor History Conference, October 19-21, 2000; "Labor, Migration and the Global Economy: Past, Present and Future," Twenty-Third Annual North American Labor History Conference, October 18-20, 2001; "Class, Gender and Ideology," Twenty-Fourth Annual North American Labor History Conference, October 17-19, 2002; "Labor, War, and Imperialism," Twenty-fifth Annual North American History Conference, October 16-18, 2003; "Class, Work and Revolution," Twenty-sixth Annual North American Labor History Conference, October 21-23, 2004.

construction of economic concepts configured....practice in the [pre-1914] factory.” He himself has not proceeded there, but toward a theory of “culture in practice.”⁵⁸

Some North American labor historians have lately organized to promote “labor and working-class history.”⁵⁹ Against a notion (eventually expressed at an Organization of American Historians meeting, where else?) that “the basic themes of labor history are inherently too obscure or unexciting to appeal to a larger public,” these labor historians practically redefine the field as a general history of injustice. In 2002 their man became editor of the field’s principal journal in the United States, conceded the field’s “intellectual stasis,” and proclaimed the journal’s concerns to be the racial, gendered, ethnic, sexual, and economic wrongs working men and women of all the Americas have suffered. He called particularly for “analysis of changing work processes and managerial structures as well as the felt experience of work,” much more on “the basic history of work and occupations,” including “hairdressers,...funeral parlors,...school counselors,” to strengthen the field’s “credentials in the intellectual marketplace.” He evidently cannot tell the difference between work and the experience of it, or the difference between industrial and other work (experience). Nor does he show the faintest interest in the kind of work that Montgomery 25 years ago might have told him was “strategic.” The graduate program he directs on “the History of Work, Race, and Gender in the Urban

⁵⁸ Richard Biernacki, *The Fabrication of Labor: Germany and Britain, 1640-1914* (Berkeley: University of California, 1995), 16, 20, 471-497. Cf. idem, “Method and Metaphor after the New Cultural History,” in Victoria E. Bonnell and Lynn Hunt, eds., *Beyond the Cultural Turn: New Directions in the Study of Society and Culture* (Berkeley: University of California, 1999), 62-92; idem, “Language and the Shift from Signs to Practices in Cultural Inquiry,” *History and Theory*, XXXIX, 3 (October 2000), 289-310. Cf. John R. Hall, “Cultural History is Dead (Long Live the Hydra),” in Gerard Delanty and Engin F. Isin, eds., *Handbook of Historical Sociology* (London: Sage, 2003), 151-167.

⁵⁹ On the Labor and Working-Class History Association, LAWCHA, constituted February 7, 2000, www.lawcha.org. Its first two presidents were Jacquelyn D. Hall and Joe W. Trotter, Jr.; the current president (2003-2005) is James Green. Of the 67 participants at the DeKalb conference in October 1984 (Moody and Kessler-Harris, *op. cit.*, 237), 24 are now (July 4, 2004) among LAWCHA’s 500-plus members; among them, Hall and Green.

World” (at the University of Illinois in Chicago) offers one course partly on technology (bless that professor), but none on any kind of work; the program’s four graduate colloquia are on “comparative feminism,” “immigration and ethnic history,” “race & working class history,” and “sexuality, power, and politics.”⁶⁰ This campaign “to broaden and reenergize the field” now boasts a new journal. But the same editor is still hot as ever after that old-time “working-class experience.” Neither he nor his associates, all in thrall to Thompson, Gutman, and a now thoroughly Thompson/Gutmanized Montgomery, can distinguish between work and feelings. As I read them, they could not imagine a technical story of industrial production that would not bore them senseless, and be a complete downer in “the intellectual marketplace.”⁶¹

It may be worth wondering why the history of work (of any kind or time) seems now so “dreary.” If 30 years ago, when Terkel first published his interviews, “labor” and “work” were all the rage among intellectuals and academics of various specializations, what happened to that excitement? For good practical reasons (productivity, profits, benefits, wages, premiums, elections, wars, law suits), economic, sociological, political, psychological, medical, legal, and other kinds of studies of work remain in full flow. Why does the history of “work,” however, especially “industrial work,” now evoke physical expressions of boredom, even aversion? Considering the economic, social, and cultural changes of the last 30 years, it is easy to explain historians’ positive fascination with the new cultural history (including the history of the culture of the workplace). But

⁶⁰ Leon Fink, “Editor’s Introduction,” *Labor History*, XLIII, 3 (August 2002), 245-246; idem, “Notes and Documents: What is to be Done--In Labor History?” *ibid.*, XLIII, 4 (November 2002), 419-424; and on the UIC graduate program, www.uic.edu/depts/hist/work.

⁶¹ Leon Fink, editor, *Labor: Studies in Working-Class History of the Americas*, I, 1 (Spring 2004). No “strategic” question arises in a long, otherwise interesting interview with the master: James R. Barrett, “Class Act: An Interview with David Montgomery,” *ibid.*, 23-54.

the negative reasons why historians no longer want to learn about work, not the culture, but the very action of work, are harder to find.

Surely the reason is not that there is nothing more to learn about it. Scholars now know vastly more about race, gender, or sex than they do about work, but they as yet give no sign that they could ever have enough scholarship about bodies in representation or erotic stimulation--while they have evidently had quite enough, little as it is, on the history of bodies and minds in industrial production. Unlike race, gender, or sex, work is inherently, endlessly curious, not sign or practice or instinct, but action to bring useful things forth, conscious, learned, serious, intentional, earnest, conscientious, engrossing, i.e., like culture, but also particular, wearisome, distracting, arduous, frustrating, maybe exhausting, and of general, fundamental, and pressing importance; and industrial work is divided, divisive, and nevertheless collective. We are far from having comprehended the reality that work has rendered our kind human, ever more human. It makes no obvious sense that studying the history of the activity necessary for any other human history to happen should hold no interest. It is historically as well as naturally interesting that the species would die out much faster without any work than it would without any copulation.

Besides, culturally, of all the great ancient myths of creation, how the world happened, why it has continued to happen, the one that developed into the symbolism, discourse, and ideologies most gripping in the modern world is a story of work, in the Book of Genesis's first three chapters. This is a narrative of tremendous force and profound, vibrant, suggestive, reverberating subtleties: "In the beginning God created the heaven and the earth," made of it the firmament, two great lights, the stars also; created

great whales, and man in his own image; on the seventh day ended his work, and rested; then he “planted a garden,” and there put “the man whom he had formed,” Adam, “to dress and keep it”; from the man he made a woman, Eve, “and brought her to the man”; and when these two violated one of his commands, so that “they knew that they were naked” and in vain tried to hide from him, he said to Eve, “I will greatly multiply thy sorrow and thy conception; in sorrow thou shalt bring forth children...,” and to Adam, “...cursed is the ground for thy sake; in sorrow shalt thou eat of it all the days of thy life. Thorns also and thistles shall it bring forth to thee,” and expelled them from the garden “to till the ground” eastward.⁶² The story is (of course) strongest chanted in the original Hebrew, for the letters not only sound but have character, and the words’ ritual repetitions, three-consonant roots, and continual inflections resound in ringing allusions and distinctions. The divine work God did in creating and by hand making the world, for example, is radically, purely divine, work God alone could do. But the work he then did on creation is radically like our filling, freeing, fattening, satisfying, making sound, or an angel, a messenger, a message, or being on a mission, on business, occupied, on a promise, a covenant; God’s rest from his work is also a blessing, a sanctification of it. The work Adam did in the garden is radically the work of having charge of something, keeping watch over it, preserving, protecting it. The work he did after is radically different, work at once service, obedience, subjection, bondage, servitude, slavery, and worship. The “sorrow” that after leaving the garden Eve will feel in childbirth and Adam at work is toil’s pain, at its roots like hurt, hard, grieving, torment, suffering, vexing,

⁶² *The Bible* (King James Version), Gen. 1-3.

injury, travail, heartache, wounded, hurt in spirit.⁶³ Belief in a divinely wrought world that took humanly alienated hard labor (one's own or others') to support the obediently faithful was orthodoxy among Jews, Christians, and Muslims for centuries. It went so deep in these cultures that only heretics could imagine the world as not work, divine or human.⁶⁴ Since the industrial revolution, when first European capitalism, then European socialism, each in its own atheism, commenced really reconstructing Europe and everywhere else as human work, for profits, or for humanity, the idea that "this world," "the real world," is work (yours, or mine, or others', or every able body's) has permeated all cultures. As Marx discovered already in the 1840s (maybe in part because he was

⁶³ Francis Brown et al., *The Brown-Driver-Briggs Hebrew and English Lexicon* [1906] (Peabody: Hendrickson, 1999), 135-136 (Bêth-Rês-'Aleph), 569-571 (Mêm-Lamedh-'Aleph), 712-716 ('Ayin-Bêth-Daleth), 780-781 ('Ayin-Çadhê-Bêth-Waw-Nûn), 1036-1037 (Sîn-Mêm-Rês). Gerhard von Rad, *Genesis: A Commentary*, rev. ed. (Philadelphia: Westminster, 1972), 45-67, 73-102; W. Gunther Plaut, ed., *The Torah: A Modern Commentary* (New York: Union of American Hebrew Congregations, 1981), 36; U. Cassuto, *A Commentary on the Book of Genesis*, 2 vols. (Jerusalem: Magnes Press, 1998), I, 165, 168-169. Cf. *The Koran*, 90:4, "Indeed, We created man *fi kabad*," in bitter trouble, at the heart of melancholy, heavy distress, sore difficulties, grievous hardship," a native, natural condition, not (necessarily) the nature of work. Hanna E. Kassis, *A Concordance of the Qur'an* (Berkeley: University of California, 1983), 625; M. Rodinson, "Kabid," in *Encyclopedia of Islam*, new ed., 10 vols. (Leiden: E.J. Brill, 1960-2000), IV, 327-333.

⁶⁴ The standard references are to Adriano Tilgher, *Work: What It Has Been to Men through the Ages*, tr. by Dorothy C. Fisher (London: G. G. Harrap, 1931); Johan Huizinga, *Homo Ludens: A Study of the Play-Element in Culture* (Boston: Beacon, 1955); Hannah Arendt, *The Human Condition* (Garden City: Doubleday, 1959); and Sebastian De Grazia, *Of Time, Work, and Leisure* (New York: Twentieth Century Fund, 1962). Tilgher mentions Homer, Xenophon, Hesiod, Plato, Aristotle, Plutarch, Cicero, Virgil, Antisthenes, Seneca, the Old and New Testaments, and Zarathustra, but is fleeting through all his "ages." The others draw most deeply on the Greek and Latin classics. Pondering the *vita activa*, *ergon*, *ponos*, *homo faber*, *animal laborans*, *negotium*, *otium*, and so on, they reveal most about the *vita contemplativa* of philosophers and intellectuals. Arch-contemplator Plato had Odysseus's soul in Hades remember of its earthly experience of him mainly his *ponoi*, "painful toils," in order to choose the life of a "private man not involved in business and public affairs" the next time around: *The Republic*, X, 620C. Neither Tilgher nor Huizinga, nor Arendt, nor De Grazia, considers the Romance languages' *travail*, *trabajo*, and the like, which come from LL. *trepalium*, or *trebalium*, an instrument of torture (from L. *tripalis*, having three stakes), and mean labor or work as painful toil, torment: Lucien P. V. Fèbvre, "Travail: l'évolution d'un mot et d'une idée," in his *Pour une histoire à part entière* (Paris: École Pratique des Hautes Études, 1962), 649-650. On work in Jewish, Christian, and Islamic traditions: Jacob Neusner, "Work in Formative Judaism," in Jacob Neusner et al., eds., *The Encyclopedia of Judaism*, 3 vols. (New York: Continuum, 1999), III, 1502-1516; Jacques Le Goff, *Pour un autre Moyen Age: Temps, travail et culture en Occident: 18 essais* (Paris: Gallimard, 1977), 66-130; Yves Marquet, "La place du travail dans la hiérarchie isma'ïlienne d'après L'Encyclopédie des Frères de la Pureté," *Arabica*, VIII, 3 (September 1961), 225-237; Maya Shatzmiller, *Labour in the Medieval Islamic World* (Leiden: E.J. Brill, 1994), 369-398.

German), it was impossible even to think or talk about “reality” without it “working.”⁶⁵ Now anywhere only the other-worldly could imagine it otherwise.

The boredom among U.S. historians now with industrial work is in part simply reasonable avoidance of a subject become hugely boring to the U.S. public. “Public historians,” those historians most exposed to the public, understand this prudence best. Given the shrinkage of old-fashioned industry, the old-fashioned working class, and that old-time labor movement, given that unions have disappointed (if not disgusted) many workers and anger or scare many others of the public, given the continual, popular drive to the right for the last 25 years in U.S. politics, given popular dedication to “leisure,” “shopping,” and “entertainment,” etc., very few such historians could expect to pay their bills doing histories of labor or work, much less industrial work.⁶⁶ Given the same conditions, some academic labor historians who have written on aspects of industrial work may now prudently (for enrollments or publishing contracts, or both) write away from it, toward more attractive themes, politics or culture.

But the aversion among primarily academic, avowedly cultural historians, who dominate the field now in North America, Latin America, and Europe, is not so

⁶⁵ For an ironic articulation of *Wirklichkeit*, *wirklich*, *verwirklichen*, and *wirken*, Karl Marx and Friedrich Engels, “Die deutsche Ideologie,” *Werke*, III, 109-127, *passim*. Cf. Jacques Derrida, *Spectres de Marx: l'état de la dette, le travail du deuil et la nouvelle Internationale* (Paris: Éditions Galilée, 1993), 126, 208-209.

⁶⁶ Joan Hoff Wilson, “Is the Historical Profession an ‘Endangered Species?’” *The Public Historian*, II, 2 (Winter 1980), 9-10, 16-19; Terence O’Donnell, “Pitfalls Along the Path of Public History,” *ibid.*, IV, 1 (Winter 1982), 66-68, 71; Brian Greenberg, ed., “Labor History and Public History,” a special issue of *The Public Historian*, XI, 4 (Fall 1989), 6-190; Arnita A. Jones, “Reflections on the History Wars,” in George R. Garrison et al., *Beyond the Academy: A Scholar’s Obligations* (New York: American Council of Learned Societies, 1995), 15-20; idem, “Public History Now and Then,” *The Public Historian*, XXI, 3 (Summer 1999), 23, 25-28. By its constitution LAWCHA is practically an association of “public labor historians.” I reckon that of its 500-plus members now at least 150 would qualify as “public historians,” although only some 50 seem to hold primary employment as such, at an “institute for labor studies,” or historical society, archive, library, and so on. Cf. American Historical Association, “Public History, Public Historians, and the American Historical Association: Report of the Task Force on Public History,” March 30, 2004, Charge 1, 1, www.historians.org/governance/tfph/TFPHreport.

reasonable. It goes deeper, farther back, and raises more complicated issues of evasion. These historians concentrate on injustice, the making (or loss) of labor's community and solidarity, exclusively "social relations" (or the experience of them?), evidently because they believe it disrespectful to workers, a denial of their human dignity, a boring "reductionism," to think of them in technical organization. They will not have it in their house, a vocabulary or grammar for discourse on the human technical divisions in industrial production. But this is implicitly to claim industrial workers have had power for their struggles only through their numbers or their moral merits, to deny they ever had (also or only) technically determined power to force gains. The reasons for this denial go back maybe 25 years.

Giants of several kinds ruled the field then. Above all Thompson, but other worthies too, historians, sociologists, political scientists, old and young, Brody, Hobsbawm, Werner Conze, Paolo Spriano, Georges Haupt, Barrington Moore, Gutman, Treppe, Perrot, Kocka, Joan Scott, George Rudé, Mommsen, John Foster, Charles and Louise Tilly, Lawrence Goodwyn, Ralph Miliband, Leo Panitch, Royden Harrison, Yves Lequin, Montgomery, and more, spread various theoretical influences, Weber, Marx, *Annales* (Durkheim), and others, among the young entering the field.⁶⁷ Whatever influence they accepted, the young all took their subject in Thompson's spirit to be workers' subjectivity, "agency."⁶⁸ Politically, a qualification essential to them, they were typically on the non-communist left, virtually living the struggles they studied, aching (as

⁶⁷ The broadest review I know for that time is Klaus Tenfelde, ed., "Arbeiter und Arbeiterbewegung im Vergleich: Berichte zur internationalen historischen Forschung," *Historische Zeitschrift-Sonderhefte*, XV (1986). Cf. Gareth Steadman Jones, *Languages of Class: Studies in English Working Class History, 1832-1982* (Cambridge: Cambridge University, 1983), 6-9.

⁶⁸ "...the agency of working people, the degree to which they contributed, by conscious efforts, to the making of history": Thompson, *op. cit.*, 12.

if to apologize for '68) to make labor history useful for live workers. Instead they had to suffer live workers continually exercising their agency in favor of Thatcher, Reagan, and Kohl, the political fact that most deeply marked their intellectual generation (left and right).⁶⁹ In their labor histories they tended to tell either a story of power, of conflicts, challenges, wins, losses, never more than temporary compromises, a story ending in victory or defeat, or a story of wrongs, of discrimination, abuses, protests, resistance, leading to integration or alienation, synthesis or frustration.⁷⁰ This second story, the history of (corrigible) injustice, the culturally inclined made their specialty, and within a decade made the main story in the field.

Especially in the United States, tailing Gutman and Scott, they wrote of workers enduringly divided against themselves, and not over politics or economics, but over race, religion, language, and in all races, religions, and languages--between men and women.⁷¹ They went into divisions of labor, not industrial or technical, but racial, gendered, ethnic, or sexual. If some of them looked to a "point of production," they did not see it connected to others, technical nodes, links, a material (including human material) nexus, a network of production actually producing things (inter alia moving them); they saw only a workplace culture. If they focused on workers at work, they saw them only in social relations, in communal action, normative (consensual or contested) interaction, or just

⁶⁹ Two signs of the times: Christopher Lasch, *The Culture of Narcissism: American Life in An Age of Dominishing Expectations* (New York: W.W. Norton, 1979); Martin Jacques and Francis Mulhern, eds., *The Forward March of Labour Halted?* (London: New Left Books & Marxism Today, 1981).

⁷⁰ Cf. contemporaneous participant observers Alan Dawley, "Workers, Capital, and the State in the Twentieth Century," in Moody and Kessler-Harris, *op. cit.*, 152-200; Alice Kessler-Harris, "A New Agenda for American Labor History: A Gendered Analysis and the Question of Class," *ibid.*, 271-234; Mari Jo Buhle and Paul Buhle, "The New Labor History at the Cultural Crossroads," *Journal of American History*, LXXV, 1 (June 1988), 151-157.

⁷¹ The classic references then were Herbert G. Gutman, "Work, Culture, and Society in Industrializing America, 1815-1919," *American Historical Review*, LXXVIII, 3 (June 1973), 531-588; and Joan W. Scott, "Gender: A Useful Category of Historical Analysis," *ibid.*, XLI, 5 (December 1986), 1053-1075.

individually on the job, experiencing work. At their most technical regarding this experience they would give a report on the primary material in its course from input to output, or a list of selected occupations, or brief job descriptions, maybe too a worker's memory of the experience, as if the work were only personal.⁷² The best of them were absolutely clear about their concerns, to study workers' "voices," "subjectivity," "experience," "meanings," "identity," and "language--not just words but all forms of symbolic representation."⁷³ Some (like Scott) adopted from sociologists that remarkable word, "strategies," *sic*, usually in the plural, not only (as of old) for "union strategies," but now distinctively for "personal" or "survival strategies," "class and gender strategies," "fertility strategies," even "identity-securing strategies."⁷⁴

⁷² E.g., variously, Alice Kessler-Harris, *Out to Work: A History of Wage-Earning Women in the United States* (New York: Oxford University, 1982); Joe William Trotter, Jr., *Black Milwaukee: The Making of an Industrial Proletariat, 1915-1945* (Urbana: University of Illinois, 1985); Leon Fink and Brian Greenberg, *Upheaval in the Quiet Zone: A History of Hospital Workers's Union, Local 1199* (Urbana: University of Illinois, 1989); Lizabeth Cohen, *Making a New Deal: Industrial Workers in Chicago, 1919-1939* (Cambridge: Cambridge University, 1990); Robin D.G. Kelley, *Hammer and Hoe: Alabama Communists during the Great Depression* (Chapel Hill: University of North Carolina, 1990); Elizabeth Faue, *Community of Suffering and Struggle: Women, Men, and the Labor Movement in Minneapolis, 1915-1945* (Chapel Hill: University of North Carolina, 1991); John D. French, *The Brazilian Workers' ABC: Class Conflict and Alliances in Modern São Paulo* (Chapel Hill: University of North Carolina, 1992). For contemporaneous review and criticism, William Lazonick, "The Breaking of the American Working Class," *Reviews in American History*, XVII, 2 (June 1989), 272-283; Robert J. Norrell, "After Thirty Years of 'New' Labour History, There Is Still no Socialism in Reagan Country," *The Historical Journal*, XXXIII, 1 (March 1990), 227-238; and Jerry Lee Lembcke, "Labor History's 'Synthesis Debate': Sociological Interventions," *Science and Society*, LIX, 2 (Summer 1995), 137-169.

⁷³ E.g., Hall et al., *op. cit.*, xii-xiv, xvii, xx, xxv, 3-363 *passim*; Ava Baron, "Gender and Labor History: Learning from the Past, Looking to the Future," in idem, *op. cit.*, 1-46; Mary H. Blewett, *The Last Generation: Work and Life in the Textile Mills of Lowell, Massachusetts, 1910-1960* (Amherst: University of Massachusetts, 1990), xv-xxii, 18, 31-43, 143-157.

⁷⁴ E.g., Hall et al., *op. cit.*, 100, 105, 146, 154, 184, 199, 225; Baron, *op. cit.*, 22, 31-32, 38, 44-45; idem, "An 'Other' Side of Gender Antagonism at Work: Men, Boys, and the Remasculinization of Printer's Work, 1830-1920," *ibid.*, 57, 69; Mary H. Blewett, "Manhood and the Market: The Politics of Gender and Class among the Textile Workers of Fall River, Massachusetts, 1870-1880," *ibid.*, 92-93, 96, 101, 104, 112; Patricia Cooper, "The Faces of Gender: Sex Segregation and Work Relations at Philco, 1928-1938," *ibid.*, 341-344. To walk the word back from them: Joan W. Scott, "Deconstructing Equality-Versus-Difference: Or, The Uses of Post-Structuralist Theory for Feminism," *Feminist Studies*, XIV, 1 (Spring 1988), 36, 38-40, 46-47; idem, "On Language, Gender, and Working-Class History," *International Labor and Working-Class History*, 31 (Spring 1987), 7, 10; Louise A. Tilly and Joan W. Scott, *Women, Work, and Family* (New York: Holt, Rinehart and Winston, 1978), 99, 171-172, 227-228, 230, 232; and Charles Tilly, "Population and Pedagogy in France," *History of Education Quarterly*, XIII, 2 (Summer 1973), 118-121, 125, 127.

Tiananmen, the ruin of reform in the Soviet Union, Solidarity's passion for capitalism in Poland, and (the last straw) Sandinismo's defeat in Nicaragua ended all innocent (and many jaded) hopes that workers would ever go for any socialism, that socialism could ever be more than a utopia. The heat on the left since 1917 having gone off, the cultural labor historians could go back to an easier, older, familiar utopia, "to end inequality."⁷⁵ And in relief they piled right into history's public "culture wars." There they advocated a kind of historical justice by "inclusion," writing "working people" in all their multicultural glory into an open, convivial national narrative, e.g., "the pursuit of...democratic culture." They wanted "work" in the narrative, but only "in the context of community and culture." They urged inclusion of industrial workers (off work) "in the household, the neighborhood, and the community," and in the workplace too, but still only in their social relations there, which they still (mis)took for the relations of work. They would not see that community and modern industry (not only manufacturing, but mining, construction, transportation, communication, and systematic services) have been as different as affect and technically coordinated production. Stuck on identities and injustice, insistent on workers' "agency" in the "larger social and political culture," but ignorant of industry's engineering, they avoided any question of technical power, technical strategies, or lack of such power, and the consequent need for other strategies. They emphasized "how permeable were the boundaries between community and work," only to clarify (they claimed) a common culture in both places, not to examine rival uses of the culture in protecting or isolating strategic positions at work.⁷⁶ As they brought a

⁷⁵ Scott, "On Language," 13.

⁷⁶ Alice Kessler-Harris, "Cultural Locations: Positioning American Studies in the Great Debate," *American Quarterly*, XLIV, 3 (September 1992), 300, 303, 307-311; Dorothy Sue Cobble and Alice Kessler-Harris, "The New Labor History in American History Textbooks," *Journal of American History*, LXXIX, 4

second or third Thompsonite generation into modern labor history, instead of teaching the new young about industrial work, they have taught them about “constructions,” “representations,” and “semiotic challenges,” not only in literal texts (no longer a redundancy), but as well in “popular culture,” “subaltern culture,” “material culture,” “public culture,” “counterculture,” etc. And now the new generation has published an encyclopedia (on U.S. labor), including entries on Ralph Fasanella and “Music and Labor,” but none on “Division of Labor,” “Industrial Relations,” “Industrialization,” or “Technology.”⁷⁷ The culture of labor, its traditions and their revivals, has become many labor historians’ happy, hopeful refuge, because they are safe there from the objective meaning of incorrigible, inevitable technical inequalities among workers at work.

Labor historians anxious or glad at this turn have explained it by the world’s changes.⁷⁸ But it is not the world’s fault or to its credit that it changed. Nor is intellectual influence the answer. Because Gutman discovered his synthetic solution in “culture,” Scott her new “analytic category” in “gender,” it was not inevitable that so many of their

(March 1993), 1534-1535, 1540, 1543; Gary B. Nash et al., *History on Trial: Culture Wars and the Teaching of the Past* (New York: Knopf, 1997). For monographic examples, Dana Frank, *Purchasing Power: Consumer Organizing, Gender, and the Seattle Labor Movement, 1919-1929* (Cambridge: Cambridge University, 1994); Colin J. Davis, *Power at Odds: The 1922 National Railroad Shopmen’s Strike* (Urbana: University of Illinois, 1997); idem, *Waterfront Revolts: New York and London Dockworkers, 1946-1961* (Urbana: University of Illinois, 2003); Thomas M. Klubock, *Contested Communities: Class, Gender, and Politics in Chile’s El Teniente Copper Mine, 1904-1951* (Durham: Duke University, 1998); Leon Fink, *The Maya of Morganton: Work and Community in the Nuevo New South* (Chapel Hill: University of North Carolina, 2003). Cf. William H. Sewell, Jr., “The Concept(s) of Culture,” in Bonnell and Hunt, *op. cit.*, 35-61; Biernacki, “Language,” 298-300.

⁷⁷ Robert E. Weir and James P. Hanlan, eds., *Historical Encyclopedia of American Labor*, 2 vols. (Westport: Greenwood, 2004). There are passing references to Joan Baez and Michael Dukakis, but none to braceros, Theodore Dreiser, Edward Sadlowski, Jr., or Baldemar Velásquez.

⁷⁸ Marcel Van der Linden, “The End of Labour History?” *International Review of Social History*, XXXVIII, Supplement (1993), 1; idem, “Labor History,” in Smelser and Baltes, *op. cit.*, XII, 8181-8185; idem, “Working Classes, History of,” *ibid.*, XXIV, 16579-16583; Ira Katznelson, “The ‘Bourgeois Dimension: A Provocation About Institutions, Politics, and the Future of Labor History,” *International Labor and Working-Class History*, No. 46 (Fall 1994), 7-20; Jürgen Kocka, “New Trends in Labour Movement Historiography: A German Perspective,” *International Review of Social History*, XLII, 1 (April 1997), 69, 74-75, 78; John D. French, “The Latin American Labor Studies Boom,” *ibid.*, XLV, 2 (August 2000), 289-293.

scholarly heirs should discover (or lose) themselves in “cultural studies,” or that they should have brought their students there, or abandoned them there. Let the disciples accept their own agency. Especially in the United States and Great Britain their studies have turned increasingly into a kind of mutual entertainment, distraction, forgetting, to deny old questions that it is very hard for bookish, democratic people to open now, not only “work,” but “future,” or “technical reasons,” or “force,” or “socialism”; they cannot bear fantasies about them.⁷⁹

Good social and cultural questions about industrial work will keep coming to the labor historian’s mind. Physical, industrial objectivity, not reification, or why or how objects change, but an already imposed, actually existing system of technical things (including ordered natural forces)--what has this done to the subjectivity of the people ordinarily using it for production, sometimes breaking ordered discipline to stop use of it? How differently have pre-industrial and industrial workers construed the meaning of their work, and learned from it? Has technically determined cooperation at work fostered animosity among industrial workers as well as “sociability”?⁸⁰ Has their work been a claim (on whom?) or a performance (for whom?), or both? To organize workers at work or in communities, between communities, and beyond, which has been better, integration of differences, or coalitions of them? Why have industrial workers’ movements rarely followed democratic rules? In movements beyond a workplace, beyond a community, among workers unknown to each other, what has brought out the emotion of solidarity?

⁷⁹ Otto Fenichel, “On the Psychology of Boredom [*Langeweile*] [1934], in idem, *Collected Papers*, 2 vols. (New York: W.W. Norton, 1953-54), I, 292-302; Ralph R. Greenson, “On Boredom,” *Journal of the American Psychoanalytic Association*, I, 1 (January 1953), 7-21; M. Masud R. Kahn, “Introduction,” in D.W. Winnicott, *Holding and Interpretation: Fragment of an Analysis* (New York: Grove Press, 1987), 1-18.

⁸⁰ Cf. Hareven and Langenbach, *op. cit.*, 119; Hall et al., *op. cit.*, xviii.

How differently have locality and solidarity constituted industrial workers? These questions keep revolving around (of course constructed) rights and wrongs, turning into moral stories, signs read and misread, practices performed and faked, true (trustworthy) and false (deceptive) senses of the world, historical arguments properly without end.

But meanwhile good industrial and technical questions about industrial work have gone unasked. Why have industrial systems always been discontinuous, systems of technical divisions and connections, articulated, linked, jointed? At industrial work, differently divided in different industries, but in all cases technically impossible for some workers to do unless others known or unknown to them are at it too, which workers' work has had most other workers depending on it? In specific industries, when firms have changed their technology, how (where) has the inevitable technical inequality at work changed? Are its consequences, although not social, even so dynamic, cumulative, dialectical? To such industrial, technical question can there be an end, not an exhaustion, but a practical purpose?

The historical study of industrial work would probably now be less difficult to pursue in Europe or Canada than in the United States. There, a historical scholar might respectably concentrate on "social practices...not governed by the laws of the formation of discourses," or on "objective constraints that both limit the production of discourse and make it possible." Here, where the old social history still allows labor and work to dematerialize into "stylization," image or ritual, a history of industrial work would have to convey that although the relations in which its subjects acted were not symbolic, they were nonetheless meaningful. Or, for the new cultural historians, who may or may not

have read Rousseau or Kant or Nietzsche or Saussure or Lévi-Strauss or Derrida or Foucault, but who take the real world past if not present too as a matter only of language, indeed only of “utterances,” as a purely “discursive construction,” and this only of (continually altered) “identities,” it would have to make sense as nonsense, but charming nonsense.⁸¹ Over the last 15 years more than one of them has professed “social realities” to be only “different language games”; more than one wants every temporary, fragmentary identity to have its own history, in all the world’s rave-dancing diversity “a history of everyone, for everyone,” including as if so privileged the “barefoot” historian’s own history, or memories or reminiscences or self-analysis or confessions or fantasies or musings or naïve fictions or personal *ocurrencias*, maybe all together, nicely scrambled; more than one, ignorant or forgetful that U.S. historians began debunking Newtonian (and Humeian) historiography 80-plus years ago, will beat on “objectivity” at the drop of a hat, but look into themselves (individually) for “human nature.”⁸² If the world is all cultural, matter but a text, work is not action, but an act, and industrial work is free theater, an improv play.

⁸¹ Roger Chartier, *On the Edge of the Cliff: History, Language, and Practice*, tr. Lydia G. Cochrane (Baltimore: Johns Hopkins University, 1997), 1, 5, 23, 100; idem, “Writing the Practices,” *French Historical Studies*, XXI, 2 (Spring 1998), 255-264.

⁸² For the first four quotes: Keith M. Baker, *Inventing the French Revolution: Essays on French Political Culture in the Eighteenth Century* (Cambridge University Press: Cambridge, 1990), 5; Bonnie G. Smith, “One Question for Roger Chartier,” *French Historical Studies*, XXI, 2 (Spring 1998), 219; Karen Halttunen, “Self, Subject, and the ‘Barefoot Historian,’” *Journal of American History*, LXXXIX, 1 (June 2002), 20-24. For examples: Simon Schama, *Dead Certainties (Unwarranted Speculations)* (Alfred A. Knopf: New York, 1991); John P. Demos, *The Unredeemed Captive: A Family Story from Early America* (New York: Alfred A. Knopf, 1994); idem, “In Search of Reasons for Historians to Read Novels...,” *American Historical Review*, CIII, 5 (December 1998), 1526-1529; idem, “Using Self, Using History...,” *Journal of American History*, LXXXIX, 1 (June 2002), 37-42; Niall Ferguson, “Virtual History: Towards a ‘Chaotic’ Theory of the Past,” in idem, ed., *Virtual History: Alternatives and Counterfactuals* (London: Picador, 1997), 1-90; Jill Lepore, *The Name of War: King Philip’s War and the Origins of American Identity* (New York: Alfred A. Knopf, 1998). On the dead horse of “objectivity,” long dead 50 years ago, did Demos never read Oscar Handlin et al., *Harvard Guide to American History* (Cambridge: Harvard University, 1954), 15-25?

The histories I want to finish on industrial work will be most at odds with “subaltern studies.” Whereas I want to explain material complexes, dead and living, the subalternists have sought to study social practices, principals, agents, subjects, and objects on anti-materialist premises of truly Emersonian dimensions. Founded in the 1970s to do Thompsonite “history from below” in India, the “subaltern studies team” (later “collective”) plunged into linguistic theory, structuralism, and post-modernism, concentrated on historiography, published ever less on “subalterns,” did little on labor, ignored work (pre-industrial or industrial), and cogitated a blithely contradictory historical sociology.⁸³ For its highest authority it claimed yet another “Antonio Gramsci,” citing his “notion of the subaltern.”⁸⁴ Unlike the original, this Gramsci was not much of a Marxist, not a Leninist at all, forgettably a Communist, and not a political prisoner writing coded notes for a terrible political struggle actually happening, but a virtual

⁸³ For “subaltern studies,” Ranajit Guha and Gayatri Chakravorty Spivak, eds., *Selected Subaltern Studies* (New York: Oxford University, 1988). For an in-house evaluation, Gyan Prakash, “Subaltern Studies as Post-Colonial Criticism,” *American Historical Review*, CXIX, 5 (December 1994), 1475-1490. Cf. Sumit Sarkar, “The Decline of the Subaltern in Subaltern Studies,” in his *Writing Social History* (Delhi: Oxford University, 1997), 82-108; and David Washbrook, “Orientalism and Occidentals: Colonial Discourse Theory and the Historiography of the British Empire,” in W. Roger Lewis, ed.-in-chief, *The Oxford History of the British Empire*, 5 vols. (Oxford: Oxford University, 1998-1999), V, 596-611. On labor--forget work--the principal subalternist study is Dipesh Chakrabarty, *Rethinking Working-Class History: Bengal, 1890-1940* (Princeton: Princeton University, 1989); idem, *Provincializing Europe: Postcolonial Thought and Historical Difference* (Princeton: Princeton University, 2000), 72-96, 214-236.

⁸⁴ Gayatri Spivak, “Editor’s Note,” *Selected Subaltern Studies*, xii; and Guha, “Preface,” *ibid.*, 35. “Subaltern” was a term the original Gramsci never used (at least in print) before he went to prison in 1926: Antonio Gramsci, *Scritti, 1915-1921* (Moizzi Editore: Milano, 1976). Between 1930 and 1934, in prison, he used the term in 24 paragraphs scattered through 11 notebooks (of the 29 he kept between 1929 and 1935). His most sustained use was in Notebook 25 (1934), where in seven consecutive paragraphs he collected notes for an essay, “Ai margini della storia (Storia dei gruppi sociali subalterni)”: Antonio Gramsci, *Quaderni del carcere*, 4 vols. (Giulio Einaudi Editore: Torino, 1975), III, 2277-2293. References are in the *Quaderni*’s index, IV, 3177, although not every reference is actually to “subaltern.” Like others then, Communists or not, Gramsci used the word without much discrimination, here in the strict, military sense, there to mean general subordination, here the peasantry, there the proletariat, here intellectuals, there “popular classes,” evidently not for any particular theoretical point, but mainly to avoid the censor. On his inconsistency and the consequent difficulties in translation, Quintin Hoare and Geoffrey Nowell Smith, eds. (and trans.), *Selections from the Prison Notebooks of Antonio Gramsci* (International Publishers: New York, 1971), xiii-xiv, 5 (their footnote 1), 13 (AG’s footnote *), 26 (their footnote 2), 52-55 (their footnotes 4 and 5), 97 (AG’s footnote **).

professor of social or media theory enjoying “transactional reading.”⁸⁵ He slighted political economy and exploitation (“economistic reductions”), to discourse on “domination” and “hegemony,” and as they happened not in society, but in books. From his *problematique* (a brief of Pareto’s, Michels’s, and Mosca’s, which last the original Gramsci called “an enormous hotch-potch”), his subalternist disciples defined “domination” as by the “elite,” which (honest to God) signifies “*dominant groups*” and “social strata inferior to those of the dominant...groups,” but acting “*in the interests of the latter and not in conformity to interests corresponding truly to their own social being.*” By this definition “the people” and “subaltern classes” are “synonymous.... The social groups and elements included in [represented by?] this category [the people, the collective subaltern?] represent [are?] the demographic difference between the total...population and all those whom we have described [defined?] as the ‘elite.’ Some of these classes and groups such as the lesser rural gentry, impoverished landlords, rich peasants and upper-middle peasants [what about upper-middle merchants or artisans?] who ‘naturally’ ranked among the ‘people’ and the ‘subaltern,’ could under certain circumstances act for the ‘elite,’ ...and therefore be classified as such....”⁸⁶ (Here industrial workers, of whom India for 150 years has had a substantial number, have become a new, Invisible Other.) It is enough to buffalo any historian who has got past King John, the Sheriff of Nottingham, and Robin Hood.

⁸⁵ On the censor, Gustavo Trombetti, “In cella con la matricola 7047 (detenuto politico A. Gramsci),” *Rinascita*, III, 9 (September 1946), 233-235; idem, “‘Piantone’ di Gramsci nel carcere di Turi,” *ibid.*, XXII, 18 (May 1, 1965), 31-32. On “transactional reading,” Gayatri Spivak, “Subaltern Studies: Deconstructing Historiography,” in *Selected Subaltern Studies*, 14-15.

⁸⁶ For the original Gramsci on Mosca, see Hoare and Smith, *op. cit.*, 6 (AG’s footnote *). For these definitions, Ranajit Guha, “On Some Aspects of the Historiography of Colonial India,” in *Selected Subaltern Studies*, 44. The emphases are in the text cited.

My project will therefore probably run into most resistance among the “progressive” U.S. historians of Latin America who through the last 10 years have adopted not only cultural studies but particularly “subaltern studies” for a model.⁸⁷ The “progressives” have committed themselves to “subaltern studies” evidently not because of any deep or abiding interest (or training or talent) in linguistics, or linguistic philosophy, or epistemology. The most forthright has lamented her model’s conceptual “dilemma” (“structure” vs. “agency”) and other difficulties, e.g., its “language” and its being “ahistorical.”⁸⁸ The commitment seems to have formed for other, appropriately fragmented postmodernist reasons, viz., personal political feelings.

First, if then young U.S. historians of U.S. labor suffered terminal disappointment with industrial working classes by 1989, the proto-“progressives” working on first or second books on Latin America suffered terminal disappointment with the traditional and various new lefts (all Marxist) there by 1990. Having come of age politically during Eurocommunism’s appeal, having read something of (the original) Gramsci, at least in English, they had no stake in “existing socialism,” but they had invested heavily in their own field’s popular nationalism, past and present. Mexico, however, had not revolted for Cuauhtémoc Cárdenas, but was raptly following Carlos Salinas. Cuba was going to the dogs. Chile had not overthrown General Pinochet; its Christian Democrats had negotiated his retirement, with honors. Argentina was flocking to Menem’s scam. Peru looked ready to explode as its bloody army fought a bloody new “ultraorthodox Maoism.” Then (o grievous last straw) the Sandinistas lost their elections.

⁸⁷ “...progressive” is self-description: Florencia E. Mallon, “The Promise and Dilemma of Subaltern Studies: Perspectives from Latin American History,” *American Historical Review*, XCIX, 5 (December 1994), 1491-1515.

⁸⁸ Florencia E. Mallon, *Peasant and Nation: The Making of Postcolonial Mexico and Peru* (Berkeley: University of California, 1995), xvi.

Second, it happened that *Selected Subaltern Studies*, blessed by Edward Said, was just then circulating handily in Oxford paperback. The “progressives” found there not only other Gramsci-readers, feminists, and Third-World post-colonials uncovering “hidden or suppressed accounts of...women, minorities, disadvantaged or dispossessed groups, refugees, exiles, etc.,” but also post-colonial cultural studies, where, Said assured them, Gabriel García Márquez and Sergio Ramírez consorted with “a whole host of other figures,” including Frantz Fanon (d. 1961) and Eqbal Ahmad, making the “cultural and critical effort” for “the South of the new North-South configuration.” This was reassuring. As the most forthright “progressive” explained, “progressives” felt their “Marxist or Marxian horses” would no longer ride, and “subaltern studies” was “the perfect compromise..., politically radical yet conversant with the latest in textual analysis and postmodern methods”; the “latest” counted because they could then learn (from the Third World itself!) the theoretical vocabulary Euro-oriented Latin American intellectuals had been using for the last few years.⁸⁹

Third, finally, the new cultural and “subaltern” studies’ theoretical contradictions, flexibility, pluralism, eclecticism, heterogeneity, pragmatism, subjective individualism, all against “totalizing discourse” or “meta-narratives,” freed “progressives” from the

⁸⁹ Edward W. Said, “Foreward,” *Selected Subaltern Studies*, vi, ix-x. Cf. Aijaz Ahmad, *In Theory: Classes, Nations, Literatures* (London: Verso, 1992), 159-219. On Marxist/Marxian horses and compromise, Mallon, “The Promise and Dilemma,” 1491-1493. For other declarations in the same vein, idem, “Reflections on the Ruins: Everyday Forms of State Formation in Nineteenth-Century Mexico,” in Gilbert M. Joseph and Daniel Nugent, eds., *Everyday Forms of State Formation: Revolution and the Negotiation of Rule in Modern Mexico* (Durham: Duke University, 1994), 69, 106; idem, *Peasant and Nation*, 19-20; Gilbert M. Joseph and Daniel Nugent, “Preface,” *Everyday Forms*, xvi; Mark Thurner, *From Two Republics to One Divided: Contradictions of Postcolonial Nationmaking in Andean Peru* (Duke University: Durham, 1997), ix, 12-16; French, *op. cit.*, 293-294, 300; Daniel James, *Doña María’s Story: Storytelling, Personal Identity, and Community Narratives* (Durham: Duke University, 2000); Karin A. Roseblatt, *Gendered Compromises: Political Cultures & the State in Chile, 1920-1950* (Chapel Hill: University of North Carolina, 2000), 10-20; Gilbert M. Joseph, “Reclaiming ‘the Political’ at the Turn of the Millenium,” in idem, ed., *Reclaiming the Political in Latin American History* (Durham: Duke University, 2001), 3-16. Cf. *Travesía: Journal of Latin American Cultural Studies* (King’s College, University of London, 1991--).

duties of coherence and consistency, and warranted whatever analysis, or “deconstruction,” or “representation,” their personal political feelings indicated. It has made no difference to them, for example, that the original Gramsci emphasized the “hegemony” of private direction or leadership to which a class or “bloc” moved other classes to “consent” in “civil society.” There is no reason why it has to make a difference; if the “progressives” so please, they can think as they please. But since (against the original) their “Gramsci” thinks “the state” exercises “hegemony,” they take it on his authority that they may utterly ignore concrete capitalist operations. For these “Gramscians,” capitalism is no longer a mode of production, but a cultural mode, the state is “a relation of production,” hegemony is both a “process” and a “pact,” corporations have melted into thin air, and scholarship is (again, I swear) “dialogue among contradictory methodological and epistemological traditions.”⁹⁰ The more “progressive” they present themselves personally, the more certain they seem to feel that their “theorizing” of history is doing right morally, intellectually, and politically.

Most of the “progressives” have tended to Mexico, and studied primarily peasants.⁹¹ They would in a flash subsume any study of industrial work of the kind I am

⁹⁰ As with “subaltern,” the original Gramsci did not always mean “hegemony” in quite the same way either: cf. Hoare and Smith, *op. cit.*, 55-60 (including their footnote 5), 104-106, 245-246, 261-264. But for his emphasis, Serafino Cambereri, “Il Concetto di egemonia nel pensiero di Gramsci,” in *Studi gramsciani: Atti del convegno tenuto a Roma nei giorni 11-13 gennaio 1958* (Rome: Editoriale Riuniti, 1958), 87-94; and Cammett, *op. cit.*, 204-206. (This emphasis was not unique, not even unusual among European Communists in the 1920s.) For recent “progressive” redefinitions, Mallon, “Reflections on the Ruins,” 70-71; and William Roseberry, “Hegemony and the Language of Contention,” in Joseph and Nugent, *op. cit.*, 357-361. On “dialogue,” Florencia E. Mallon, “Time on the Wheel: Cycles of Revisionism and the ‘New Cultural History,’” *Hispanic American Historical Review*, LXXIX, 2 (May 1999), 348-351. Cf. the newest, mildest, most improved “Gramsci,” now “a neo-Marxist philosopher”: Larry Rohter, “Antiglobalization Forum to Return to a Changed Brazil,” *New York Times*, January 20, 2003, A3.

⁹¹ Besides Mallon, *Peasant and Nation*, and her and other contributions in Joseph and Nugent, *op. cit.*, see also, e.g., Marjorie Becker, *Setting the Virgin on Fire: Lázaro Cárdenas, Michoacán Peasants, and the Redemption of the Mexican Revolution* (Berkeley: University of California, 1995); Steve J. Stern, *The Secret History of Gender: Women, Men, and Power in Late Colonial Mexico* (Chapel Hill: University of North Carolina, 1995); William E. French, *A Peaceful and Working People: Manners, Morals, and Class*

trying to do into a dispute (ok, “dialogue”) over the muddles they call “culture,” “structure,” and “agency.” It could not end anywhere new. Round and round, in their diligently subalternist rites, they would continually turn (thinking it their cultural turn) to their old, unconsciously inherited, still unrecognized (so still unexamined), often contradictory assumptions from Parsonian functionalism, Popperite methodological individualism, Cooleyian symbolic interactionism, and Goffmanite ethnomethodology, to save their “culture” and avoid seeing how work actually works in the organization of industrial workers.

From the same camp two labor historians have edited a collection on Latin American “women factory workers.” Proclaiming a “key conceptual breakthrough...found through engagement with the theoretical category of gender,” they hope “research on work and the production process itself,” as well as studies of discourse and subjectivity, will soon lead to “a truly gendered...history of Latin American workers.”⁹² But they evidently have no idea of what industrial work is, technical, collective, complex. One of the essayists in the collection knows the productive process cold in the industry where her workers were (meatpacking in Argentina), and her

Formation in Northern Mexico (Albuquerque: University of New Mexico, 1996); Mary Kay Vaughan, *Cultural Politics in Revolution: Teachers, Peasants, and Schools in Mexico, 1930-1940* (Tucson: University of Arizona, 1997); Adrian Bantjes, *As If Jesus Walked on Earth: Cardenismo, Sonora, and the Mexican Revolution* (Wilmington: Scholarly Resources, 1998); Susan Deans-Smith and Gilbert Joseph, “The Arena of Dispute,” *Hispanic American Historical Review*, LXXIX, 2 (May 1999), 203-208; Eric Van Young, “The New Cultural History Comes to Old Mexico,” *ibid.*, 211-247; William E. French, “Imagining and the Cultural History of Nineteenth-Century Mexico,” *ibid.*, 249-267; Mary Kay Vaughan, “Cultural Approaches to Peasant Politics in the Mexican Revolution,” *ibid.*, 269-305. Another has discovered Peruvian “peasants” in “industrial relations”: Vincent C. Peloso, *Peasants on Plantations: Subaltern Strategies of Labor and Resistance in the Pisco Valley, Peru* (Durham: Duke University, 1999).

⁹² John D. French and Daniel James, “Squaring the Circle: Women’s Factory Labor, Gender, Ideology, and Necessity” and “Oral History, Identity Formation, and Working-Class Mobilization,” in idem, eds., *The Gendered Worlds of Latin American Women Workers: From Household and Factory to the Union Hall and Ballot Box* (Durham: Duke University, 1997), 4, 7, 9, 15, 17, 297, 300-303, 307.

advantage shows in her vivid, cogent argument.⁹³ Another knows enough about the process in the industry where her workers were (textiles in Colombia) to suggest its significance.⁹⁴ But neither indicates (much less explains) the technical dependence of their particular workers regardless of skill or gender; both miss its inductance of cultural imperatives, alterations of identity, and pressure to mobilize. Another essayist gives keen insight into the virtually absolute duty of women (in textile mills in Brazil) to be in a family and bear every unpaid cost of holding it together. Another sensitively, scrupulously portrays new women created in struggles for justice and their union (at a spinning mill in Guatemala), workers so brave, against terror worse than war, they risked their lives, their children, their sacred honor, and the love of others for them, old or new, and not for any formal “feminism,” but in courage like grace for workers’ and specifically working women’s rights. Yet another shows in compelling clarity that in newly impoverished rural families wives who went to work in a new agro-industry (fruit-packing plants in Chile) gained new economic and sexual independence, suffered much more physical abuse from their husbands, protested more against it, and took new, public part in organizing their community.⁹⁵ These admirable essays all involve the “social relations of work,” but nothing of the relations among workers in work, just doing their

⁹³ Mirta Zaida Lobato, “Women Workers in the ‘Cathedrals of Corned Beef’: Structure and Subjectivity in the Argentine Meatpacking Industry,” *ibid.*, 53-71. Cf. *idem*, *El “taylorismo” en la gran industria exportadora argentina, 1907-1945* (Buenos Aires: Centro Editor de America Latina, 1988); *idem et al.*, *Mujer, trabajo y ciudadanía* (Buenos Aires: CLACSO, 1995); Mirta Zaida Lobato, ed., *Política, médicos y enfermedades: lecturas de la historia de la salud en la Argentina* (Buenos Aires: Editorial Biblos, 1996); *idem*, *La vida* (2001).

⁹⁴ Ann Farnsworth-Alvear, “Talking, Fighting, Flirting: Workers’ Sociability in Medellín Textile Mills, 1935-1950,” in French and James, *op. cit.*, 153-156, 166-171. Cf. *idem*, *Dulcinea* (2000), 8-10, 108-111, 145, 147, 156, 193-195, 217-219, 221.

⁹⁵ Theresa R. Veccia, “‘My Duty as a Woman’: Gender Ideology, Work, and Working-Class Women’s Lives in São Paulo, Brazil, 1900-1950,” in French and James, *op. cit.*, 100-146; Deborah Levenson-Estrada, “The Loneliness of Working-Class Feminism: Women in the ‘Male World’ of Labor Unions, Guatemala City, 1970s,” *ibid.*, 208-231; Heidi Tinsman, “Household Patroness: Wife-Beating and Sexual Control in Rural Chile, 1964-1988,” *ibid.*, 264-296.

work.⁹⁶ It remains a mystery therefore how industrial work in Latin America has taken gender's conjugation, or changed its declension. The editors, heralding "a truly gendered labor history," are in for a sad disappointment if they keep thinking "the factory" works like "the plaza." They can "explore the articulation [sic, for inflection] of gender and class" all they please, but they will not explain industrial workers' gender or class (or discourse or subjectivity), so long as they look for it only in "experience."⁹⁷

Devoted as they are to synthesis, integration, resolution, they suspect analytical abstractions are deterministic moves against humanity, at least reductionist tricks on humanists. They will listen to how sausage was made, but they resist knowing how the factory ran (or that some workers held better positions than others to keep the place running, or to shut it down).⁹⁸ My abstract histories of industrial work, featuring workers only as labor power, which I write hopefully to tell the difference between working relations and others, to understand strategic positions at work, then to write a full labor history, they would (consistent with their principles) have to denounce as a gross betrayal of the effort for "an androgynous vision of the future...based, above all else, on what it means to be human *tout court*," a vision they think necessary for labor to deal with "all forms of inequality and hierarchy."⁹⁹

⁹⁶ French and James, "Squaring the Circle," 7. They themselves are quoting Baron, "Gender and Labor History," 37. Nothing of the relations in work as such appears in the other essays either: Daniel James, "'Tales Told Out on the Borderlands': Doña María's Story, Oral History, and the Issues of Gender," *ibid.*, 31-52; Barbara Weinstein, "Unskilled Worker, Skilled Housewife: Constructing the Working-Class Woman in São Paulo, Brazil," *ibid.*, 72-99; John D. French with Mary Lynn Pedersen Cluff, "Women and Working-Class Mobilization in Postwar São Paulo, 1945-1948," *ibid.*, 176-207; and Thomas M. Klubock, "Morality and Good Habits: The Construction of Gender and Class in the Chilean Copper Mines, 1904-1951," *ibid.*, 232-263. Here in defense of the new culturalist freedom is encouragement to deny (or ignore) industrial and technical organization: Barbara Weinstein, "Buddy, Can You Spare a Paradigm?: Reflections on Generational Shifts and Latin American History," *The Americas*, LVII, 4 (April 2001), 460-461.

⁹⁷ French and James, "Squaring the Circle," 4-8, 24 nn29-31.

⁹⁸ A "test to destruction" does not count: Levenson-Estrada, *op. cit.*, 214.

⁹⁹ French and James, "Oral History," 310.

Up front, like the details at any place of industrial work, the details in my studies may seem overwhelming. But there is a method to them that will, I hope, make them intelligible. It derives first from my own research in company correspondence and payrolls, public archives on industry and labor, trade and professional journals, and engineering manuals and handbooks, but probably no less from my untutored, sporadic reading outside labor history over the last 35 years--in industrial sociology, business history, labor economics, scientific management, the sociology, philosophy, theology, and anthropology of work, interaction theory, industrial archeology, economic geography, organization theory, the history of technology, the theory of the firm, institutional economics ("old" and "new"), the "new institutionalism," industrial relations, and fiction, poetry, memoirs, and reporting (if "reporting" is what Henry Mayhew, B. Traven, and James Agee wrote) about work, in none of which fields can I claim the slightest expertise. From all this accumulated welter the method began to come clear once I started teaching Mexican industrial and labor history, and reread John Dunlop on industrial relations. I soon concluded Dunlop had got the key concept right the first time he wrote his "theory," now 60 years ago, as labor history, and he got it right ever after.

Chapter II. Strategic Position at Work: The Concept, Its Origin and Evolution

It was not “the web of rules,” however much good sense that made. Dunlop’s key to understanding industrial work historically was the concept of “strategic position,” even as the key to industrial relations, to organizing industrial workers (or not), used to be and remains such positions.¹⁰⁰ This was not Soffer’s theory, which Dunlop’s theory had inspired, but which Soffer made against Dunlop, mangling his argument, cribbing his language, and establishing the figure of “autonomous workmen,” who because of their “strategic skills” in production held “strategic positions” there (the theory Montgomery eventually adopted and after him schools of others on at least six continents). Dunlop’s

¹⁰⁰ John T. Dunlop, “Chapter 26: The Changing Status of Labor,” in Harold F. Williamson, ed., *The Growth of the American Economy: An Introduction to the Economic History of the United States* (New York: Prentice-Hall, 1944), 608-611, 614, 618-620, 621. “The Development of Labor Organization: A Theoretical Framework,” in Richard A. Lester and Joseph Shister, eds., *Insights into Labor Issues* (New York: Macmillan, 1948), 179-185.

argument was neither prescriptive nor exclusive: Maybe because of certain skills, explicitly maybe not, but always in a “technological framework,” i.e., “in the productive process,” his “strategic positions” were any from which some workers could stop many others from producing, inside a firm, or across an economy, e.g., tool and die makers, or longshoremen, 1941-45, which an industrial economist or engineer could explain, but not a sociologist. There Dunlop gave me the concept I had long wanted, which for years had often sat on my desk, but I never recognized, an idea beyond “social relations in production,” or “social relations of work,” simply the idea of material relations, which I could now grasp as industrial or technical relations of production.¹⁰¹ I was not pondering base and superstructure. I was ignoring social relations, for a temporary, abstract, partial, but also therefore special view into another range of connections, thinking (in the abstract) only of forces of production timed in space. It bears the heaviest of emphases that this method of analysis comes not from game theory, but from military history, is not about moves within a matrix, or ordering, but about waging war.¹⁰² Corollary: Without knowledge of strategic positions, you cannot begin to think about a strategy.

It also bears making absolutely clear (not that this will calm the culturalists), this is not an argument against cultural or moral or social or commercial or political or legal or religious or ideological labor history. Nor is it an argument against the idea (indeed the frequent fact) of culturally, morally, socially, commercially, politically, legally, and otherwise strategic positions, or any so informed strategy. It is only to argue for industrial and technical labor histories as well, in order to see in any study what kind(s) of strategic

¹⁰¹ Cf. “material relations of production,” in G.A. Cohen, *Karl Marx’s Theory of History: A Defence* (Princeton: Princeton University, 1978), 28-31, 35 n1, 88-114, 166-169.

¹⁰² Vivian Walsh, *Rationality, Allocation, and Reproduction* (Oxford: Clarendon, 1996), 40-80; Ariel Rubinstein, *Economics and Language: Five Essays* (Cambridge: Cambridge University, 2000), 71-80, 88.

positions (if any) workers held, including (if any) industrially and technically strategic positions, in order then to tell if the workers in question understood their chances, or not, and if they did all they could with them, or not, and finally to explain why they did as much as they did, no more, no less. Real history, real life: in long collective struggles at best you use whatever you grasp that you think will do any good; ordinarily you often lose sight of good chances, or screw them up, or gain from them without knowing it (much less knowing how or why); better learn to recognize them all, and use them for all they are worth.

To try further to avoid confusion or misinterpretation, I offer here an example live in Dunlop's day of the industrial and technical analysis he meant. It comes from the great UAW strike against GM in Flint, Michigan, December 30, 1936-February 11, 1937.¹⁰³ This was an operation comprehensible only in terms of a massive, national (actually international), hurried, consciously historic campaign, involving many sorts of relations, class, markets, social circles, politics, cultures, ideologies, religions, personalities, all in critical commotion, and industrial and technical divisions of labor, in tremendous complications. Every major party to the conflict had its strategy, graduated, sequential, cumulative, or parallel and simultaneous, and because the stakes were very high, every

¹⁰³ The account that follows I base almost entirely on Edward Levinson, "Detroit Digs In," *The Nation*, January 16, 1937, 64-66; Benjamin Stolberg, *The Story of the CIO* (New York: Viking Press, 1938), 27-28, 38-39, 44-45; Henry Kraus, *The Many and the Few: A Chronicle of the Dynamic Auto Workers* (Los Angeles: Plantin Press, 1947), passim; Fine, *op. cit.*, 19-22, 48-49, 121-312, 326-330; Wyndam Mortimer, *Organize! My Life as a Union Man* (Boston: Beacon, 1971), 40, 50, 65, 103-141; Irving King, March 26, 1980, University of Michigan-Flint Labor History Project, <http://lib.umflint.edu/archives/transcripts>, 12-13; Elmer MacAlpine, July 2, 1980, *ibid.*, 6-7; Henry and Dorothy Kraus, May 5, 1982, *ibid.*, 17-18; Keeran, *op. cit.*, 148-185; and Babson, *op. cit.*, 34, 46, 106-107, 115, 221.

strategy was “multiphibian”; the fight at Flint happened in multiple elements.¹⁰⁴ Yet the differences between the various strategic “contexts” (in Dunlop’s sense) are remarkably clear. In 1935, in the new political “context” of the National Labor Relations Act, the group that eventually led the strike on GM made a grand strategic decision, to force industrial unions on the great corporations in U.S. automobile and steel industries, as soon as possible. The group’s main reasons for going after these mass-production industries first (rather than the cigaret industry, say, or textiles, brewing, soap, or oil) certainly included the number of workers in them, as many as 500,000 in the auto industry, another 500,000 in steel. But there was also the industrially strategic reason, that making cars took ever more steel, which took coal, so that the new industrial unions would interlock with the old industrial union in coal-mining, the UMW (500,000 members among 650,000 coal-miners), to make a direct, tight industrial alliance in their conflicts with capital. Aside from its other powers the alliance would hold the industrially most strategic position in the country, because no coal, no railroad trains.

The UAW, organized in April 1936 to start the campaign in the auto industry, soon decided to go straight for the industry’s biggest corporation. General Motors, Du Pont/Morgan-owned, colossal, fast-growing, fast-hiring, handsomely profitable, Alfred P. Sloan, Jr.-managed, was then making cars and much else in 69 U.S. plants in 35 cities and 14 states, paying 172,000 workers, selling 37% of all car and trucks worldwide. Why not go for a smaller company, Chrysler? Strategically the problem would be the markets (costs and prices, not an industrial or technical problem). UAW success at Chrysler could

¹⁰⁴ James Michael Holmes, “The Counterair Companion: A Short Guide to Air Superiority for Joint Force Commanders,” thesis, School of Advanced Airpower Studies, Air University, Maxwell Air Force Base, Alabama, 1994, 24; Robert C. Rubel, “Principles of Jointness,” *Joint Force Quarterly*, No. 27 (Winter 2000-01), 48-49.

not last, for the unionized smaller company could not last against the practically un-unionized giants, GM and Ford, whereas success at GM or Ford would probably force all other companies into collective bargaining. Why not strike the other giant, Ford, stop its gargantuan metallurgical heart at River Rouge, try to win the 70,000 auto workers concentrated there, the most industrial workers in one place in the world? Among the main strategic reasons not to try that, e.g., almost no UAW members or agents in the place, them politically divided, the industry's bitterest "race question" (which Ford fomented between 60,000 white and 10,000 black workers), in other words social, political, cultural disadvantages, there was the disadvantage that Rouge was technically the most integrated industrial complex in the world. By contrast, although GM was altogether bigger, its material decentralization made it technically easier to crack.

As the strike-determined group in the UAW (primarily Communists) knew from previous strikes, GM's entire production of cars depended technically on ten plants. Two in Detroit were for Cadillacs. The others were Fisher Body 21 and Fisher Body 23, also in Detroit, No. 21 for checking fixtures (to gage a die's stamp), No. 23 for most GM body dies, GM Toledo, Saginaw, and Muncie for Chevrolet transmissions, Cleveland Fisher Body for Chevy body parts, Chevrolet No. 4, in Flint, for Chevy engines, and Fisher Body No. 1, in Flint, for Buick, Pontiac, and Olds body parts. The union would do the company most damage fastest by shutting down Cleveland Fisher and Fisher One. Compared to GM's biggest plant, Flint Buick, 16,000 workers, these plants were not large, 7,200 and 7,500 workers, respectively. But (as the Communists in Detroit knew first) they had the company's only sets of dies for stamping the bodies of all its most widely selling cars. Were GM to keep plenty body parts in stock, it could take a longer

strike than the union could give. But for financial and technical reasons (the expense of storing the bulky things) no company stockpiled the parts. In GM's technical "context" then, if any workers at Cleveland Fisher and Fisher One stopped their pressrooms, they would not only force the other workers there to stop working, but also in short order force probably 120,000 GM workers elsewhere to stop too, and so stop production of maybe three-quarters of GM's scheduled cars, while Ford remained in business. Technically the most strategic positions at GM were in material command of those dies. The union therefore built its strength particularly around them. Note: It was not the geographic location, the gps coordinates, but the position in the technical division of labor that mattered.

In November other kinds of "contexts" emerged. GM would pay a bonus just before Christmas, and a pro-labor Democrat would become Michigan's governor on New Year's Day, assuming command of the National Guard in the state where seven of GM's 10 key plants were. By mid-December 1936 the UAW had enough members, maybe 750 at Cleveland Fisher, 1,500 at Fisher One, in enough concentration, to shut both plants down. Most members and many other workers trusted their local leaders (particularly the Communists). In neither plant did the "race question" arise, because the white workers could hardly find any blacks to hound. On Monday December 28, at the first post-bonus grievance, workers in a panel department at Cleveland Fisher "yanked the power off" and sat down, some in other departments did the same, striking the plant, and by nightfall 260 workers held it from the inside. Late on Wednesday December 30, in coordination with Cleveland, on a claim GM was about to move Fisher One's dies for use elsewhere, some 500 workers in Fisher One's soldering and welding department ("body-in-white")

captured the plant (including the dies), some in other departments joined them, and together they struck all work from inside, took command of the kitchen, power plant, and heating system, and prepared defenses. By January 3 its local leaders had publicly adopted the vocabulary of “strategy.”¹⁰⁵

Through all the “contexts” then, e.g., the new Michigan governor’s tolerance of the strike, the union held Fisher One for the next 43 days and nights. Sometimes fewer than 100 workers were at “the sitdown,” rarely as many as 1,000, but they had much support organized outside, in Flint and beyond. While the strike spread to other GM plants, the UAW settled strikes elsewhere that might slow Ford’s or Chrysler’s production. Eventually 17 GM plants were on strike (nine of them on sitdown strikes), which forced 34 others to close for lack of parts. By February 2 more than 135,000 GM workers had stopped producing, and for the month just ended GM’s output had been only a quarter of its scheduled production. On February 11, 1937, GM recognized the UAW as the collective bargaining agent for its members in the 17 struck plants. The die-levered strike ended in the union’s celebration of “victory.” Within a month the UAW had a paid-up membership of 166,000. On March 2, 1937, preempting a strategically focused strike like that in the auto industry, U.S. Steel recognized the Steel Workers Organizing Committee as bargaining agent for SWOC members in its plants. Only after the new labor movement’s two strategic industrial victories, on April 12, 1937, did the U.S. Supreme Court decide (5-4) that the NLRA was constitutional. By May Day the UAW and SWOC each had some 300,000 members, the UMW 600,000. At its first national

¹⁰⁵ Louis Stark, “Auto Union Votes a General Strike in G.M.C. Plants,” *New York Times*, January 4, 1937, 1-2.

conference in October 1937 the Committee for Industrial Organization represented probably 3,500,000 workers.

It would be wrong to leave this example from 1937 without observing that tool-making and dies are still highly strategic in metal manufacturing industries, not least in Flint. A UAW strike at GM's Flint Metal Center in 1998, planned over other issues, started when GM removed the center's dies. From the initial 3,400 strikers at Flint Metal Fab, it spread to 5,800 at Flint East, a parts plant, eventually forced the company to close 27 of its 29 North American assembly plants, stopped 180,000 other GM workers from producing, and in its course of 54 days cut the company's profits by \$2.2 billion. It ended only after GM returned the dies, and agreed to substantial investment in Flint's presses, some of which it actually made.¹⁰⁶

The notion of using a strategic position in a conflict over work may date from right after The Fall, when still in the garden Adam bargained with God. "When Adam heard the words, 'Thorns and thistles shall it bring forth,' concerning the ground, a sweat broke out on his face, and he said, 'What! Shall I and my cattle eat from the same manger?' The Lord had mercy upon him, and spoke, 'In view of the sweat of thy face, thou shalt eat bread.'"¹⁰⁷ However this may be, the notion was strongly in the air once much labor power and capital found each other through negotiating wages in a labor

¹⁰⁶ Gary S. Vasilash, "Talking Pressworking," *Automotive Design and Production*, April 1998, www.autofieldguide.com; Fred Gaboury, "Auto strike over! GM workers win," *People's Weekly World*, August 1, 1998, 1, 3; Steve Babson, "General Motors strike," *La Lettre du GERPISA*, No. 125 (October 1998), www.univ.-evry.fr/PagesHtml/laboratoires/ancien-gerpisa/lettre/numeros/125/firmes; "GM Invests \$30 Million in Flint Metal Center," *GM News*, June 11, 2003, www.gm.com.

¹⁰⁷ Louis Ginzburg, *The Legends of the Jews* [1909], tr. Henrietta Szold, 5 vols. (Baltimore: Johns Hopkins University Press, 1998), I, 79-80, 97.

market, where there were “corps of reserve, to be cheaply purchased by the masters.”¹⁰⁸ It came very close to expression in the continual agitation in Great Britain over “the aristocracy of labor.” And already then some noticed it went deeper than the labor market, down into production. Of a cotton-spinners’ strike in Glasgow in 1837 the sheriff of Lanarkshire complained, “...every spinner that struck [these being mule spinners, skilled workers, operating the most complicated machines in the mill]....threw out of employment from six to ten other persons [in the mill]....piecers, and reelers, and others....”¹⁰⁹ Not long after aristocrats of labor gained their notorious name, a British royal commission studying how to police them discovered their nerve came “not necessarily” from being “the most skilled,” but from their “position” in production, where they could “stop a great number of other labourers, though many of these may be more skilled....”¹¹⁰

Besides Adam’s moral argument, by which he obliged God to rise to the occasion, here already are hints of commercially, culturally, politically, and industrially or technically strategic positions. Whoever holds any of them holds an advantage in bargaining, but the adverbial differences among them are clear and important. From a commercially strategic position a few buyers or sellers (in a labor market employers or workers) may alter many exchanges. From a culturally strategic position a few of the

¹⁰⁸ “The Factory System,” *The Northern Star* (Leeds), June 23, 1838, 3; and “The Corn Laws and What Would Be the Effect of Their Repeal Without Universal Suffrage,” *ibid.*, January 26, 1839, 4.

¹⁰⁹ “Minutes of Evidence,” *First Report of the Select Committee on Combinations of Workmen*, Great Britain, House of Commons, Parliamentary Papers, 1837-1838, VIII, 114.

¹¹⁰ The coiner of “the aristocracy of labor” was an Irish landlord who wanted “unskilled labourers” to join with “capitalists” to destroy “Trades-Unions”: William Thompson, *Labour Rewarded* (London, 1827), 31-32, 81. For the royal commission’s discovery, *First Report of the Commissioners Appointed to Inquire as to the Best Means of Establishing an Efficient Constabulary Force in the Counties of England and Wales* (London: HMSO, 1839), 134. Cf. Charles Coquelin, “Coalitions industrielles,” in idem and Urbain G. Guillaumin, eds., *Dictionnaire de l’économie politique*, 2 vols. (Paris: Guillaumin & Cie., 1852-53), I, 385, 387.

esteemed may validate many social relations, discredit others. From a politically strategic position a few politicians may make many others pass laws favoring partisans, or betraying them for support elsewhere. From an industrially (between firms) or technically (within a firm) strategic position, a few workers may cause a concatenation of stoppages in production, or prevent them.

In early socialist discourse the contention between capital and workers drew the general notion out almost by name. Engels explained how in “the prevailing war of all against all” in England capital deployed its “reserve of unemployed workers.”¹¹¹ Most bellicose in language, the “pacifist” Considerant railed against France’s new “*industrial and financial* Feudality” lording it over “the masses deprived...of “industrial arms.” He limned a “great battlefield” where “some are educated, inured to war, equipped, armed to the teeth,...possess a great supply train, material, munitions, and machines of war, [and]...occupy all the positions,” while others had to beg them for work.¹¹² Likewise in 1848 Marx and Engels, always thinking strategically, described “two great hostile camps” across Europe, “whole industrial armies,” “the more or less hidden civil war inside society now.”¹¹³ Marx would later declare, “...even under the most favorable political conditions all serious success of the proletariat depends upon an organization that unites and concentrates its forces,” and often wrote of “guerilla [sic] fights between

¹¹¹ Friedrich Engels, “Die Lage der arbeitenden Klasse in England: Nach eigener Anschauung und authentischen Quellen [1844],” in Marx and Engels, *Werke*, II, 306, 314-315. That Engels did not (despite his American and English translators) refer specifically to a “reserve army” makes it all the likelier that he borrowed “reserve” from *The Northern Star* editorialists.

¹¹² Victor Considerant, *Principes du socialisme, Manifeste de la démocratie au XIX siècle* [1847] (Osnabrück: Otto Zeller, 1978), 6-7. I owe the location of this passage to Jonathan F. Beecher. Cf. Frédéric Bastiat, *Selected Essays on Political Economy*, tr. Seymour Cain (Princeton: Van Nostrand, 1964), 135, where the translator, on a passage Bastiat quotes from Considerant, inserts his own “strategic” into Considerant’s *toutes les positions*.

¹¹³ Karl Marx and Friedrich Engels, “Manifest der Kommunistischen Partei [1848],” *Werke*, IV, 463, 473 (my translation).

capital and labor”--without distinguishing between “fights” in the market and “fights” in production.¹¹⁴

So the notion circulated in Great Britain among the new “social scientists” and “political economists.” One of the former, on British unions in the 1850s: “Strikes hold in the intercourse between employer and employed the same place that war holds with regard to the intercourse of nations... The constant fear of a strike is as great an interruption to business and as great a check to enterprise in a trade, as the constant fear of war is to the business and enterprise of the world.”¹¹⁵ Another, an authority on French labor: “...as matters now stand [in France], the masters and the men are two armies drawn up in battle array....”¹¹⁶ Through Britain’s “industrial war” of the 1860s the notion first (so far as I can tell) appeared in the word itself, if only in passing. Of striking workers then the political economist who destroyed “the wages fund” observed, they “have...evinced a judicious appreciation of Napoleonic strategy. Their favourite practice consists of manoeuvres to which they have given the appropriate name of ‘sectional

¹¹⁴ Karl Marx, “The Fourth Annual Report of the General Council of the International Working Men’s Association,” September 1, 1868, in *The General Council of the First International, 1864-1872: Minutes*, 5 vols. (Progress Publishers: Moscow, 1962-68), II, 329. On “guerilla fights,” idem, “Wages, Price and Profit,” June 20 and June 27, 1865, in Karl Marx and Friedrich Engels, *Selected Works*, 2 vols. (Foreign Language Publishing House: Moscow, 1958), I, 446-447; and idem, “Instructions for the Delegates of the Provisional General Council: The Different Questions,” August 1866, *ibid.*, I, 348. On Marx’s own distinction between labor power in the market and labor in production, idem, “Das Kapital,” 181-213. Cf. Kenneth Lapides, *Marx’s Wage Theory in Historical Perspective: Its Origins, Development, and Interpretation* (Praeger: Westport, 1998). Marx’s and Engels’s writings on armed conflicts over sovereignty are a different matter. See Sigmund Neumann and Mark von Hagen, “Engels and Marx on Revolution, War, and the Army in Society,” in Peter Paret, ed., *Makers of Modern Strategy, from Machiavelli to the Nuclear Age* (Princeton: Princeton University, 1986), 262-280.

¹¹⁵ J. P. Kay Shuttleworth, “Report,” in National Association for the Promotion of Social Science, *Trades’ Societies and Strikes: Report of the Committee on Trades’ Societies* (London: John W. Parker and Son, 1860), xiii.

¹¹⁶ Louis Blanc, “An Account of the Legislation Affecting Labour, and The Condition of the Working Classes in France,” *ibid.*, 589.

struggles.”¹¹⁷ A decade later the Marshalls reasoned likewise, if to a different point, and that not of “strategy,” but of “policy”: “The function of an army is not to make war, but to preserve a satisfactory peace.... And though there is always a war party in a union, its cooler and abler members know that to declare a strike is to confess failure.”¹¹⁸

Edgeworth took “economic *competition*” generally as both “peace” and “war,” and explained contracts involving “combinations,” e.g., “Trade Unionism,” as “indeterminate,” settled by “higgling dodges...designing obstinacy,” and force.¹¹⁹

Jevons, who also understood a market’s “dead-lock,” then delved into the depths of “industrial dead-lock,” i.e., in production, where he saw the threat of “industrial treason.” Worse, he warned, “a great strike...might assume the character of social treason. ...a really complete strike of colliers would place the country in a state of siege as completely as Paris was so placed by the German armies.”¹²⁰

Nearly a decade later, in terms of exchange, probably in answer to Fabian arguments about “class war” and “facts,” Alfred Marshall first (so far as I can tell) mentioned “the strategical position of the workmen.” Had he used his explanation of “joint and composite demand” and analogous supply (Menger’s “complementary goods” and “substitutes”) to conceptualize this “strategical” position in production as well as he conceptualized it in a business cycle, he would have made the matter of industrial “war”

¹¹⁷ William T. Thornton, *On Labour: Its Wrongful Claims and Rightful Dues, Its Actual Present and Possible Future* (London: Macmillan, 1869), 238, 240. These “sectional struggles” were unions whipsawing firms.

¹¹⁸ Alfred Marshall and Mary P. Marshall, *The Economics of Industry* (London: Macmillan, 1879), 193. For their source on union procedures for reaching strategic decisions, without the word, George Howell, *The Conflicts of Capital and Labour Historically and Economically Considered: Being a History and Review of the Trade Unions of Great Britain* (London: Chatto & Windus, 1878), 163-166, 372-375, 510-511.

¹¹⁹ Francis Y. Edgeworth, *Mathematical Psychics: An Essay on the Application of Mathematics to the Moral Sciences* (London: C. Kegan Paul & Co., 1881), 16-17, 29-30, 43-52 (his emphasis). Cf. idem, “Higgling,” in Palgrave, *op. cit.*, II, 304-305.

¹²⁰ William S. Jevons, *The State in Relation to Labour* (London: Macmillan, 1882), 131-138, 153-155.

clear, maybe for good.¹²¹ But he kept to exchange, and shortly framed the “strategical” concept just for the labor market: “The relative strategic strength of employer and employed may determine for the time the shares in which the aggregate net income of the trade is divided.... [In bargaining, unions will insist on] retaining their strategic advantages....”¹²² For a Fabian account of wage determination, the Webbs before long made the same point as “strategic position....strategic strength....strategic advantage.”¹²³ Another Fabian put it precisely: “The success of either workmen or employers depended on the strategic position of the two parties in the labor market.”¹²⁴ A provincial Marshallian, “Canada’s first labour economist,” argued that labor’s “share of the product” depended on its “power to carry out the threat....to withdraw...co-operation” from capital, “to enforce its threat to ‘strike,’” missing only “strategic” to bring his case in line.¹²⁵ Edgeworth a few years later, considering “industrial combat,” nailed capital’s “strategic reasons” for delaying a deal with labor (being “better supplied for a siege...in case of a strike”).¹²⁶ In the fifth edition of his *Principles* (1907) Marshall made his points

¹²¹ Alfred Marshall, *Principles of Economics*, 2nd ed. (London: Macmillan, 1891), 746 n1. On Carl Menger, “joint demand,” and “joint supply”: *ibid.*, 115-116, 158, 430-441. Cf. G. Bernard Shaw, *The Fabian Society: Its Early History* (London: Fabian Society, 1892); and Sidney Webb and Harold Cox, *The Eight Hours Day* (London: Walter Scott, 1891), 66-92, 95, 111-113, 132.

¹²² Marshall and Marshall, *Elements*, 385, 390. Again on “facts,” *ibid.*, 405-406.

¹²³ Sidney Webb and Beatrice Webb, “Primitive Democracy in British Trade-Unionism, I,” *Political Science Quarterly*, XI, 3 (September 1896), 424; *idem*, *Industrial Democracy* (London: Longmans, Green and Co., 1897), 29, 181, 217, 219, 654-655, 661-662, 668-669, 676, 692, 694, 719, 802, 810, 814, 816, 822, 842, 902, 920, 926. Cf. a British labor leader’s military metaphors (not “strategic”) about avoiding a lockout in the shipbuilding industry in 1897: “We have so far out-generated Colonel Dyer as to have averted the fight upon an unpopular issue.... But the army of labour must come into line, so that the fight shall be won...” George N. Barnes, “The Engineering Dispute,” *The People’s Journal for Dundee*, August 7, 1897, 5, for the transcription of which in London I thank David Smith.

¹²⁴ Henry W. Macrosty, “The Recent History of the Living Wage Movement,” *Political Science Quarterly*, XIII, 3 (September 1898), 414, 440.

¹²⁵ John Davidson, *The Bargain Theory of Wages: A Critical Development from the Historic Theories, Together with an Examination of Certain Wages Factors, the Mobility of Labor, Trade Unionism, and the Methods of Industrial Remuneration* (New York: G.P. Putnam’s Sons, 1898), 124-125, 264-272, 280.

¹²⁶ F. Y. Edgeworth, “The Theory of Distribution,” *Quarterly Journal of Economics*, XVIII, 2 (February 1904), 217 n2.

definitive on workers' "strategical position" and consequent "strategy."¹²⁷ Pigou, his best pupil on labor, concluded like him that collective bargaining in some cases could bring "a clear strategic gain to the workpeople," but in others do them "strategic injury."¹²⁸

On the Continent political economists lagged in adopting military words for industrial class conflict. Léon Walras, who granted the French state's "strategic point of view" on railroads (for "national defense"), treated conflict involving "coalitions" of "entrepreneurs" or workers as only civilian *intimidation, menaces, or violences*, e.g., "*à la façon des Molly Maguires*." He noted both capital's and labor's *puissance*, but neither's "strategy."¹²⁹ Pareto came no closer to military parlance for industrial contention than *la spoliation*; no plan for industrial actions that he called "obliging" or "menacing" was "strategic."¹³⁰ Germans, haunted less by Marxism than by Lassalle on *Machtverhältnisse*, "power relations," admitted *Macht* (might, strength, power) in industrial disputes.¹³¹ While Schmoller worried over *Terrorismus* by businessmen and workers, "a terrible struggle" between them, "a state of war," Adolph Wagner pondered

¹²⁷ Alfred Marshall, *Principles of Economics*, 9th (variorum) ed., ann. by C. W. Guillebaud, 2 vols. (London: Macmillan, 1961), I, 693, 698, 700.

¹²⁸ Arthur C. Pigou, "Equilibrium Under Bilateral Monopoly," *Economic Journal*, XVII, 70 (June 1908), 214-215. Cf. "industrial blockade," "industrial peace," "industrial diplomacy," "the industrial field," "trade union diplomacy," the union shop as "a kind of dyke," but no "strategy," in idem, *Principles and Methods of Industrial Peace* (London: Macmillan, 1905), 10-14, 16; and idem, *Wealth and Welfare* (London: Macmillan, 1912), 305, 307, 325, 330, 332, 334.

¹²⁹ Cf. Jean-Pierre Potier, "L'Assemblée Constituante et la question de la liberté du travail: un texte méconnu, la loi Le Chapelier," in Jean-Michel Servet, ed., *Idées économiques sous la Révolution (1789-1794)* (Lyon: Press Universitaires de Lyon, 1989), 235-254; A.-E. Cherbuliez, "Coalitions," in Charles Coquelin and Urbain-Gilbert Guillaumin, eds., *Dictionnaire de l'économie politique*, 2 vols. (Paris: Guillaumin et Cie., 1852-53), I, 382-385; Charles Coquelin, "Coalitions industrielles," *ibid.*, I, 385-388; and Léon Walras, "Cours d'économie politique appliquée [1872-81]," in Auguste and Léon Walras, *Oeuvres économiques complètes*, 12 vols. (Paris: Economica, 1987-97), XII, 494, 579-580; idem, "Éléments d'économie politique pure, ou Théorie de la richesse sociale [1874]," *ibid.*, VIII, 657-658; and idem, "La loi fédérale sur le travail dans les fabriques [1875]," *ibid.*, VII, 223.

¹³⁰ Vilfredo Pareto, *Cours d'économie politique*, 2 vols. (Lausanne: F. Rouge, 1896), I, 324-327, II, 99-101, 136, 138-140; and idem, *Manuel d'économie politique* (Paris: V. Giard & E. Brière, 1909), 166-167, 471-472, 483-487, 490, 527.

¹³¹ Ferdinand Lassalle, "Über Verfassungswesen [1862]," in his *Gesamtwerke*, 5 vols. in two (Leipzig: Karl F. Pfau, 1899-1901), 45, 51, 55-60, 62, 65-66, 68-69.

Machtfaktoren (power factors) in the labor market.¹³² So did these professors' fellows and students, not only *Machtverhältnisse*, but *Machtlage* (power situation), *Machtstellung* (power position), and *Machtposition* (ditto) too, all strategic in *Lohnkämpfe* (fights for higher wages), but never explicitly, conceptually "strategic."¹³³ The word describing industrial positions first appeared in German shortly after the Webbs so used it in English, in a German translation of their book.¹³⁴ Having read the Webbs, but still attending less to power than to forceful action, e.g., *Gewalt* ("coercion"), or *Zwang* ("enforcement"), Schmoller in his magnum opus on economic theory mentioned nothing "strategic."¹³⁵ Not until the year of Marshall's fifth edition did a professor at the Frankfurt Academy for Social and Commercial Sciences, invoking Clausewitz, write expressly of "strategy" in current *Arbeitskämpfe*, "labor struggles."¹³⁶ Five years later a disciple of Schmoller's and Wagner's published his dissertation on cartels and unions

¹³² Gustav Schmoller, "Arbeitseinstellungen und Gewerkvereine: Referat auf der Eisenacher Versammlung vom 6 und 7 Oktober 1872 über die sociale Frage," *Jahrbücher für National Ökonomie und Statistik*, XIX, 2 (1872), 295, 297-303, 309, 317; and Adolph Wagner, *Allgemeine oder theoretische Volkswirtschaftslehre: Grundlegung*, 2nd rev. and exp. ed. (Leipzig: C.F. Winter, 1879), 200, 248, 632-635.

¹³³ For example, Lujo Brentano, ed., "Arbeitseinstellungen und Fortbildung des Arbeitsvertrags," *Schriften des Vereins für Socialpolitik*, 45 (1890), xi, xv, xxxvi-xxxvii, liii, lviii; Rudolf Stolzmann, *Die soziale Kategorie in der Volkswirtschaftslehre* (Berlin: Puttkammer & Mühlbrecht, 1896), 12, 21-22, 26, 40-41, 61, 125, 334, 355; idem, *Der Zweck in der Volkswirtschaft: die Volkswirtschaft als sozial-ethisches Zweckgebilde* (Berlin: Puttkammer & Mühlbrecht, 1909), ix, 352-354, 381, 402, 406, 453-454, 463-465, 473-475, 493, 653, 718, 758, 767-769; and Robert Liefmann, *Die Unternehmerverbände (Konventionen, Kartelle): ihr Wesen und ihre Bedeutung* (Leipzig: J.C.B. Mohr (Paul Siebeck), 1897), 149-150, 177; idem, *Die Allianzen: gemeinsame monopolistische Vereinigungen der Unternehmer und Arbeiter in England* (Jena: Gustav Fischer, 1900), 6, 9, 33, 39; idem, *Kartelle und Trusts* (Stuttgart: Ernst Heinrich Moritz, 1905), 45, 58, 69-74.

¹³⁴ Sidney and Beatrice Webb, *Theorie und Praxis der englischen Gewerkvereine (Industrial Democracy)*, tr. C. Hugo, 2 vols. (Stuttgart: J.H.W. Dietz Nachf., 1898), I, 27, 161, 193, 195, II, 183-184, 189-190, 195-196, 202, 216, 218, 241, 315, 322, 327-328, 334, 351, 386, 395.

¹³⁵ Gustav Schmoller, *Grundriss der allgemeinen Volkswirtschaftslehre*, 2 vols. (Leipzig: Duncker & Humblot, 1900-04), II, 319, 394-396, 398, 401-408. For his most disappointing quotations, *ibid.*, II, 405, cf. George J. Holyoake, *The History of Co-operation in England: Its Literature and Its Advocates*, 2 vols. (London: Trübner & Co., 1875-79), II, 255-256; and Sidney and Beatrice Webb, *The History of Trade Unionism* (London: Longmans, Green and Co., 1894), 280-281.

¹³⁶ Philipp Stein, *Über Streiks und Aussperrungen* (Dresden: Zahn & Jaensch, 1907), 3, 10, 12.

with much mention of their “power positions” and “market strategy.”¹³⁷ But the usage did not stick. Writing on “income distribution,” in German, for Germans, in the *Macht*-mode, the major Russian political economist at the time praised the Webbs’ “empirical material,” decried their “weak and insignificant” theory, and missed any notion of “strategic” or “strategy.”¹³⁸ Schmoller, revising his magnum opus, caught the Frankfurt professor’s word, *Strategie*, and finally applied it to modern industrial relations, once.¹³⁹ The Austrians decades before might have imagined “complementary goods” as “strategic goods.”¹⁴⁰ But as beset as the Germans by Lassalle’s ghost, they ruled *Machtverhältnisse* out of “pure” analyses of capital and labor.¹⁴¹ In impure analyses Wieser addressed the ghost and power by name, and in explaining real economies recognized endogenous *Macht*, “begotten” in economic development.¹⁴² Ultimately Böhm-Bawerk himself granted that unions had “power” in “the fight for higher wages”: in “the extreme test of

¹³⁷ Ernst Rothschild, *Kartelle, Gewerkschaften und Genossenschaften nach ihrem inneren Zusammenhang im Wirtschaftsleben: Versuch einer theoretischen Grundlegung der Koalitionsbewegung* (Berlin: Julius Springer, 1912), 18-19, 42-44, 101, 119-120, 131-136.

¹³⁸ Michael I. Tugan-Baranowsky, *Soziale Theorie der Verteilung* (Berlin: Julius Springer, 1913), 1-2, 27, 42-45, 47, 49, 51-52, 55, 78-79, 82.

¹³⁹ Gustav Schmoller, *Grundriss der allgemeinen Volkswirtschaftslehre* [1912-17], 2 vols., 3rd ed. (Leipzig: Duncker & Humblot, 1919-20), II, 371, 469.

¹⁴⁰ Carl Menger, *Grundsätze der Volkswirtschaftslehre* (Vienna: Wilhelm Braumüller, 1871), 11-16, 40-43, 133-142. On his concepts of *verfügen*, “dispose, order, command,” and *Macht*, in regard to “complementary goods,” *ibid.*, 11-14.

¹⁴¹ Carl Menger, *Untersuchungen über die Methode der Socialwissenschaften, und der politischen Ökonomie insbesondere* (Leipzig: Duncker & Humblot, 1883), 14, 44-47, 56-57, 77, 84; Friedrich von Wieser, *Über den Ursprung und die Hauptgesetze des wirtschaftlichen Werthes* (Vienna: Alfred Hölder, 1884), 1-8; idem, *Der natürliche Werth* (Vienna: Alfred Hölder, 1889), vi, 55, 61; and idem, “Theorie der gesellschaftlichen Wirtschaft [1914],” in Sally Altmann et al., *Grundriss der Sozialökonomik*, 9 vols. (Tübingen: J.C.B. Mohr (Paul Siebeck), 1914-27), I, 133-135; and Eugen von Böhm-Bawerk, *Kapital und Kapitalzins*, 2 vol. (Innsbruck: Wagner’schen Universitäts, 1884-89), II, 202, 214; idem, “Grundzüge der Theorie des wirtschaftlichen Güterwerts,” *Jahrbücher für Nationalökonomie und Statistik*, XLVII (new ser. XIII), 6 (1886), 480-489; and idem, *Kapital und Kapitalzins*, 3 vols. in 2, 3rd ed. (Innsbruck: Wagner’schen Universitäts, 1909-14), II, 347-357. Cf. an honorary Austrian, Knut Wicksell, *Über Wert, Kapital und Rente nach den neueren nationalökonomischen Theorien* (Jena: Gustav Fischer, 1893), 128-143; idem, *Vorlesungen über Nationalökonomie auf Grundlage des Marginalprinzips* [1901-06], 2 vols., (Jena: Gustav Fischer, 1913-22), I, 102, 131, 180.

¹⁴² Friedrich von Wieser, “Über die gesellschaftlichen Gewalten [1901],” in his *Gesammelte Abhandlungen* (Tübingen: J.C.B. Mohr (Paul Siebeck), 1929), 349-360, 376-376; idem, *Recht und Macht: Sechs Vorträge* (Leipzig: Buncker & Humblot, 1910), 1-38, 45, 51-53, 59-62, 79-82, 90, 102, 106-107, 118-128; and idem, “Theorie der gesellschaftlichen Wirtschaft,” 234-245, 386-397.

strength,...the struggle by strike,” they could drive their members’ wages (temporarily) higher than their “marginal productivity.”¹⁴³ But only about Moltke did an Austrian write *strategische*.¹⁴⁴

As in England, martial metaphors for industrial disputes circulated widely in the United States. The U.S. Army brigadier general (ret.) who would be the first president of the American Economics Association argued, “Strikes are...of the nature of insurrection. Trades-unions are associations for facilitating insurrection, like secret political clubs....”¹⁴⁵ Combative Henry George epistled the Holy Father, unions’ “methods are like those of an army,...the strike...being a form of passive war. ...when armies shall throw away lead and iron, to try conclusions by the pelting of rose leaves,” then unions resorting only to moral appeals might make gains. “But not till then. ...labor associations [now] can do nothing to raise wages but by force.”¹⁴⁶ The young, supremely civil Taussig, to explain “bargaining” for “particular wages,” referred to “the manoeuvres...of laborers.”¹⁴⁷ In the 1890s Marx’s and Engels’s old comrade Sorge reported on the American labor movement’s “generalship,” “concentration of force and direction on *one* point of attack,” and “tactics,” although not its strategy.¹⁴⁸ From the other side F. W.

¹⁴³ Eugen von Böhm-Bawerk, “Macht oder ökonomisches Gesetz?” *Zeitschrift für Volkswirtschaft, Sozialpolitik und Verwaltung*, XXIII, 3-4 (December 1914), 207, 215, 225, 231-238, 249-257, 263-266.

¹⁴⁴ Ferdinand von Wieser, “Arma Virumque Cano [1907],” *Abhandlungen*, 337.

¹⁴⁵ Francis A. Walker, *The Wages Question: A Treatise on Wages and the Wages Class* (New York: Henry Holt and Company, 1876), 397.

¹⁴⁶ Henry George, *The Condition of Labor: An Open Letter to Pope Leo XIII* (New York: United States Book Company, 1891), 66, 86. He continued, “Those who tell you of trades unions bent on raising wages by moral suasion alone are like those who would tell you of tigers who live on oranges.”

¹⁴⁷ Frank W. Taussig, *Wages and Capital: An Examination of the Wages Fund Doctrine* (New York: D. Appleton and Company, 1896), 82-94, 101-107, 255, 270-272, 322.

¹⁴⁸ Philip S. Foner and Brewster Chamberlin, eds., *Friedrich A. Sorge’s Labor Movement in the United States [1891-95]: A History of the American Working Class from Colonial Times to 1890*, tr. by Brewster Chamberlin and Angela Chamberlin (Westport: Greenwood Press, 1977), 190, 200 (emphasis in the original); and *Friedrich A. Sorge’s Labor Movement in the United States: A History of the American Working Class from 1890 to 1896*, tr. by Kai Schoenhals (Westport: Greenwood Press, 1987), 4-6, 114-120.

Taylor lamented workers' "soldiering" and "war between the management and the men."¹⁴⁹ At the turn of the century, before the U. S. Industrial Commission, strategically minded AFL and Knights of Labor leaders testified in like terms; Gompers took pride in "the army of labor," and specified, "...a defense fund is the arms and ammunition."¹⁵⁰

One of the commission's economists, John R. Commons, was (I believe) the first anywhere who saw "unskilled labor," viz., Chicago's teamsters, "holding a highly strategic position in industry."¹⁵¹ And John Bates Clark first (I believe) put it in a U.S. economics textbook that unions pursued "strategy" in bargaining for wages.¹⁵² But for all the military tropes about industrial conflict neither Commons's nor Clark's notion would circulate. The mature Taussig considered "large-scale" industrial organization to be "semi-military," wage rates to be "always a debatable ground," unions to have "bargaining position" there and "a chance for manoeuvring," and the closed shop to be "a powerful weapon," especially in "an industry of pressing importance to the public," where even without "the tactical move of violence" a strike or "tie-up" would "amount to seizing society by the throat, and calling on it to stand and deliver," a premonition of "the great struggle," without, however, any "strategic" reference or "strategy."¹⁵³ Praising legal restraint of strikes in Canada's strategic industries, Victor Clark declared in

¹⁴⁹ Fred W. Taylor, "A Piece-Rate System: Being a Step Toward Partial Solution of the Labor Problem," *Economic Studies*, I, 2 (June 1896), 91, 100-101.

¹⁵⁰ See testimonies by George E. McNeill, Jacob G. Schonfarber, and Samuel Gompers, in U. S. Industrial Commission, *Report of the Industrial Commission*, 19 vols. (GPO: Washington, 1900-02), VI, 114-124, 419-450, and 596-657, respectively.

¹⁵¹ J. R. Commons, "Types of American Labor Organization.--The Teamsters of Chicago," *Quarterly Journal of Economics*, XIX, 3 (May 1905), 400; idem, "The Teamsters of Chicago," in John R. Commons, ed., *Trade Unionism and Labor Problems* (Boston: Ginn and Co., 1905), 36, where oddly he called driving a team a "craft," 37; idem, "Is Class Conflict in America Growing and Is It Inevitable?" *American Journal of Sociology*, XIII, 6 (May 1908), 757, 759. For his earlier testimony before the Industrial Commission (which was not about strategy), see its *Report*, XIV, 32-48.

¹⁵² John Bates Clark, *Essentials of Economic Theory, As Applied to Modern Problems of Industry and Public Policy* (New York: Macmillan, 1907), 452-453, 456, 467, 495.

¹⁵³ Frank W. Taussig, *Principles of Economics*, 2 vols. (New York: Macmillan, 1912), II, 264-266, 269-271, 275, 280-282.

November 1916, “Strikes are like wars,” hard on “the rank and file,” agonies to avoid, not study for strategic lessons.¹⁵⁴ The very next month a general of U.S. business unionism declared, “Industrial war is precisely of the same character as actual war... If it comes,” he threatened, “it will come in a way that will make it overshadow all former industrial upheavals, precisely as the present war blots out of existence virtually all of the wars that preceded it.” Although he knew well the technically most strategic positions in the most strategic U.S. industry then, he uttered no such word (much less took any strategic action, save retreat).¹⁵⁵ Debs and Haywood, the generals of U.S. industrial unionism, for decades thought, acted, wrote, and spoke to bring its forces to bear on capital’s industrial weak points, but also without writing or speaking (so far as I know) of any union’s “strategic” situation or “strategy.”¹⁵⁶ Reflecting on his Rockefeller-funded study of “industrial relations” (post-Ludlow Massacre), a Harvard-educated Canadian ex-minister of labor concluded in 1918, “With industrial strife it is just as with international conflict... Here is the explanation of how men in large numbers...are drawn into conflict with each other, and come to hate each other... A few men gain the positions of control. They have, for the time being, immediate power over other men... They take the decisive action which brings conflict in its wake... Countries cannot continue to watch antagonistic groups in Industry assume the proportions and attitudes of vast opposing armies, without some day witnessing conflict commensurable with the strength of these

¹⁵⁴ Victor S. Clark, “The Canadian Industrial Disputes Act,” *Proceedings of the Academy of Political Science in the City of New York*, VII, 1 (January 1917), 18.

¹⁵⁵ This was Austin B. Garretson, president (1906-1919) of the Order of Railway Conductors and Brakemen, speaking to the Economic Club of New York: “Garretson Warns of Revolution if Military Law to Prevent Rail Strikes is Passed by Congress,” *The New York Evening Mail*, December 12, 1916, 9, 18.

¹⁵⁶ Eugene V. Debs, *Writings and Speeches of Eugene V. Debs* (New York: Hermitage Press, 1948); J. Robert Constantine, ed., *Letters of Eugene V. Debs*, 3 vols. (University of Illinois: Urbana, 1990), III, 211; and William D. Haywood, *Bill Haywood’s Book: The Autobiography of William D. Haywood* [1929] (New York: International Publishers, 1966), 52-53, 101, 185, 188, 241.

rival aggregations... In many particulars, the horrors of international war pale before the possibilities of civil conflicts begotten of class hatreds. This, the world is witnessing, even now!" But neither did he call positions of industrial control "strategic," or write of industrial "strategy."¹⁵⁷

The first worker I have found who expressed the notion in all its depth in the word was a formidable syndicalist organizing around Chicago in 1919. Whether or not the Great War evoked the military term from him, William Z. Foster described his strategy for a campaign to strike the U.S. steel industry and unite its workers in one industrial union, as "strategy."¹⁵⁸

"Welfare capitalism" harmonized official U.S. discourse on industrial relations in the 1920s. "Bargaining power" sounded best for the differences between National Civic Federation and American Federation of Labor chums at poker. Rarely would a union's "strategy" get into the tightest, stuffiest U.S. newspaper.¹⁵⁹ Popular discourse on actual industrial conflicts (railroads 1922, coal 1922 and 1925, Passaic 1926, Gastonia 1929) remained militaristic, "wars," "armies," "battlegrounds," and such like. But I know of only seven notables then who wrote explicitly in "strategic" terms on workers' strategic power at work. One was the generalissimo of U.S. trade unionism. In the last year of his life Gompers recalled "as much hard thinking as any military strategist ever gave a campaign," a "strategic factor," and "a strategic move" for a cigar strike (in 1877), "our strategy" for another cigar strike (in 1886), and capitalists' usual "strategic economic

¹⁵⁷ W.L. Mackenzie King, *Industry and Humanity: A Study in the Principles Underlying Industrial Reconstruction* (Boston: Houghton Mifflin, 1918), 12, 15-16, 19-20, 378, 433-448. The only "strategy" he noted here, the "unprincipled" kind, was "a crafty opportunism" that an irresponsible politician might use to prevent "the introduction of Law and Order into Industry": *ibid.*, 517-518.

¹⁵⁸ William Z. Foster, *The Great Steel Strike and Its Lessons* (New York: B. W. Huebsch, 1920), 20.

¹⁵⁹ E.g., "Labor Union Strategy," *New York Times*, August 16, 1925, E4.

advantage.”¹⁶⁰ More concrete was a Johns Hopkins-trained economist teaching the first academic course anywhere on “labor economics,” at Berkeley. In his textbook, the first ever titled “labor economics,” Solomon Blum observed, “A highly skilled group in a strategic position, like the locomotive engineers..., [has] a very definite point of vantage.”¹⁶¹ From a different angle ex-syndicalist Foster, now chief of the Workers (Communist) Party’s Trade Union Educational League, spelled out the U.S. left’s current “strike strategy”: The “most vital concern” of its “strategists” should be, “organize the unorganized,” which would “transfer the center of gravity of the movement from the skilled trades and light industries to the unskilled and semi-skilled in the key and basic industries,” and “secure advantageous strategic positions for the bigger...battles...ahead.”¹⁶² A year later a Columbia-trained, Sage Industrial Studies sociologist, Benjamin Selekman, reported Canadian unions’ “strategy,” meaning their goals, not much new, recognition and improvement of their members’ wages, hours, and working conditions.¹⁶³ A year after that a Chicago-trained sociologist (Robert Park’s first to study labor) traced the natural history of “the strike cycle.” Amid his profuse “strategic” comments Ernest Hiller made none on workers “compelled to be idle or to join the strike in consequence of a stoppage” by “key workmen whose walkout causes dependent operations to shut down,” but his “strategists” did decide on timing strikes, on “[t]he strategic moment for a trade dispute.”¹⁶⁴ That same year Selig Perlman pictured an

¹⁶⁰ Samuel Gompers, *Seventy Years of Life and Labor: An Autobiography*, 2 vols. (New York: E.P. Dutton & Co., 1925), I, 149, 152-153, 241-242, II, 1.

¹⁶¹ Solomon Blum, *Labor Economics* (New York: Henry Holt and Company, 1925), 379.

¹⁶² William Z. Foster, *Organize the Unorganized* (Chicago: Trade Union Educational League, 1926), 21, 24-29; idem, *Strike Strategy* (Chicago: Trade Union Educational League, 1926), 6-7, 31-34.

¹⁶³ Ben M. Selekman, *Postponing Strikes: A Study of the Industrial Disputes Investigation Act of Canada* (New York: Russell Sage Foundation, 1927), 243-245.

¹⁶⁴ E. T. Hiller, *The Strike: A Study in Collective Action* (Chicago: University of Chicago, 1928), 4, 65, 96, 126, 128.

especially U.S. American “economic front” on which (rather than on “the political front”) “the labor army” had found it would be “the correct strategy” to fight.¹⁶⁵ And turning the decade in the pit of the Great Depression Stanley Mathewson reported foremen ordering slow production to save work: “Sometimes the [straw] boss himself is in a strategic position to enforce his orders for restriction directly....”¹⁶⁶

Between the passage of the National Industrial Recovery Act in 1933, legalizing “the right to organize and bargain collectively,” and the Supreme Court’s legitimization of the National Labor Relations Act in 1937, “strategic” discourse became common in the U.S. labor movement. The San Francisco Central Labor Council representing 120 unions appointed a “strike strategy committee” to direct a general strike all around Frisco Bay in July 1934, two and a half years before the UAW reps at Flint named their “board of strategy” for the strike against GM.¹⁶⁷ The sitdowns of 1937 made the “strategic” discourse familiar even to ordinary workers. A new introduction to the IWW’s old manual assumed its readers would now understand its reference to “the key places, the strategic places, in the present-day set up.”¹⁶⁸

It took academics longer to think of labor in such terms. But as U.S. unions were going, students in the new field of labor economics followed. By then the field was strongest at Harvard. There “bargaining power” remained the customary term for the typically pragmatic consideration of troubles between big business and labor. In new English wage theories professors and students could learn a new neoclassical concept

¹⁶⁵ Selig Perlman, *Theory of the Labor Movement* (New York: Macmillan 1928), 197.

¹⁶⁶ Stanley B. Mathewson, *Restriction of Output among Unorganized Workers* (New York: Viking, 1931), 30, 42.

¹⁶⁷ “Labor Strategy Board Set Up,” *New York Times*, July 7, 1934, 3; Stark, *ibid.*, January 4, 1937, 1-2.

¹⁶⁸ Justus Ebert, *The I.W.W. in Theory and Practice*, 5th rev. ed. (Chicago: Industrial Workers of the World, n.d., 1937), 4.

derived from Marshall's "joint demand," labor's "elasticity of substitution," and through this concept, at zero "substitutability," the canny and critical could infer strategic forces.¹⁶⁹ But Harvard's real authority on industrial conflict was Sumner Slichter, first at its business school, then also in its economics department (1935-59). A student of Commons's at Madison, Slichter had done his doctorate at Chicago with the premier U.S. expert on immigration and labor markets (Harry Millis), and become "probably the most widely read economist by the general public of his day." Professionally and for the U.S. government, which he often advised, he studied unions' "bargaining power" for the real macro-results on U.S. price levels. By 1939 he had a negative definition for it, "the cost to A of imposing a loss upon B."¹⁷⁰ And shortly two of his disciples at Harvard developed the first positive theoretical explanation.¹⁷¹ One of them, also steeped in Commons's economics, familiar with Blum's textbook from his undergraduate years at Berkeley, was Dunlop. Yet nothing overtly "strategic" crossed those pages.

¹⁶⁹ John R. Hicks, "Edgeworth, Marshall, and the Indeterminateness of Wages," *Economic Journal*, XL, 158 (June 1930), 215-231; idem, *The Theory of Wages* (London: Macmillan, 1932), 62-66, 136-155, 160-166, 190, 201; Joan Robinson, *The Economics of Imperfect Competition* (London: Macmillan, 1933), 123, 254-262; A.P. Lerner, "II. The Diagrammatical Representation," *Review of Economic Studies*, I, 1 (October 1933), 68-71.

¹⁷⁰ Sumner Slichter, *Modern Economic Society* (New York: Henry Holt, 1931), 72, 96-98, 119, 137, 146, 278, 454, 658. His mentor, Millis, himself a pupil of Commons's and a student of Veblen's, had been chief economist for the United States Immigration Commission, 1907-10, and directed its report, *Immigrants in Industries*, 20 vols. (Washington: Government Printing Office, 1911). Professor of Economics at Chicago from 1916 to 1938, Millis would later head the National Labor Relations Board, 1940-45. On him and Slichter, see Orme W. Phelps, "Millis, Harry Alvin," in *Dictionary of American Biography, Supplement Four (1946-1950)* (New York: Scribner's, 1974), 579-580; Joseph Dorfman, *The Economic Mind in American Civilization*, 5 vols. (New York: Viking, 1946-1959), V, 539-544; and John T. Dunlop, "Slichter, Sumner Huber (1892-1959)," in John Eatwell, Murray Milgate, and Peter Newman, eds., *The New Palgrave: A Dictionary of Economics*, 4 vols. (London: Macmillan, 1987), IV, 355. Witness at the University of Munich in 1918-19 to the constitution and destruction of the Bavarian *Räterepublik*, Slichter may there have learned some vivid strategic lessons. For his definition of bargaining power, Sumner H. Slichter, "The Changing Character of American Industrial Relations," *American Economic Review*, XXIX, 1 (Supplement) (March 1939), 130; idem, "Impact of Social Security Legislation upon Mobility and Enterprise," *ibid.*, XXX, 1 (Supplement) (March 1940), 57; idem, *Union Policies and Industrial Management* (Washington: Brookings, 1941), 248-249, 370-374, 566.

¹⁷¹ John T. Dunlop, "The Movement of Real and Money Wage Rates," *Economic Journal*, XLVIII, 191 (September 1938), 413-434; idem and Benjamin Higgins, "'Bargaining Power' and Market Structures," *Journal of Political Economy*, L, 1 (February 1942), 1-26; John T. Dunlop, "Wage Policies of Trade Unions," *American Economic Review*, Supplement, Part 2, XXXII, 1 (March 1942), 290-301.

If young Dr. Dunlop had continued purely academic pursuits, he would surely have enjoyed a successful academic career. From Marshall, Pigou, Commons, and Blum, he would surely have soon proposed (as he did) that the structure of product and factor markets could give some workers “strong bargaining power...at the expense of other factors (including different types of labor)...,” an outright “strategic power” in the labor market. From Perlman on “the economic front” of “job-territories,” from Harvard’s Abbot Usher on “technology” and “strategic inventions,” from Schumpeter on “production function” and “innovation,” he would almost surely have soon held (as he did) that industrial technology comprised not only machinery, not only “engineering and geographic and biological conditions,” but also “industrial organization,” the “size and resources of enterprises,” and their continual development of “new methods of production.” And amid the “frictions” of real markets he may well have analyzed how much firms and unions counted on an existing (or available) cluster of technologies in their “strategic” negotiations over the price for clusters of labor.¹⁷² But better luck befell him, to go to Washington in 1943, not yet 30 years old, and serve for the duration of World War II as director of research at the U.S. National War Labor Board. There he learned from deeply urgent, extremely practical experience, in continual crises, which industries were materially most strategic to U.S. war-time production, which departments in them were technically most strategic to their operation, and which positions in these departments (if any) were more strategic than others to their work, all to report as

¹⁷² Perlman, *op. cit.*, 197, 273-278; Abbott P. Usher, *A History of Mechanical Inventions* (Cambridge: Harvard University, 1929), 1-7, 23, 24, 217, 218, 308, 316; Joseph A. Schumpeter, *Business Cycles: A Theoretical, Historical, and Statistical Analysis of the Capitalist Process*, 2 vols. (New York: McGraw-Hill, 1939), I, 38-42, 84-109, 226-228; Dunlop, “Changing Status of Labor,” 608, 619.

precisely as possible where disputes at work would most threaten U.S. economic and military strength, to inform mediation of intolerable conflicts. He could have had no better education on the great modern industrially and technically strategic questions. Moreover, he quickly learned from the unions to think of production in explicitly “strategic” terms. And before the war’s end he brought to print the first explicit concept of labor’s industrially and technically “strategic positions.”¹⁷³

Dunlop phrased it simply, for students of U.S. labor history. “The American labor movement,” he began, “has developed in the context of changing patterns of technology, business organization, social relations, and political power.” In particular, he came to the point, “unionization...is to be explained in terms of the position of workers both in a market system and in relation to a technological process. The combined strategic power of groups has varied widely. Some workers have been able to close an entire plant, or to inflict great loss, by possession of a scarce skill, by reason of their location in the flow of operations, or because of their control over perishable materials or product. Thus loom fixers in weaving, teamsters who deliver materials or finished goods, cutters in clothing, and those who soak hides in the leather trade all occupy extremely advantageous positions simply by virtue of technology. Other workers have strong bargaining power as

¹⁷³ *Ibid.*, 608-611, 614, 618-620, 621. Cf. three other strategic arguments then (war-time) that lacked a concept of strategic position: Henry C. Simons, “Some Reflections on Syndicalism [1941],” *Journal of Political Economy*, LII, 1 (March 1944), 1-25; Clinton S. Golden and Harold J. Ruttenberg, *The Dynamics of Industrial Democracy* (New York: Harper & Brothers, 1942), 181-185, 301-310; and Henri Denis, *Le monopole bilatéral* (Paris: Presses Universitaires, 1943), 42-80. For biographical bits on Dunlop: Steven Greenhouse, “John Dunlop, 89, Dies; Labor Expert Served 11 Presidents,” *New York Times*, October 4, 2003, A11. On his training in economics, John T. Dunlop, “Labor Markets and Wage Determination: Then and Now,” in Bruce E. Kaufman, ed., *How Labor Markets Work: Reflections on Theory and Practice by John Dunlop, Clark Kerr, Richard Lester, and Lloyd Reynolds* (Lexington: Lexington Books, 1988), 77-79. On his first teacher of labor economics, Charles A. Gulick, Jr., at Berkeley in 1933-34, Van Dusen Kennedy et al., “Charles Adams Gulick, Economics: Berkeley,” dynaweb.oac.cdlib.org:8088/dynaweb/uchist/public/inmemoriam/inmemoriam1985/@Generic_BookTextView/3313. If Dunlop had had instead a peacetime SSRC grant for a program to study “strategic positions in production,” his researchers “grubbing” to find them could not have worked as fast or as accurately as his NWLB researchers did.

a consequence of location in a market structure...at the expense of other factors...or...in the product markets... The bargaining power of wage earners depends upon their strategic position in dealing with the firm, and the strategic position of the firm depends in turn upon its dealings with the rest of the market mechanism.”¹⁷⁴

This explanation Dunlop shortly disguised in the first neoclassically argued study of unions’ economic functions and effects. Reconciling markets, he emphasized their “technical organization,” i.e., as he put it, the “character of competition” in them, especially in the market where prices appear as wages. “...labor markets,” he wrote, “do not resemble bourses, auctions, nor [sic] closed-bid arrangements. A great many wage earners sell their services to a relatively much smaller number of enterprises. In the nonunionized market, enterprises typically set [=quote] a wage rate.... Trade unions seek to alter the labor market so as to transfer the pricing of services from an employer take-it-or-leave-it situation to a negotiated price market or a quoted-price market of their own.” Here, in a market, he considered only the “bargaining power” derived from markets. His concept of “strategic position” in production, he vaporized into an idea of “‘pure’ bargaining power: ability to get favorable bargains apart from market conditions,” which he might have condensed into a power over production, but instead diffused into problems of information and preference. And the earlier loaded adjective “strategic,” he here emptied of consistent meaning, to use it in one phrase “in the sense of amenable to particular controls [over markets],” in another to stress the “advantage of the initiative,” in yet another to indicate industries vital to the U.S. military, finally to suggest a reactionary steel baron’s ulterior motives. He had a perfectly professional reason for arguing only for “bargaining power” in the market. From the very nature of the modern

¹⁷⁴ Dunlop, “Changing Status of Labor,” 607, 609-610, 621.

labor market, nothing else, he could show that the modern wage structure was “a bargained rate structure.” If he had adduced industrial or technical power, in production, he would have made his case more realistic, but weakened it in professional “Economics.” And having argued by his discipline’s rules he could proceed freely (as he did) to attack orthodox wage theory, to blast the presumption of “free and ‘automatic’ markets” anywhere in modern economies, to refute “ideas of reliance upon automatic market forces....the interdependence of the total price mechanism,” and to slam notions of “the automatic pricing mechanism” in modern labor markets. “To explain...difficulties with the [automatic] price apparatus as ‘frictions’ is formally permissible but beautifully irrelevant and even vicious,” he charged. “...the automatic mechanism in any institutional form in the labor market must be relegated to history,” he ruled. “The automatic pricing mechanism as *model* or *institution* in the labor market is dead,” he concluded.¹⁷⁵

Even so, behind these markets, for them, modern production happened. It was implicit in the author’s every reference to technology outside the market’s organization,

¹⁷⁵ John T. Dunlop, *Wage Determination under Trade Unions* (New York: Macmillan, 1944), 4, 6-12, 45, 75, 77, 210-228. He thanks Paul Baran for helping “formulate the position advanced in the final chapter,” i.e., his condemnation of “the automatic mechanism”: *ibid.*, v. Baran in 1943-45 was in Washington first at the Office of Price Administration, then in economic research (under Harvard Economics Prof. E.S. Mason) at the Office of Strategic Services. On Baran at Harvard and in Washington, Paul M. Sweezy, “Paul Alexander Baran: A Personal Memoir,” in Paul M. Sweezy and Leo Huberman, eds., *Paul A. Baran (1910-1964): A Collective Portrait* (New York: Monthly Review, 1965), 28, 35. I believe Dunlop’s main source for the “automatic” trope was (via Baran) Böhm-Bawerk’s student Emil Lederer (1882-1939), who had directed Baran’s dissertation at the University of Berlin, 1931-33, at least from 1931 continually attacked Say’s Law of “automatic readjustment,” and served as dean of “the University in Exile” at the New School from 1933 to 1939. Another source was the Kiel group at the New School after 1940, above all (after 1943) Hans P. Neisser, a public enemy of Say’s Law in the labor market. Cf. Emil Lederer, *Technischer Fortschritt und Arbeitslosigkeit* (Tübingen: J.C.B. Mohr, 1931), ???; Hans P. Neisser, “‘Permanent’ Technological Unemployment: ‘Demand for Commodities Is Not Demand for Labor,’” *American Economic Review*, XXXII, 1, Part 1 (March 1942), 50-71; Nathan Belfer, “The Theory of the Automatic Reabsorption of Technologically Displaced Labor,” *Southern Economic Review*, XVI, 1 (July 1949), 35-43. On Lederer, Neisser, and the New School: Harald Hagemann, “Franco Modigliani and the Keynesian Legacy: The Influence of Jacob Marschak, Adolph Lowe, and Hans Neisser on the Formation of Franco Modigliani’s Work,” www.newschool.edu/cepa/conferences/papers/050415_hagemann_the_influence.pdf.

“technical innovations,” “technical change,” “technical installations,” “technical conditions,” “technical input-output relations.” Its strategic organization lay here too, hidden in his neoclassicism on “complementary factors of production” and “substitution,” though nearly evident in “the technical possibilities of substitution.” Dunlop’s strategic urge came closest to expression in his proposal of “cluster analysis,” a Marshallian focus on prices in “a cluster of related [or “contiguous”] markets,” in effect a cover for strategic analysis of industrially and technically connected production (“multi-process industries”).¹⁷⁶

This was the first cannonade in neoclassical economics’s worst “marginalist controversy,” the one among marginalists, between Keynesian marginalists and Hayekian marginalists on “labor economics.” Dunlop himself was no Keynesista; he had much of Frank Knight’s view of *The General Theory*.¹⁷⁷ But his obituary on “the automatic pricing mechanism” served the Keynesians splendidly, and angered his targets, obviously the Hayekians, who were gearing up against the first raise in the federal minimum wage. The Hayekians fired back at easier foes, won big battles in the Labor-Management Relations Act, 1947, claimed only their economics was “conventional,” impugned all other economics (however neo-classical) as “institutionalist,” or “untheoretical,” or “eclectic,” or soft on monopoly, or just politics, anyway unscientific, and eventually won

¹⁷⁶ *Ibid.*: the technology of production, 7, 35, 48, 50, 187, 192, 195-196, 207-207, 214, 220, 226; complementary factors and substitution, 77, 82, 94, 186-187, 195-196, 209; “cluster analysis” and clustered markets, 7, 75, 94-97, 116, 145-146, 198, 207. The veiled reference to Marshall’s “joint demand” for labor, “derived demand”: *ibid.*, 196 n5. On “technical” variation and “technical conditions,” cf. J.R. Hicks, “Marginal Productivity and the Principle of Variation,” *Economica*, No. 35 (February 1932), 80-88; idem, *Theory*, ???; Robinson, *op. cit.*, ???173-175, 235, 239, 255-257, 273; and Wilford J. Eiteman, “The Equilibrium of the Firm in Multi-Process Industries,” *Quarterly Journal of Economics*, LIX, 2 (February 1945), 280-286.

¹⁷⁷ Cf. Dunlop, *Wage Determination*, 125-126, 151, 211; and F.H. Knight, “Unemployment: And Mr. Keynes’s Revolution in Economic Theory,” *Canadian Journal of Economics and Political Science*, III, 1, (February 1937), 100-123. At Berkeley in 1936 Dunlop had audited Knight’s (visiting) lectures on *The General Theory*, probably in “Economics 203A: Business Cycles”: Kaufman, *op. cit.*, 77; Ross Emmett to John Womack, Jr., August 10, 2005, hes@eh.net.

the professional and political controversy, so that their economics became all “economics,” pure and simple.¹⁷⁸ But Dunlop had done such damage to their assumptions and principles for argument on labor that they never could repair them. As he had neoclassically analyzed both the determination of wages and the full economic results of changing them, he had shown marginalism could explain the level and structure of negotiated wage rates as well as the various effects of their movement marketwise--in other words, in modern labor markets, power was endogenous, with general economic consequences. Since the champions of the automatic market could not admit negotiated prices as economic phenomena, or unions as economic (“competitive” in function), they could not explain modern wages except through political (or criminal) distortion of the market. Ambitious in other fields, they quit that of wage determination; their best labor economist could only try by the automatic theory to measure unions’ “impact,” viz., always, that bargained wages caused generally inefficient allocation of resources.¹⁷⁹

In 1947, in London, a Fabian Poale Zionist wished for a “labour Clausewitz, able to...analyse...the strategic and tactical conditions of successful striking.”¹⁸⁰ Little did he

¹⁷⁸ George J. Stigler, “Book Reviews: Wage Determination under Trade Unions,” *Journal of Political Economy*, LII, 4 (December 1944), 381-382; idem, “A Survey of Contemporary Economics,” *ibid.*, LVII, 2 (April 1949), 95, 98-99; idem, *Memoirs of an Unregulated Economist* (New York: Basic Books, 1985), 140-158. Cf. Philippe Mongin, “The Marginalist Controversy,” in J. Davis et al., eds., *Handbook of Economic Methodology* (London: Edward Elgar, 1997), 558-562; and Thomas C. Leonard, “The Very Idea of Applying Economics: The Modern Minimum-Wage Controversy and Its Antecedents,” in Roger E. Backhouse and Jeff Biddle, eds., *Toward a History of Applied Economics* (Durham: Duke University, 2000), 117-144.

¹⁷⁹ John T. Dunlop, *Wage Determination under Trade Unions*, 2nd ed. (New York: Augustus M. Kelley, 1950), iii-vi; H.G. Lewis, “Memorials: Henry Calvert Simons,” *American Economic Review*, XXXVI, 4 (September 1946), 668-669; idem, “The Labor-Monopoly Problem: A Positive Program,” *Journal of Political Economy*, LIX, 4 (August 1951), 277-87; idem, “Competitive and Monopoly Unionism,” in Philip D. Bradley, ed., *The Public Stake in Union Power* (Charlottesville: University of Virginia, 1959), 181-208; H. Gregg Lewis, “The Effects of Unionism on Industrial Wage Differentials,” in National Bureau of Economic Research, ed., *Aspects of Labor Economics: A Conference of the Universities-National Bureau Committee for Economic Research* (Princeton: Princeton University Press, 1962), 319-341. Cf. John T. Dunlop, “Comment,” *ibid.*, 341-344.

¹⁸⁰ N. Barou, *British Trade Unions* (London: Victor Gollancz, 1947), 103.

know there already was one, even if no more than the original Clausewitz did this very different one necessarily advocate the action he studied, or defend it every time it happened.

In 1948, thanking Perlman, Usher, and Schumpeter, Professor Dunlop put his concept of “strategic position” as formally as he ever would. Again he began with “the context,” the labor movement’s “total environment,” the first two “factors” of which were still “1. Technology... 2. Market structures and character of competition...” But now he proposed a “generalized theoretical framework...” And it was both more comprehensive and more systematic. While “in the *structure of markets* there are firms, and consequently there are employees, who are in strategic positions to affect the whole stream of production and distribution,” at the same time in “any *technological* process for producing and distributing goods and services, there are some workers who have greater strategic position than others; that is, these workers are able to shut down, to interrupt, or to divert operations more easily than others... The term strategic...is not identical with skill. It means sheer bargaining power by virtue of location and position in the productive process....”¹⁸¹ Dunlop did not argue any priority between markets and production (including distribution), but logically workers would have a strategic position in the markets only if they already held a strategic position in a strategic firm’s productive operations. Moreover these positions were by nature historical; that is, they changed. And they changed not gradually, in constant, continuous evolution, but from time to time, continually, but episodically, in punctuated periods. From Schumpeter’s approval of Kondratieff cycles, and from his insight into the significance of the production function’s

¹⁸¹ Dunlop, “The Development of Labor Organization,” 163, 174-175, 179-180, his emphases. He had been appointed associate professor, with tenure, in 1945, and would be promoted to full professor in 1950.

constant, that change in a constant has to happen abruptly, from one constant to another, Dunlop argued that workers' technical positions had to change in the punctuation of periodic "major innovations."¹⁸²

In other words "strategic position," by which Dunlop meant industrially or technically strategic position (or both), is key because by using such given positions industrial workers organize themselves in direct contention with capital.¹⁸³ Here is the argument abstractly: Through the study of various industries in a country's economy we can understand which in any particular period are highly, nationally (even internationally) strategic, which are no more than provincially strategic, and which are only locally so, or not at all. Through the study of various firms in an industry we can understand which firms then offer most strategic opportunities, e.g., those that can best pass increased costs for labor to the purchasers of their products. Through the study of an industrial firm's work, its technical relations of production, we can understand which departments then have the strongest strategic positions, and which workers, skilled or not, can most confidently then interrupt operations to try to change the social relations of production, only for themselves, or also for their fellows in the firm, or also for workers in other firms, or even for all workers. Here is the (abstract) argument vice versa: As soon as an industrial firm's operations begin, the given technological structures of dependence among workers take hold, structures vertical as well as horizontal, structures in which some workers are less dependent than others. "...work communities [not towns or neighborhoods, but groups of people at work, in particular places or on the move], prior to formal organization, are not simply random aggregates of individual workmen.

¹⁸² *Ibid.*, 189-192.

¹⁸³ *Ibid.*, 180-183, 185.

...informal coagulations exist. ...informal organization.”¹⁸⁴ It is the technologically located positions from which some workers can “stop a great number” of others that make the organization. It is the workers strong in this organization, holding strategic advantages, who decide whether, when, and how they and their fellow workers make the organization a racket or a union, and how they use it to deal or contend with the firm. It is the unions in the firms dominant in the industry that decide whether, when, and how they and other unions in the industry federate, amalgamate, or unite in an industrial union, and contend with the industry’s association of firms. And it is the federations, amalgamations, or unions in the most strategic industries that decide whether, when, and how they and other federations, amalgamations, and unions confederate or ally, and contend with the country’s capitalists. In short, unless we understand industrial work, we misunderstand modern class struggles, for the structure of this work frames the industrial working class’s organization, orients its movement, and gives the material vectors of its strategy--until the next “major innovations.”

This argument did not come alone. It arrived in a volume of 13 essays all aimed at the same target, the idea of labor’s automatic price and below it the politics of anti-unionism. If Dunlop had fired a cannonade in 1944, here was a barrage. Of the 16 authors besides Dunlop, 13 were then professional, neoclassical economists specializing in labor and unions. Six of them had received their Ph.D.’s from Harvard under Slichter’s direction or influence (three on Dunlop’s co-signature); a seventh would receive his doctorate from Harvard the following year (also co-signed by Dunlop).¹⁸⁵ The three who

¹⁸⁴ *Ibid.*, 178-179.

¹⁸⁵ These seven were Lloyd G. Reynolds (who took his degree in 1936), David R. Roberts (1941), Herbert R. Northrup (1942), Joseph Shister (1943), Nathan Belfer (1946), Gordon F. Bloom (1946), and Lloyd H.

were not economists were two professional Chicago sociologists of labor and unions and a City College B.S.S., the director of research for the United Rubber Workers. Of the 16 altogether, seven like Dunlop had served during the war on the National War Labor Board; another had been on the War Department's Labor Branch, another on the War Production Board, another at the U.S. Bureau of Labor Statistics, and another, Canadian (a McGill economist), since 1942 had been director of research for the Canadian Congress of Labor. Nine of the economists (besides Dunlop) and both sociologists held appointments at their universities' centers or institutes for the study of industrial relations. The essays were expressly the work of experts, but for an educated public (only one table and three curves, all in the senior economist's essay) and eminently practical, even urgent, "to enlighten the public on labor questions." The introduction rang a national alarm. "It is no exaggeration," its anonymous author (the new chairman of Princeton's economics department?) wrote, "to say that labor relations represent our most critical domestic problem [in 1948] and that perhaps the very survival of democratic capitalism rests on our ability to develop practical solutions to various labor problems." For himself and the other authors he hoped the book would "indicate the value of economic analysis for a correct understanding of labor issues, help to stimulate further research in the field of labor, and contribute to the development of more intelligent policies in industrial relations."¹⁸⁶

He should have been more careful what he hoped for. Increasingly "economic analysis" did focus on "labor issues," but it was mostly Hayekian analysis, or Milton Friedman's, anyway not friendly to unions. It was then not one of the War Labor Board

Fisher (in *Political Economy and Government*, 1949): *Insights into Labor Issues*, 357-361. Their dissertations with the approvals co-signed are all in the Harvard University archives.

¹⁸⁶ [Richard A. Lester?] "Introduction," *Insights into Labor Issues*, v, vii-viii.

vets, but Friedman, a self-described “rank amateur in the field of labor economics,” who recalled Menger’s “complementary goods” to indicate a strike’s real force, who explicitly stated Marshall’s “joint demand” to explain some labor’s industrially “strategic position” (in the market). And it was the Chicagoans, whether they were at Chicago or not, who increasingly defined “correct understanding” of all economic issues, including labor, including unions, which Friedman thought only in part “economic.”¹⁸⁷ Much new research on labor did happen, but much of it emphasized unions’ monopolistic or crooked operations, which directly or not justified 14 new “right-to-work” laws by 1958 and the Labor-Management Reporting and Disclosure Act in 1959.¹⁸⁸ Economists positive about unions cut impressive figures in business schools, the National Academy of Arbitrators, public service, and especially the old and the many new industrial-relations centers. But precisely because of their increasingly institutional careers, their economics looked ever less like “real economics,” more like a degraded economics, irreparably institutionalist, impervious to theory, a pseudo-science of only one subject, “labor economics,” a waste of time in the mainstream’s backwaters, almost sociology. Or worse (from the new

¹⁸⁷ Friedrich A. Hayek, *The Road to Serfdom* (Chicago: University of Chicago, 1944), 36-37, 80-81, 110-118, 122-130, 194-201; M.W. Reder, “The Theoretical Problems of a National Wage-Price Policy,” *Canadian Journal of Economics and Political Science*, XIV, 1 (February 1948), 46-61; idem, “The Significance of the 1948 General Motors Agreement,” *Review of Economics and Statistics*, XXXI, 1 (February 1949), 7-14; idem, “The Theory of Union Wage Policy,” *ibid.*, XXXIV, 1 (February 1952), 34-45; Milton Friedman, “Some Comments on the Significance of Labor Unions for Economic Policy,” in David McCord Wright, ed., *The Impact of the Union: Eight Economic Theorists Evaluate the Labor Union Movement* (New York: Harcourt, Brace, 1951), 204-234, “strategic position,” 205, 209, 211; George J. Stigler, *The Theory of Price*, 3rd ed. (New York: Macmillan, 1952), 244-245, 251-251; Lloyd Ulman, “Marshall and Friedman on Union Strength,” *Review of Economics and Statistics*, XXXVII, 4 (November 1955), 384-401; Milton Friedman, “Comment,” *ibid.*, 401-406.

¹⁸⁸ Melvin W. Reder, “Wage Determination in Theory and Practice,” in Neil W. Chamberlain et al., eds., *A Decade of Industrial Relations Research, 1946-1956* (New York: Harber & Brothers, 1958), 64-97; Albert Rees, “H. Gregg Lewis and the Development of Analytical Labor Economics,” *Journal of Political Economy*, LXXXIV, 4, Part 2 (August 1976), S4-S6; and Paul J. McNulty, *The Origins and Development of Labor Economics* (Cambridge: MIT, 1980), 190-191, 235 n41.

professional perspective), it stuck on its subject, and turned simply into Industrial Relations, IR.¹⁸⁹

Dunlop then let go of his materially “strategic” argument for several years. Operating simultaneously as “general economist,” “labor economist,” IR organizer, labor mediator, arbitrator, all during the Cold War, McCarthyism, the Korean War, the merger of the AFL and the CIO, and rising public rancor against unions, he looked beyond the means of division, for means of integration, intellectual and political. Probably Slichter, the Nestor of post-war IR, was most influential in turning him and holding him to a concern for adaptation, not harmony, but at least mutual “adjustment,” in theory and practice. No institutionalist in economics, Dunlop certainly was an institutionalist about institutions, public and private, and after the blast of 1948 he thought hardest about how to keep them together. Following Slichter’s advice to the new Industrial Relations Research Association in December 1948, to do research to guide “the [national] community” in establishing “fair,” “workable,” and reliable “social control of industrial relations,” in “the public interest,” Dunlop took crucial part in the IRRA’s effort to define the best “analytical framework” for such research. He insisted that IR had to treat not only management, union, and their “interaction,” essentially collective bargaining, but also “the environment,” “the total context,” “the total external context,” in which they interacted. This was not some flight of holism. Harking back to his earlier strategic

¹⁸⁹ Lester himself was a principal collaborator of Archibald Cox’s in advising Sen. John F. Kennedy on the U.S. Senate Committee on Labor and Public Welfare and the Select Committee to Investigate Improper Activities in the Labor-Management Field, aka (for its chairman, Sen. John L. McClellan) “the McClellan Committee,” or the “Labor Rackets Committee,” where Robert F. Kennedy served as chief counsel, 1957-1960. On “mainstream economics” and IR then, cf. George R. Boyer and Robert S. Smith, “The Development of the Neoclassical Tradition in Modern Labor Economics,” *Industrial and Labor Relations Review*, LIV, 2 (January 2001), 204-213; and Bruce E. Kaufman, “On the Neoclassical Tradition in Labor Economics,” Research Seminar, IZA/Institute for the Study of Labor (May 2002), www.iza.org/iza/en/papers/kaufman210502, 8-14, 44-51.

arguments, Dunlop described the same “environment” as before: “(1) the technological and physical conditions of the work community; (2) the conditions in the labor market in which the labor services are purchased...and the conditions in the product market in which the output or service is sold....” But he did not (of course) consider the technological conditions for technically strategic advantages that a union might use against management, or the public. He allowed that collective bargaining’s “accommodation” might actually be “continuous conflict, an armed truce, containment, domination of one side by the other, or co-operation.” But he did not describe the industrial or technical positions behind the accommodation. In his textbook on collective bargaining, modeled on the Harvard Business School’s (and Slichter’s) “case method,” he opened with the U.S. economy’s “basic technological and market changes,” 1850-1950. He spelled out “[t]he influence of the environment” on collective contracts, “*a*) The technological and physical characteristics of the industry.... *b*) The market and competitive features of the firm and industry....” In clear, concrete narrative he explained standards and difficulties in modern wage determination. And he remarked how “economic analysis” particularly helped settle wage disputes. But only barely, in passing, without explanation, did he mention “strategic workers,” or “critical industries, coal for instance”; he discussed some “technical change,” but did not remark on “technical analysis,” and his three “technical” cases all read like (one manifestly is) testimony at arbitration, not about industrially or technically strategic power over production, but about pay rates. Dunlop had not forgotten “strategic position.” He had archived the concept. He aimed now “to make one world of the formal principles of economics and

the facts of actual wage-fixing,” to integrate IR into neoclassical economics and neoclassical economics into IR.¹⁹⁰

He gave his own strongest intellectual directions in September 1954 from a Swiss hotel above Lake Lucerne. Whoever decided that the International Economic Association would hold its annual “round-table conference” at Seelisberg, where the Mont Pelerin Society had already met twice (1949, 1953), and whoever decided that the conference’s subject for 1954 would be “wage theory,” it was Dunlop who managed the message. As the program committee’s chairman, he put the topics of the sessions in his terms, and led the selection of the participants. The message was clearly anti-Hayekian, anti-Friedman, but far from simple. “By bringing together specialists in labour economics and general theorists,” Dunlop wrote, “the...conference aspired towards a more general theory of wages, towards a framework of analysis of wage experience applicable to a wider range of economies.” The Seelisberg papers and discussion assumed neoclassical theory, explored its failings and confusion about modern labor markets only to make it more comprehensive, more on target, more sophisticated, and like “the classical wage scheme” explanatory of “the total system,” therefore more useful. But they did not go into the

¹⁹⁰ “The Formation and Development of the IRRRA,” in Industrial Relations Research Association, *Proceedings of the First Annual Meeting... 1948* (Champaign: Industrial Relations Research Association, 1949), 2-4; Sumner H. Slichter, “The Social Control of Industrial Relations,” in Industrial Relations Research Association, *Proceedings of the Second Annual Meeting... 1949* (Champaign: Industrial Relations Research Association, 1950), 2-13; Charles A. Myers and John G. Turnbull, *Research on Labor-Management Relations: Report of a Conference Held on February 24-25, 1949, at the Industrial Relations Section, Princeton University* (New York: Committee on Labor Market Research, Social Science Research Council, 1949), 10-17; “News and Notes: Social Science Research Council Conference on Research in Labor-Management Relations,” *Industrial and Labor Relations Review*, II, 4 (July 1949), 615-617; John G. Turnbull, *Labor-Management Relations: A Research Planning Memorandum* (New York: Social Science Research Council, 1949), 8-88; John T. Dunlop, *Collective Bargaining: Principles and Cases* (Chicago: Richard D. Irwin, 1949), vii-x, 8-9, 25-26, 35, 66, 74-78, 87-110, 296-298, 303-313; idem, “Two Views,” *Industrial and Labor Relations Review*, III, 3 (April 1950), 383-393. Re Dunlop’s “cases,” cf. Sumner H. Slichter, “Seminar [initially Economics 184, later Economics 284] on the Economics of Collective Bargaining: Lecture Notes, Discussions and Summaries of Talks,” 3 vols., Harvard University, Graduate School of Public Administration, 1940-1959.

(joint) demand-derived productive complexes where industrially or technically strategic positions were. In his inaugural statement of “the task” Dunlop developed his earlier (Marshallian) idea of clustered markets into the idea of “internal and external wage structure[s],” from which he drew the concepts of “job clusters,” “key rates,” and “wage contours.” But he did not get from the market into production, from commercial to engineered relations, or write “strategic” but twice--and that about demand and supply.¹⁹¹

Two years later in Cleveland, at the ninth annual IRRA meeting, he tried to define its intellectual “task.” By then this was harder than wage theory to fit into any market-framed analytical order. IR’s original fault, the idea (typical U.S. social science) of neoclassical economics serving “the public interest,” was already growing into several institutionalized professions serving a typical U.S. compound of tremendous private power and public authority, to wit, the National Association of Manufacturers, the American Chamber of Commerce, the AFL-CIO, federal and state departments of labor, the National Labor Relations Board, the Federal Mediation and Conciliation Service, the American Arbitration Association, etc., to administer class conflict in the United States and abroad in the interest of what the U.S. president would call a few years on “the military-industrial complex.” At best IR had meant the multi-disciplinary study of modern relations of employment, a kind of social relations. Its economists had never explored material relations of production, i.e., strictly industrial relations, technical relations. And Dunlop in Cleveland practically consigned IR economics to IR history.

¹⁹¹ John T. Dunlop, “Introduction,” in idem, ed., *The Theory of Wage Determination: Proceedings of a Conference held by the International Economic Association* [1954] (London: Macmillan, 1957), ix-xv; idem, “The Task of Contemporary Wage Theory,” *ibid.*, 10, 15-27 (“strategic rates,” 20, “strategic contours,” 25). The IEA’s first president (1950-53) had been Dunlop’s Harvard colleague, the Hayekian Gottfried Haberler; the second (1953-56), Howard S. Ellis. For the program committee (Joan Robinson’s husband there representing the IEA’s executive committee) and the 35 participants (five besides Dunlop from the United States, four of them his allies, one his former student, all IRRA members): *ibid.*, vii-viii.

Again he proposed IR researchers undertake “[s]ystematic analysis” of the “the evolving features of the total environment,” organization of management and unions, and “interaction” between “environment” and organization, to understand now not just “our collective bargaining system,” but “the American industrial relations system.” But by his description the present environment (worth studying) did not feature markets. From a review of recent U.S. labor history, culminating in the AFL-CIO, he explained unionism’s new “structure and government” and outlined the new “industrial relations system.” Five of its six features were sociological, political, or administrative. The other, “occupational wage differentials,” was fading. Long ago, Dunlop noted, citing his argument of 1948, without explanation, “strategically placed groups of workers” started unions. But now he mentioned “strategy” only once, and only in cases of unions raiding each other. If a raid might be to capture a technically strategic position, as the one he cited may have been (to gain control over jobs in maintenance), he gave no such hint. The issue here was to serve the system.¹⁹²

That very year McGraw-Hill had launched an ambiguously styled “Labor Management Series,” which the ex-chairman of the New York State Board of Mediation served as consulting editor. The second title of the series appeared the following year, co-edited by one of the United States’s two or three most distinguished professional arbitrators, a collection of 11 essays on “wage determination.” Dunlop figured among the essayists, leading the part on “structural characteristics and changes.” His essay was the

¹⁹² John T. Dunlop, “Structural Changes in the American Labor Movement and Industrial Relations System,” in Industrial Relations Research Association, *Proceedings of the Ninth Annual Meeting...1956* (Madison: The Association, 1957), 12-32. For “strategy” in raiding: *ibid.*, 24. Cf. David L. Cole et al., *Current Trends in Collective Bargaining* (Berkeley: Institute of Industrial Relations, 1960); Theodore H. [sic, for W.] Kheel, *The Pros and Cons of Compulsory Arbitration* (New York: New York Chamber of Commerce, 1961).

exact same paper he had given at Seeligsberg in 1954, except for “labour” become “labor.” At least it brought “internal and external wage structure[s],” “job clusters,” “key rates,” and “wage contours” to McGraw-Hill’s labor-management readers. The distinguished co-editor, professor of Industrial Relations at Wharton, vice-chairman of the NWLB, 1942-1945, chairman of the advisory board of the Office of War Mobilization and Reconversion, 1946-47, chairman of the National Wage Stabilization Board, 1950-52, arbitrator of the CIO’s internal disputes in 1952, successful co-mediator of the United Electrical Workers’ 156-day strike against Westinghouse in 1955-56, indicated in a few lines his own sharp knowledge of industrially and technically strategic disputes, but smoothly, almost perfectly, covered it. Two other essayists, both economists, the director of economic research at the AFL-CIO and a labor advisor to the State Department’s International Cooperation Administration, who had also contributed to the 1948 barrage, together alluded several times to unions’ “bargaining strategies,” but vaguely, and regardless of material positions. The consulting editor himself could have added a lively thing or two about this kind of power and its various uses, but refrained.¹⁹³

¹⁹³ The first title in the series was Arthur J. Goldberg, *AFL-CIO: Labor United* (New York: McGraw-Hill, 1956). By the sequence of references: John T. Dunlop, “The Task of Contemporary Wage Theory,” in George W. Taylor and Frank C. Pierson, eds., *New Concepts of Wage Determination* (New York: McGraw-Hill, 1957), 117-139; idem, “Preface,” *ibid.*, viii-ix; George W. Taylor, “Wage Determination Processes,” *ibid.*, 84, 89 n7, 92, 105-106, 110; Nathaniel Goldfinger and Everett M. Kassalow, “Trade Union Behavior in Wage Bargaining,” *ibid.*, 70, 72-77. On all 12 contributors, *ibid.*, v. Further on Taylor, eventually “the father of American arbitration”: Edward B. Shils, “George W. Taylor: Industrial Peacemaker,” *Monthly Labor Review*, CXVIII, 12 (December 1995), 29-34. Pierson, professor of economics at Swarthmore, had also served on the NWLB and the Wage Stabilization Board. Kassalow, directing research for the United Rubber Workers in 1948, had later gone to the U.S. Foreign Operations Administration (in France), which became the U.S. International Cooperation Administration in 1955, which became the U.S. Agency for International Development in 1961. The consulting editor, Merlyn S. Pitzele, also McGraw-Hill’s *Business Week* labor editor since 1941, lately promoted to senior editor, unhappily soon fell foul of Sen. McClellan’s Committee on Improper Activities, and testified that while chairman of New York’s Labor Mediation Board he had received \$15,000 in “retainer fees” from the International Brotherhood of Teamsters, to advise its president how to “clean up” the IBT: E.W. Kenworthy, “Pitzele Reveals \$15,000 Beck Fees While State Aide,” *New York Times*, November 2, 1957, 1. The fees came via checks from Labor Relations Associates, Inc., a Chicago business of Nathan W. Shefferman, on whom see Nathan W. Shefferman with Dale Kramer, *The Man in the Middle* (Garden City: Doubleday, 1961), ???; Sanford M. Jacoby, *Modern*

No wonder The Chicago School steered largely clear of Dunlop, on wage determination and on production's "strategic positions." The more institutional he became politically, the more institutionalist (negligible) Chicagoans could assume his economic were becoming. Only one Chicago master, actually then at Stanford, addressed his economic argument, but in terms of questions in another field, welfare economics. He denied Dunlop's claim that unions acted economically, maintained they acted politically, and explored the logic of bargaining wage rates against unemployment. He consequently missed the business of joint demand and Dunlop's points about the structure of markets and "cluster analysis." And he mistook Dunlop's evidence on the matter of joint demand, the leverage or multiplier in disruptions of production, for evidence about a problem of labor supply. In his economics coercion was interesting not for where it happened, whether in the market or at work, but for its effects in the market, above all on employment and inflation. His "strategic considerations" arose not as if from war, but as in "a poker game."¹⁹⁴ For the few other Chicagoans confronting Dunlop the contest was less subtle. At the school's outpost in Charlottesville an elder warned that some unions were abusing their "strategic position" in the market, and advocated legislation to restrain the AFL's and the CIO's "monopoly power."¹⁹⁵ And three from the next generation, one (gone "liberal") at Yale, one at College Station, and one at Durham, each tried his thesis, that unions being monopolies, causing unemployment and inflation, were "incompatible"

Manors: Welfare Capitalism since the New Deal (Princeton: Princeton University, 1997), 130-138, 233-234.

¹⁹⁴ Reder, "Theory of Union Wage Policy," 34, 36-37, 40-45; Melvin W. Reder, *Labor in a Growing Economy* (New York: John Wiley & Sons, 1957), 45-49, 155-158, 163-173, 346-347, 404, 408-444. Cf. Simons (1941) on organization, *op. cit.*, 7-9, 14-17; and Friedman (1950) on "joint demand," *op. cit.*, 207-212.

¹⁹⁵ Tipton R. Snavelly, "The Impact of Multi-Unit Bargaining on the Economy," *Southern Economic Journal*, XIX, 4 (April 1953), 335-457. He lifted "strategic position" from Friedman, *op. cit.*, 211.

with capitalism, that Dunlop's analysis was neither new nor sound, and/or that it was neither adequate nor necessary.¹⁹⁶

Besides, meanwhile, Chicago had plenty intellectual enemies keeping the question of labor's power a question of the market, of "monopoly." Harvard's sage on "monopolistic competition," who smelled Marxism in "labor union power," argued that "industry-wide unions" were monopolies stronger than corporate monopolies, and were hogging "monopoly profit." Eventually he suggested "the structure of labor organization...be dictated by the public interest," for instance, by compelling "unions which are powerful because they are small and strategically situated [i.e., certain craft unions]," to merge with big unions where (he reasoned) they would lose their "market power."¹⁹⁷ Once the Korean War began, other economists who scorned Chicago's devotion to "free enterprise" worried about labor in the same terms Chicagoans did, in the market. Dunlop's colleagues at Harvard worried most prominently. Their earlier debate on the probabilities that "full employment" would cause inflation, they intensified around the Wage Stabilization Board, whether it should be tough or lax.¹⁹⁸ Galbraith

¹⁹⁶ Charles E. Lindblom, "The Union as a Monopoly," *Quarterly Journal of Economics*, LXII, 5 (November 1948), 671-697; idem, *Unions and Capitalism* (New Haven: Yale University, 1949); Robert A. Dahl and idem, *Politics, Economics, and Welfare: Planning and Politico-Economic Systems Resolved into Basic Social Processes* (New York: Harper & Brothers, 1953), 472-503; E.E. Liebafsky, "A 'New' Concept in Wage Determination: Disguised Productivity Analysis," *ibid.*, XXVI, 2 (October 1959), 141-146; Allan M. Cartter, *Theory of Wages and Employment* (Homewood: Richard D. Irwin, 1959), 84-92, 116-133, 178-180.

¹⁹⁷ Edward H. Chamberlin, "The Monopoly Power of Labor," in Wright, *op. cit.*, 168-187; idem, *The Economic Analysis of Labor Union Power* (Washington: American Enterprise Association, 1958); idem, "Labor Union Power and the Public Interest," in Bradley, *op. cit.*, 6, 18-20. I think he took "small and strategically situated," *ibid.*, 20, from Sumner H. Slichter, "The Government and Collective Bargaining," *Annals of the American Academy of Political and Social Science*, Vol. 178 (March 1935), 115.

¹⁹⁸ Prominent in the earlier debate: J.K. Galbraith, "Reflections on Price Control," *Quarterly Journal of Economics*, LX, 4 (August 1946), 475-489; idem, "The Disequilibrium System," *American Economic Review*, XXXVII, 3 (June 1947), 287-302; John T. Dunlop, "Wage-Price Relations at High Level Employment," *ibid.*, XXXVII, 2 (May 1947), 243-253; idem, "The Demand and Supply Functions for Labor," *American Economic Review*, XXXVIII, 2 (May 1948), 340-350; Sumner H. Slichter, *The American Economy: Its Problems and Prospects* (New York: Alfred A. Knopf, 1948), 34-49.

thought “countervailing power” between business and labor would fail in inflation, which would oblige the government to control wages and prices. Alvin Hansen, chief U.S. Keynesian, thought the economy could take full employment without prices rising much.¹⁹⁹ Given their institutional responsibilities, which they wanted, it would have been mad of them to wander into research on the industrial or technical positions from which workers could force major halts in production; that would be the FBI’s responsibility, or the National Guard’s. And so far I can find no responsible U.S. economist then taking such a perverse turn. The mighty mainstream rolled on.²⁰⁰

Three of Dunlop’s fellows in the 1948 barrage deserve particular notice, because they might well have taken to the idea of material relations. Two of them had studied a major U.S. center of industrially and technically strategic action, San Francisco, and in passing had observed “strategic” positions, some of them material. But they confused them with monopolistic and political power, which they did not distinguish either.²⁰¹

Under Dunlop’s tutelage, though without “strategic” or “strategy,” one of them later delved into technically strategic power in agricultural production; but he died at 41, in

¹⁹⁹ J.K. Galbraith, “The Strategy of Direct Control in Economic Mobilization,” *Review of Economics and Statistics*, XXXIII, 1 (February 1951), 12-17; idem, *American Capitalism: The Concept of Countervailing Power* (Boston: Houghton Mifflin, 1952), 114-117, 128-134, 187-200; Morris A. Horowitz, “Administrative Problems of the Wage Stabilization Board,” *Industrial and Labor Relations Review*, VII, 3 (April 1954), 390-403; John P. Lewis, “The Lull That Came to Stay,” *Journal of Political Economy*, LXIII, 1 (February 1955), 1-19; John T. Dunlop, “Wage Stabilization in Theory and Practice,” March 28, 1955, Industrial College of the Armed Forces, www.ndu.edu/library/ic2/L55-124. Dunlop was one of six “public members” (with six from “labor” and six from “industry”) on the 18-member national board, and served longest, 20 months.

²⁰⁰ John Kenneth Galbraith, “Market Structure and Stabilization Policy,” *Review of Economics and Statistics*, XXXIX, 2 (May 1957), 124-133; James R. Schlesinger, “Market Structure, Union Power and Inflation,” *Southern Economic Journal*, XXIV, 3 (January 1958), 296-312; U.S. Congress, Joint Economic Committee, *The Relationship of Prices to Economic Stability and Growth: Compendium of Papers Submitted by Panelists Appearing Before the Joint Economic Committee* (Washington: Government Printing Office, 1958); idem, *The Relationship of Prices to Economic Stability and Growth: Commentaries Submitted by Economists from Labor and Industry Appearing Before the Joint Economic Committee* (Washington: Government Printing Office, 1958); Gardner Ackley, “Administered Prices and the Inflationary Process,” *American Economic Review*, XLIX, 2 (May 1959), 419-430.

²⁰¹ Clark Kerr and Lloyd H. Fisher, “Multiple-Employer Bargaining: The San Francisco Experience,” *Insights into Labor Issues*, 27-31, 33-34, 38, 44-45, 47, 52-53, 60.

1953.²⁰² The other had an acute sense of the articulations of power, all kinds, everywhere, and did seminal papers on the labor market, implying cases of joint demand, that he could have developed into a strategic theory of production. But going instead ever deeper into California's academic politics, he pursued different intellectual interests.²⁰³ Otherwise the economist most likely to turn Dunlop's arguments into industrially or technically strategic studies was yet another of Slichter's (and Dunlop's) Harvard Ph.D.'s, also a War Labor Board veteran, who as well as anyone then knew U.S. wage structures and Dunlop's ideas about them. But from brilliant articles on wage-rate analysis, explicit about "intraplant wage adjustments," "critical jobs," "internal" differentials, wage "premiums," all questions outside the market, he never turned his mind to matters of production. With Slichter he did a definitive review of Eisenhower-era collective bargaining, with sharp insights into U.S. management's industrial and technical vulnerabilities. For the U.S. Labor department he directed a masterly study of collective bargaining in basic steel, to interpret the great steel strike of 1959 and evaluate the use of official intervention in "critical work stoppages." For Chicago's new, improved organ of influence he analyzed "power in collective bargaining...the relative willingness and

²⁰² Lloyd H. Fisher, *The Harvest Labor Market in California* (Cambridge: Harvard University, 1953), 2-3, 25-31, 38-40, 87-90.

²⁰³ Clark Kerr, "Labor Markets: Their Character and Consequences," *American Economic Review*, XL, 2 (May 1950), 278, 282-283, 286-291; idem, "The Balkanization of Labor Markets," in E. Wight Bakke et al., *Labor Mobility and Economic Opportunity* (New York: Technology Press, 1954), 92-110; idem, "Wage Relationships-The Comparative Impact of Market and Power Forces [1954]," in John T. Dunlop, ed., *The Theory of Wage Determination: Proceedings of a Conference held by the International Economic Association* (London: Macmillan, 1957), 173-182, 191-193; idem and Abraham Siegel, "The Interindustry Propensity to Strike-An International Comparison," in Arthur Kornhauser et al., eds., *Industrial Conflict* (New York: McGraw-Hill, 1954), 189-212; Clark Kerr et al. [including Dunlop], *Industrialism and Industrial Man: The Problems of Labor and Management in Economic Growth* (Cambridge: Harvard University, 1960). Kerr was appointed the first chancellor of the University of California at Berkeley in 1952, president of the university statewide in 1958. Cf. his colleague at Berkeley, Arthur M. Ross, *Trade Union Wage Policy* (Berkeley: University of California, 1948), 2, 13, 30, 38-39, 49-50, 56, 69-70, 100; and Frederick H. Harbison and John R. Coleman, *Goals and Strategy in Collective Bargaining* (New York: Harper & Brothers, 1951), 2, 14, 26-31, 118-128.

ability to strike or take a strike....” and noted companies’ general and particular vulnerabilities, including loss of production, interruption of essential services, “secondary unemployment,” and threats to national defense. But he expressed ever more an arbitrator’s concerns, with the bargaining structure, the negotiating process, to reduce the resort to power, to foster “policy accommodation” between companies and unions.²⁰⁴

Chapter III: Dunlop’s Argument, Labor Economics, and Labor History, 1958-2008

In 1958 Dunlop published his most ambitious book, “a general theory of industrial relations.” A decade before, he had aimed only to integrate IR and neoclassical economics. Now he proposed “to make one world of direct experience in industrial relations and the realm of ideas.”²⁰⁵ More precisely, as Talcott Parsons and a Harvard Junior Fellow (Robert Bales) had just theorized the subsumption of “the economic system” into the bigger “social system,” Dunlop wanted to theorize “the industrial-relations system” too into the general social order, to demonstrate its theoretical equivalence, to establish that the economic and the industrial-relations systems, although

²⁰⁴ Edward Robert Livernash, “An Analysis of Job Evaluation Procedures,” Ph.D., Harvard University, 1941; E. Robert Livernash, “Stabilization of the Internal Wage Rate Structure,” *Industrial and Labor Relations Review*, VII, 2 (January 1954), 211-220; idem, “The Internal Wage Structure,” in George W. Taylor and Frank C. Pierson, eds., *New Concepts in Wage Determination* (New York: McGraw Hill, 1957), 140-143, 147-155; Sumner H. Slichter et al. (including Livernash), *The Impact of Collective Bargaining on Management* (Washington: Brookings Institution, 1960), 144-145, 212-216, 342-371, 663-674, 918 n1, 927-930; E. Robert Livernash et al., *Collective Bargaining in the Basic Steel Industry: A Study of the Public Interest and the Role of Government* (Washington: U.S. Department of Labor, 1961), 5 n1, 15-17, 20, 31-49, 89-91, 120-121, 219-222; E.R. Livernash, “The Relation of Power to the Structure and Process of Collective Bargaining,” *Journal of Law and Economics*, VI (October 1963), 18-19, 21-25, 27-28, 30 (a company’s “strategic” communication to its employees), 34, 36; E. Robert Livernash, “Special and Local Negotiations,” in John T. Dunlop and Neil W. Chamberlain, eds., *Frontiers of Collective Bargaining* (New York: Harper & Row, 1967), 35-39, 43-44. Livernash was a professor at the Harvard Business School from 1953 to 1976.

²⁰⁵ John T. Dunlop, *Collective Bargaining: Principles and Cases* (Chicago: Richard D. Irwin, 1949), 108-110; idem, *Industrial Relations Systems* (New York: Holt, 1958), ?vii.

not “coterminous,” were “on the same logical plane,” of “different scopes,” but overlapping, so that economics and IR concentrated on different, but equally important problems, economics on “production and exchange,” IR on “the web of rules” at work.²⁰⁶

The result was (is still) a surprising, strange thing. It is not a theory, except in an economist’s sense (and in that sense no good), but a work nevertheless substantial, complex, deep, learned, incisive, a kind of general manual for analyzing industrial relations, graceless, but of terrific significance for modern labor studies and movements everywhere. And here Dunlop reintroduced his original “strategic” argument.

Again it came because of the “environment,” “the contexts.” These were now more formal; they were “givens,” or “parameters,” or “constraints.” But the first, again, was “the technological characteristics of the work place.” And the second, again, was “the market,” except that now, alternatively or in addition to the market, the “given” might be “budgetary constraints.” The concept of “strategic position” was no more formal than before, but Dunlop now refined it, limited it, specified it, conclusively defined it. One of the “givens” in both the economic and the industrial-relations subsystems, in an area on the “logical plane” where they overlapped, viz., production, was “technical (engineering) conditions of production,” and here, only here, in industrial relations’ “technical context,” would be “strategic position.” A few new examples, e.g., “the only engine-block plant in an automobile company,” did not change the concept.

The formal, general explanation of industrially and technically “strategic power”

²⁰⁶ Talcott Parsons, “The Prospects of Sociological Theory,” *American Sociological Review*, XV, 1 (February 1950), 10-12; Robert F. Bales, *Interaction Process Analysis: A Method for the Study of Small Groups* (Cambridge: Addison-Wesley, 1950), ???; Talcott Parsons, “???” in idem, Robert F. Bales, and Edward A. Schils, *Toward a General Theory of Action* (Cambridge: Harvard University, 1951), ???; Talcott Parsons, “Some Comments on the State of the General Theory of Action,” *American Sociological Review*, XVIII, 6 (December 1953), 624-625; Talcott Parsons and Neil J. Smelser, *Economy and Society: A Study in the Integration of Economic and Social Theory* (Glencoe: Free Press, 1956); Dunlop, *Industrial Relations Systems*, 4-7, 13, 28-32, 380-383.

remained the same: the power skilled or not at “some points” in “the production and distribution process of modern industrial society” to force “shutdown or stoppage.”²⁰⁷

But this was the new “strategic” limit of “power.” Elsewhere, within the market’s “parameters” or under “budgetary constraints,” because of “control” in pricing some products, a corresponding “discretion” would enter into the pricing of some labor.

“Stringency” indicated certain kinds of labor were scarce, more expensive, but if they had been “strategic” before, they no longer were. Here only a product market’s “timing” might be “strategic.” Even then workers had no “power,” but were only in “short supply.”²⁰⁸

Most remarkably a shift in “contexts” gave the argument for the first time a logic of danger, of radical, ineradicable tension, the danger of industrial war, or dangers much greater. Dunlop, a man totally devoted to institutional rules, could not have meant to develop a theory of dual power. But there he nonetheless went by induction, deduction, and implication. Before, apart from “technology” and “market structures,” the other “contexts” had been two, a pair of socio-politico-cultural facts, “factors,” he often called them. In 1948 they were (a) “community institutions,” among which he included media, schools, political organizations, and government, and (b) “ideas and beliefs,” the “values, the ethos...of the community.” Whatever power workers then might hold over production or in the market, given (a) and (b), all legit, all in consensus, industrial relations would always in the end resolve into negotiations, a bargain, a contract, a deal morally sealed. In 1958, however, in the new “modern industrial society,” “community institutions” and

²⁰⁷ *Ibid.*, 9-10, 33-61, 382-383; “strategic positions” (with explanatory citation of *Insights into Labor Issues*), *ibid.*, 50-52.

²⁰⁸ *Ibid.*, 10-11, 62-93; citations of *Wage Determination* and *Theory of Wage Determination*, *ibid.*, 66 n5 ff. On “control” and “discretion” in product markets, but no “power,” not even “bargaining power,” *ibid.*, 64-68; “timing” and “other strategic factors,” *ibid.*, 69-70; “particularly short supply,” *ibid.*, 83.

“ideas and beliefs” bonded into just one context, “the locus and distribution of power in the larger society,” specifically the social, cultural, and political power brought from outside industrial relations to bear on them. The former duty (if not destiny) of materially powerful workers to join the consensus was gone. Instead, workers who held “strategic power” at work now confronted another, entirely different “power,” the strengths (and faults and contradictions) of “the larger society,” civil society, its authorities, public opinion, prevailing values, and public officials.²⁰⁹ Either power could obey the other, or negotiate with it, contract with it, or challenge it, to try to command it, in continually shifting balances of bargaining power. But neither power could destroy the other, and neither could ever be more than provisionally in agreement with the other, the one in production inevitable, transformable, but always back again somewhere, the other inevitable too, transformable too, but intrinsic to any social order. The new logic of two powers was all (only) discursive, so that its points of radical antagonism remained implicit. But there was Dunlop’s grim meaning: “Modern industrial society” comprised endless constitutionally necessary conflicts over work, some objectively dangerous to public order; IR systems processing the conflicts could not stop them, only compromise them, confine them; without IR systems, his word was “warfare.”²¹⁰ Another significant point he made explicit, that “the larger society” was “countrywide,” its IR system “a national system,” its public members national “governmental agencies,” and he explained

²⁰⁹ Idem, “The Changing Status of Labor,” in Robert G. Albion and Harold F. Williamson, eds., *The Growth of the American Economy: An Introduction to the Economic History of the United States* (New York: Prentice-Hall, 1944), 607-608, 627-630; idem, “The Development of Labor Organization,” in Richard A. Lester and Joseph Shister, eds., *Insights into Labor Issues* (New York: Macmillan, 1948), 174-176, 184-189; idem, *Collective Bargaining*, 10-14, 17-24, 32-36, 77-78; idem, *Industrial Relations*, 9, 11-13, 29-31, 94-99, 384-385.

²¹⁰ *Ibid.*, 3, 61, 138 n, 380.

national IR variations at length.²¹¹ It would have been weird for him then not to assume a world of national states, even weirder if he had speculated about a big socialist state disappearing, or finance capital globalizing, sprung from national commitments, scheming among states for the best deals. Still, where states failed, what might workers with strategic power at work do? Five times Dunlop recalled states in crisis. Almost at the end of the book he noted historically, as if in disclaimer, “The concept of an industrial relations system is used most fruitfully as a tool of analysis when a specific system is examined in its historical context, and changes in the system are studied through time.” He knew history does not quit happening. In the last substantive paragraph he observed, “...the main structure and relations of a system congeal early, unless transformed by revolution or the dislocations of war in the larger community.”²¹²

Among economists, of course, this book was a total flop. It received not a single academic economist’s review. The only two reviews in professional economic journals were by a U.S. Labor department economist and by a political scientist.²¹³ And no economist referred to Dunlop’s strategic argument in a book or economics journal afterwards, much less discussed it. In economics his concept of industrially or technically strategic position was dead on arrival. One of the rare young economists who read Dunlop then became a deep student of unions’ collective action. But he focused on “coercion” in them, not Dunlop’s argument, and figured (on John Stuart Mill’s

²¹¹ *Ibid.*, 98-129, 307-341.

²¹² *Ibid.*, 108, 127, 307, 315-316, 388-389.

²¹³ H.M. Dooty (then director of Labor Economics Staff, U.S. Bureau of Labor Statistics), “Review: Industrial Relations Systems,” *Southern Economic Journal*, XXVI, 2 (October 1959), 169-170; Adolf Sturmthal (then professor of International Labor Affairs, Roosevelt University), “Review: Industrial Relations Systems,” *Journal of Business*, XXXIII, 1 (January 1960), 65-66.

principles) “the instrument or organization to *make* membership compulsory” generally had its origins in “violence,” aggressive physical force, which for unions Dunlop would have denied.²¹⁴ From 1958 to date I have found few references by economists (in English) to workers or unions having “strategic position” in production. Only two appeared in the 1960s, these in IR’s principal outlet.²¹⁵ Another surfaced in the mainstream in the early ‘70s, tied not to Dunlop’s concept, but to Friedman’s “small union in a strategic position.”²¹⁶

Dunlop’s main influence on academic economics post-1960 came in studies of labor not at work, but in “the market context.” As he had differentiated his idea of “clustered markets” into “job clusters,” “internal and external wage structures,” and “wage contours,” it was he who conjoined these concepts and others from allies of his into the idea of “internal labor market.”²¹⁷ Originally, strictly, the term was a misnomer,

²¹⁴ Mancur Olson, *The Logic of Collective Action: Public Goods and the Theory of Groups* (Cambridge: Harvard University, 1965), 66-72. This was a revision of Olson’s dissertation at Harvard, which Chamberlin had directed. For the authority cited: John Stuart Mill, *Principles of Political Economy, with Some of Their Applications to Social Philosophy*, 2 vols. (Boston: Charles C. Little & James Brown, 1848), II, 540-542.

²¹⁵ Paul A. Weinstein, “Racketeering and Labor: An Economic Analysis,” *Industrial and Labor Relations Review*, XIX, 3 (April 1966), 403; J.M. Howells and R.P. Alexander, “A Strike in the Meat Freezing Industry: Background to Industrial Discontent in New Zealand,” *ibid.*, XXI, 3 (April 1968), 421 n7, 424.

²¹⁶ Albert Rees and Arthur Okun, “The Construction Industry Stabilization Committee: Implications for Phase II,” *Brookings Papers on Economic Activity*, 3 (1971), 764. Immediately they write of “coercion,” citing Dunlop’s primary rival in the post-war debates on the political nature of unions: Arthur M. Ross, “The Dynamics of Wage Determination under Collective Bargaining,” *American Economic Review*, XXXVII, 5 (December 1947), 801-802.

²¹⁷ Dunlop, *Wage Determination*, 75, 94-97, 116-117; *idem*, “The Task of Contemporary Wage Theory,” 15-27, and discussion, 405-409; *idem*, “Manpower in Operating Classifications on the Railroads,” in John R. Meyer et al., *Transportation Economics: A Conference of the Universities-National Bureau Committee for Economic Research* (New York: National Bureau of Economic Research, 1965), 432-433. Allies: Herbert R. Northrup (a student of Dunlop’s), *Organized Labor and the Negro* (New York: Harper & Brothers, 1944), 5-8, 232-257; *idem*, “Race Discrimination in Trade Unions: The Record and the Outlook,” *Commentary*, II, 2 (August 1946), 124-131; Clark Kerr, “Labor Markets: Their Character and Consequences,” *American Economic Review*, XL, 2 (May 1950), 278-291; *idem*, “The Balkanization of Labor Markets,” in E. Wight Bakke et al., *Mobility and Economic Opportunity* (Cambridge: Technology Press of Massachusetts Institute of Technology, 1954), 92-110; Lloyd G. Reynolds, *The Structure of Labor Markets: Wages and Labor Mobility in Theory and Practice* (New York: Harper & Brothers, 1951), 79-87, 139-151, 248-256; Livernash, “The Internal Wage Structure,” 140-172; *idem*, “The Relation of Power to the Structure and Process,” 10-40; Charles A. Myers, “Labour Market Theory and Empirical Research,” in

for it represented not a place/situation where offers of compensation met agreements to work, but the administered (or negotiated) allocation of jobs within a firm or plant. But two of Dunlop's students turned the idea and the term into their economic "theory," useful for U.S. "manpower" policy and in academic analyses of "imperfectly competitive" labor markets.²¹⁸ That this was economics, where (at least in the United States) the provenance of ideas could not matter less, made it easy to ignore Dunlop's paternity, and (therefore) for the idea to flourish. So regenerated, the new "theory" soon gained currency among some of the profession's hottest young stars and beyond them, oddly (considering the academic left's disdain for Dunlop), among the new "radicals," the "political economists."²¹⁹ Odder still, within a decade, as a "theory" of "segmented" or "structured" labor markets, it had passed back to include consideration of "bargaining position," "bargaining power," and a union's "bargaining strategy." The young economist

Dunlop, *Theory of Wage Determination*, 317-326, and discussion, 372-376. The upshot: John T. Dunlop, "Job Vacancy Measures and Economic Analysis," in Robert Ferber et al., *The Measurement and Interpretation of Job Vacancies: A Conference Report of the National Bureau of Economic Research* (New York: National Bureau of Economic Research, 1966), 32-38. Another influence on Dunlop (because of its effects on unions) may have been the civil rights movement then.

²¹⁸ Peter B. Doeringer, "The Theory of Internal Labor Markets," Ph.D., Harvard University, 1966 (directed by Dunlop, co-signed by Livernash); U.S. Department of Labor, Office of Manpower Policy, Evaluation, and Research [Peter B. Doeringer and Michael J. Piore], "Internal Labor Markets, Technological Change, and Labor Force Adjustment" (Cambridge, 1966); Peter B. Doeringer, "Determinants of the Structure of Industrial Type Internal Labor Markets," *Industrial and Labor Relations Review*, XX, 2 (January 1967), 206-220; Michael J. Piore, "Technological Change and Structural Adjustment in the Labor Market," Ph.D., Harvard University, 1967 (directed by Dunlop, co-signed by Gerald Rosenthal); [[idem, "On-The-Job Training in the Dual Labor Market," in Arnold Weber et al., eds., *Public-Private Manpower Policies* (Madison: Industrial Relations Research association, 1969), 101-132??;]] idem, "Jobs and Training," in Samuel H. Beer and Richard E. Barringer, eds., *The State and the Poor* (Cambridge: Winthrop, 1970), 55-62; Peter B. Doeringer and Michael J. Piore, *Internal Labor Markets and Manpower Analysis* [1966] (Lexington: Heath, 1971), 13-90. Although they could well have, they did not use Northrup, *op. cit.*

²¹⁹ Among the stars, e.g., A. Michael Spence, "The Economics of Internal Organization: An Introduction," *Bell Journal of Economics*, VI, 1 (Spring 1975), 163-172; Oliver E. Williamson et al., "Understanding the Employment Relation: The Analysis of Idiosyncratic Exchange," *ibid.*, VI, 1 (Spring 1975), 250-278; Joseph E. Stiglitz, "Incentives, Risk, and Information: Notes Towards a Theory of Hierarchy," *ibid.*, VI, 2 (Autumn 1975), 552-579. Among the new "radicals," e.g., Harold M. Baron and Bennett Hymer, "The Negro Worker in the Chicago Labor Movement," in Julius Jacobson, ed., *The Negro and the American Labor Movement* (Garden City: Anchor, 1968), 259-276; David M. Gordon, *Theories of Poverty and Underemployment: Orthodox, Radical, and Dual Labor Market Perspectives* (Lexington: D.C. Heath, 1972), 52-54, 88-90, 94-95; 111-116; and Michael Reich et al., "A Theory of Labor Market Segmentation," *American Economic Review*, LXIII, 2 (May 1973), 359-365.

who made this particular discovery/recovery had evidently not read Dunlop, but got closer than the others to connecting labor's technically determined power and its organization in unions.²²⁰ A year later a senior colleague of hers and another of Dunlop's students applied Dunlop's argument (without citing it) to explain the different development of "industrial relations" in the U.S. and British steel industries. Because they let their history determine their analysis, they confused skill and technically strategic position, but they did convey an idea of strategic power in production, twice in explicitly "strategic" terms. And in further studies of labor's allocation and wage structures this student of Dunlop's, although he kept thinking skill alone ever gave technical power, did make the "strategic" point in print in three other articles.²²¹ From the idea by then puffed into "segmentation theory" another economist rediscovered the "potential power" workers have in certain "job situations" in "a developed division of labor," where they can use "bottlenecks" for "disruption or slowdown of the production process...." Of Dunlop he evidently knew only the argument on wage determination, but he too had roughly reconceived Dunlop's argument on materially strategic positions (though without

²²⁰ Jill Rubery, "Structured Labour Markets, Worker Organisation and Low Pay," *Cambridge Journal of Economics*, II, 1 (March 1978), 21-22, 26-27, 29-34. Cf. one of her sources, Frank Wilkinson, "Collective Bargaining in the Steel Industry in the 1920s," in Asa Briggs and John Saville, eds., *Essays in Labour History* (London: Croom Helm, 1977), 103-104, 111-114, 127, 129; and one of Wilkinson's mentors, H.A. Turner, "Inflation and Wage Differentials in Great Britain," in Dunlop, *Theory of Wage Determination*, 123-135, and discussion, 367-368, 393, 407.

²²¹ Bernard Elbaum and Frank Wilkinson, "Industrial Relations and Uneven Development: A Comparative Study of the American and British Steel Industries," *Cambridge Journal of Economics*, III, 4 (December 1979), 275-276, 283-285, 288-295; Bernard Elbaum, "Industrial Relations and Uneven Development: Wage Structure and Industrial Organization in the British and U.S. Iron and Steel Industries," Ph.D., Harvard University, 1982 (directed by John T. Dunlop, co-signed by Michael Piore), 4-8, 14, 117-135, 140, 151, 157, 161, 187-189, 197-204; idem, "The Internalization of Labor Markets: Causes and Consequences," *American Economic Review*, LXXIII, 2 (May 1983), 262; idem, "The Making and Shaping of Job and Pay Structures in the Iron and Steel Industry," in Paul Osterman, ed., *Internal Labor Markets* (Cambridge: MIT, 1984), 76-77, 81, 86, 89, 99; idem and William Lazonick, "The Decline of the British Economy: An Institutional Perspective," *Journal of Economic History*, XLIV, 2 (June 1984), 570, 582. Cf. Paul L. Robertson and Lee J. Alston, "Technological Choice and the Organization of Work in Capitalist Firms," *Economic History Review*, new ser., LXV, 2 (May 1992), 330-331, 339-340, 343, 348-349.

the “strategic” word).²²² Third-hand from Dunlop, again confusing skill and position, two more economists five years later derived the idea of “strategic industrial skills,” “strategic occupations,” and “strategic jobs,” but back again in an IR journal.²²³ After them I found no evidently Dunlop-derived lead in economics on strategic power at work.

More significant, the academic economists then keenest on explicitly “strategic” questions ignored Dunlop’s material argument. From 1960 a colleague of Dunlop’s at Harvard, of all U.S. economists probably the deepest into (Western) Cold-War military strategy, Thomas Schelling advocated asymmetrical thinking, conceptualized “the focal point” of conflicts, and saw “strategic” power in a union’s threat to strike.²²⁴ But he never mentioned Dunlop, specified labor’s power, or examined it in strategic operation, and soon forgot class to study other interesting kinds of conflict, e.g., between states with nuclear weapons. Among professionally respectable economists then I found only one who came near making a Dunlop-Schelling connection, and this apparently by accident. An MIT professor whom Schelling had inspired to explain “game theory” for “bargaining theory,” he went from footnoting Dunlop on union maximands to analyzing not 20 pages later “Nash’s theory” for a union in a technically strategic position, able to “halt all activity,” not only its own, but much other work.²²⁵ But he missed his chance.

²²² Michael Carter, “Competition and Segmentation in Internal Labor Markets,” *Journal of Economic Issues*, XVI, 4 (December 1982), 1064-1070.

²²³ Martin Brown and Michael Nuwer, “Strategic Jobs and Wage Structure in the Steel Industry: 1910-1930,” *Industrial Relations*, XXVI, 3 (Fall 1987), 253-265.

²²⁴ Thomas C. Schelling, “An Essay on Bargaining,” *American Economic Review*, XLVI, 3 (June 1956), 286, 288, 293, 299-300; idem, “Bargaining, Communication, and Limited War,” *Journal of Conflict Resolution*, I, 1 (March 1957), 28; idem, “For the Abandonment of Symmetry in Game Theory,” *Review of Economics and Statistics*, XLI, 3 (August 1959), 213-224; idem, *The Strategy of Conflict* (Cambridge: Harvard University, 1960), 5-6, 35, 57-59, 68-71, 111-114, 119-161.

²²⁵ Robert L. Bishop, “Game-Theoretic Analyses of Bargaining,” *Quarterly Journal of Economics*, LXXVII, 4 (November 1963), 560, 566-568, 570, 578-579, 581, 601.

The economist then best known for an economic “strategy” could have made excellent use of Dunlop’s argument. Skilled (in pre-war Italy) in descriptive statistics, particularly in “concentration” and “association” (*connessione*), a close reader of Dunlop on “bargaining power,” and experienced in strategic economic planning (in Colombia), he took seriously the technical qualities of production (including maintenance). He appreciated asymmetries, imbalances, complementarities, indivisibilities, connections, “linkages,” as he called them, and the opportunities that bottlenecks offered. And (probably thanks to Schelling) he put “strategy” and “strategic” up front. But his art then was for public policy, *nada* regarding labor’s power, social, industrial, or technical.²²⁶

Even the student of Dunlop’s who succeeded him at Harvard saw unions’ power only in the labor market, electoral politics, and lobbying (and rackets).²²⁷ And the very few departmentally certified economists in IR (certainly Dunlop-aware) did hardly better. The one who grasped the strategic logic best, an expert on UAW bargaining, drew from automobile manufacturing (without reference to Dunlop) a vivid, compelling example of industrial and technical vulnerability, which he explained workers often used. A New Zealander (again regardless of Dunlop) noted “the strategic position” of butchers in meat-

²²⁶ Otto A. Hirschmann, *Il franco Poincaré e la sua svalutazione* [1938] (Rome: Edizione Storia e Letteratura, 2004); Albert O. Hirschman, “On Measures of Dispersion for a Finite Distribution,” *Journal of the American Statistical Association*, XXXVIII, 223 (September 1943), 346-352; idem, *National Power and the Structure of Foreign Trade* (Berkeley: University of California, 1945), 3-6, 9-12, 16-17, 31, 42-48, 98-100, 108-109, 155-162; idem, *The Strategy of Economic Development* (New Haven: Yale University, 1958), vi, ix, 4-6, 32, 40-44, 46-47, 49, 58, 62, 65-76, 79, 84, 100-117, 124, 134-136, 139-148, 151-155, 179, 192, 197; idem, *Journeys Toward Progress: Studies of Economic Policy-Making in Latin America* (New York: Twentieth-Century Fund, 1963), 88, 108, 173-174, 182-190, 198-200, 259. Cf. Corrado Gini, *Indici di concentrazione e di dipendenza* (Turin: Unione Tipografico-Editrice Torinese, 1922), 3-15; idem, *Prime linee di patologia economica*, 4th ed., rev., enl. (Milan: A.Giuffrè, 1935), 26, 35-56, 63-65, 513-580; Bruno de Finetti, “Probabilismo: Saggio critico sulla teoria delle probabilità e sul valore della scienza,” *Logos*, XIV, 2 (April 1931), 163-219; Robert K. Merton, “The Unanticipated Consequences of Purposive Social Action,” *American Sociological Review*, I, 6 (December 1936), 894-904.

²²⁷ Richard B. Freeman, *Labor Economics* (Englewood Cliffs: Prentice-Hall, 1972), 5-6, 82-88, 101-107, 123-125; idem, “The Exit-Voice Tradeoff in the Labor Market: Unionism, Job Tenure, Quits, and Separations,” *Quarterly Journal of Economics*, LXLIV, 4 (June 1980), 643-673; idem and James L. Medoff, *What Do Unions Do?* (New York: Basic Books, 1984), 6-7, 17-22, 184-217.

packing . The others who considered strategic situations had no material sense of them, or did not think the material situation mattered.²²⁸

As for Dunlop's main professional rivals then, Chicago's labor economists, it would have been naïve beyond remedy to expect even a blink of recognition from them. They rarely referred to Dunlop or any "strategic" question, never to anything strategic in production. Testing by the ideal, "automatic" market, they scorned his kind of economics, "institutional labor economics," bad, ludicrous pseudo-economics, not like their "analytical labor economics," good, real economics.²²⁹ The most creative of them, who learned his first economics at Purdue, proved to them why "greater organizational strength" increased "union power," and he continually analyzed technology, jobs, and the division of labor, concentrating on differences among workers. But the only differences he drew among them were in skill, ability, "effort," personal qualities relevant to particular jobs; despite Purdue he ignored the technical relations objectively necessary for any collection of persons to do the work. Chicago-style, he took "comparative advantage" from trade to explain "the structure of work activities within firms," as if match-making in personnel determined technical divisions of labor. But he did not cite the "comparative advantage" of strategic "positions" where "decisions have multiplicative effects on

²²⁸ Kenneth Alexander, "Market Practices and Collective Bargaining in Automotive Parts," *Journal of Political Economy*, LXIX, 1 (February 1961), 15-29; Howells and Alexander, *op. cit.*, 421 n7. Cf. Bevars Dupre Mabry, "The Pure Theory of Bargaining," *Industrial and Labor Relations Review*, XVIII, 4 (July 1965), 479-502; Weinstein, *op. cit.*, 403.

²²⁹ H. Gregg Lewis, "The Effects of Unionism on Industrial Wage Differentials," in National Bureau of Economic Research, ed., *Aspects of Labor Economics: A Conference of the Universities-National Bureau Committee for Economic Research* (Princeton: Princeton University, 1962), 319-341; and John T. Dunlop, "Comment," *ibid.*, 341-344. Cf. H. Gregg Lewis, *Unionism and Relative Wages in the United States: An Empirical Inquiry* (Chicago: University of Chicago, 1963); Albert Rees, *The Economics of Trade Unions* (Chicago: University of Chicago, 1962); idem, "H. Gregg Lewis and the Development of Analytical Labor Economics," *Journal of Political Economy*, LXXXIV, 4, Part 2 (August 1976), S3-S8; Orley Ashenfelter and George E. Johnson, "Bargaining Theory, Trade Unions, and Industrial Strike Activity," *American Economic Review*, LIX, 1 (March 1969), 35-49; Henry S. Farber, "Bargaining Theory, Wage Outcomes, and the Occurrence of Strikes: An Econometric Analysis," *American Economic Review*, LXVIII, 3 (June 1978), 262-271.

productivity, ...enormous effects”; anyway, for him, such positions were managerial, not technical.²³⁰ His students followed suit.²³¹

During the Thatcher and Reagan Revolutions, as unions lost power, some academic economists began connecting labor and “strategy.” But they had no interest in production (much less in striking it). They were going strategic in a new wave of “game theory,” to study institutions, including unions, at negotiations, bargaining, deciding on deals, i.e., still, in the market.²³² So far as I can tell, not one economist who game-theorized about labor and its “strategic behavior” then wrote of workers’ materially “strategic position.” Not even labor economists turning to game theory (among them Dunlop’s successor) would get out of the market and study workers’ power at work.²³³

Many others, wondering why mass unemployment in the United States and Europe then did not drag down all wages there, rushed around the problem of “wage differentials.” There was an old, rich literature. But all that wisdom (including Dunlop’s) the new pride ignored. From ingenious analyses of differentials in “less developed” and

²³⁰ E.g., S. Rosen, “Trade Union Power, Threat Effects, and the Extent of Organization,” *Review of Economic Studies*, XXXVI, 2 (April 1969), 185-196; Sherwin Rosen, “Unionism and the Occupational Wage Structure in the United States,” *International Economic Review*, XI, 2 (June 1970), 269-286; idem, “Substitution and Division of Labour,” *Economica*, new ser., XLV, No. 179 (August 1978), 235-250, quotation 235. Cf. idem, “Transactions Costs and Internal Labor Markets,” *Journal of Law, Economics, and Organization*, IV, 1 (Spring 1988), 49-64, quotations 60-61.

²³¹ E.g., Edward P. Lazear and Sherwin Rosen, “Rank-Order Tournaments as Optimum Labor Contracts,” *Journal of Political Economy*, LXXXIX, 5 (October 1981), 841-864.

²³² E.g., Alvin E. Roth, “The Evolution of the Labor Market for Medical Interns and Residents: A Case Study in Game Theory,” *Journal of Political Economy*, XCII, 6 (December 1984), 991-1016; John Driffill, “Macroeconomic Stabilization Policy and Trade Union Behaviour as a Repeated Game,” *Scandinavian Journal of Economics*, LXXXVII, 2 (June 1985), 300-326; John Kennan and Robert Wilson, “Strategic Bargaining Models and Interpretation of Strike Data,” *Journal of Applied Econometrics*, IV, Supplement (December 1989), S87-S130.

²³³ E.g., Richard B. Freeman, “Contraction and Expansion: The Divergence of Private Sector and Public Sector Unionism in the United States,” *Journal of Economic Perspectives*, II, 2 (Spring 1988), 82; Steve Dowrick and Barbara J. Spencer, “Union Attitudes to Labor-Saving Innovation: When are Unions Luddites,” *Journal of Labor Economics*, XII, 2 (April 1994), 321 n3, 323, 335 n15, 341-342.

in “developed” job markets, many economists were soon doing “efficiency wage theory.”²³⁴ They aimed to explain the extra some employers paid some workers over the wage at which they could hire such workers in an abstractly competitive labor market. A firm would pay more than enough to clear the market, they argued, if at the higher wage it made more money because it lost less on labor turnover, shirking, and conflicts. Only after Dunlop himself delivered a cracking critique of the theory (and other novelties) did any of them begin noting earlier studies of differentials.²³⁵ But they never caught his material argument. They evidently could not imagine that in negotiating compensation smart managers and smart workers would take into account industrially or technically strategic positions in production. It would not have required genius to matrix such positions, abstracting their variations across different industries, or in a single firm. It was not so hard to examine in plain English a single industry internationally.²³⁶ But these theorists could not see an economic argument about capital’s payouts or labor’s power except in the market. A subject elsewhere was professionally useless.

²³⁴ The proximate origins: Harvey Leibenstein, “The Theory of Underemployment in Backward Economies,” *Journal of Political Economy*, LXV, 2 (April 1957), 91-103; J.E. Stiglitz, “Rural-Urban Migration, Surplus Labour, and the Relationship between Urban and Rural Wages,” *Eastern Africa Economic Review*, I, 2 (December 1969), 1-27; idem, “Alternative Theories of Wage Determination and Unemployment in L.D.C.’s, II. The Efficiency Wage Model,” *Cowles Foundation Discussion Papers*, No. 357, March 28, 1973; and Michael Spence, “Job Market Signaling,” *Quarterly Journal of Economics*, LXXVII, 3 (August 1973), 355-374. The main line to the first general review: George A. Akerlof, “Labor Contracts as Partial Gift Exchange,” *Quarterly Journal of Economics*, XLVII, 4 (November 1982), 543-569; Janet Yellen, “Efficiency Wage Models of Unemployment,” *American Economic Review*, LXXIV, 2 (May 1984), 200-205; Carl Shapiro and Joseph E. Stiglitz, “Equilibrium Unemployment as a Worker Discipline Device,” *American Economic Review*, LXXIV, 3 (June 1984), 433-444. I thank Aurora Gómez Galvarriato for suggesting this exploration.

²³⁵ John T. Dunlop, “Industrial Relations and Economics: The Common Frontier of Wage Determination,” *Industrial Relations Research Association, Proceedings of the Thirty-Seventh Annual Meeting, Dallas, December 1984* (Madison: IRRA, 1985), 12-15; Jeremy I. Bulow and Lawrence H. Summers, “A Theory of Dual Labor Markets with Application to Industrial Policy, Discrimination and Keynesian Unemployment,” *NBER Working Paper* No. 1666 (July 1985), 14, 47-49; Lawrence F. Katz, “Efficiency Wage Theories: A Partial Evaluation,” *NBER Working Paper* No. 1906 (April 1986), 2, 24, 54-60; Alan B. Krueger and Lawrence H. Summers, “Efficiency Wages and the Inter-Industry Wage Structure,” *Econometrica*, LVI, 2 (March 1988), 260.

²³⁶ E.g., bituminous coal: Dunlop, *Industrial Relations Systems*, 129-186.

Other economists went at the differential puzzle by wrinkling “efficiency wage theory” into “insider-outsider theory.” A company’s workers already in place, “insiders,” unionized or not, had the power to increase its losses on turnover, shirking, and internal conflicts, particularly if it tried to hire “outsiders,” i.e., from among the unemployed. Here all occupied positions at work were strategic, because any occupant could impose costs on the company for hiring an “entrant.” The occupants all had strategies, too, calculated simply from being already employed, all regardless of their positions in production.²³⁷

Another wrinkle arose from analyses of business behavior under “the threat of collective action.” Connecting with “segmentation theory,” the new analyses soon developed “the threat model,” which revealed still more wage differentials. Most interesting was the nature of “the threat” that would induce a company to privilege its workers. It was never explicit, but implicitly a question only of numbers, how many it took for a strike or slowdown. The model never recognized differences between the threats that workers in materially different positions posed, between workers in strategic industries or technical positions and other workers.²³⁸

Yet another theory emerged over presumable results of “efficiency wages,” steady real-wage structures and extra unemployment. This was “implicit contract theory.” Taking employment as a kind of insurance for workers, it raised questions highly relevant to strategic analysis. One was “asymmetric information,” a form power often took in

²³⁷ E.g., Avner Shaked and John Sutton, “Involuntary Unemployment as a Perfect Equilibrium in a Bargaining Model,” *Econometrica*, LII, 6 (November 1984), 1351-1364; Robert M. Solow, “Insiders and Outsiders in Wage Determination,” *Scandinavian Journal of Economics*, LXXXVII, 2 (June 1985), 411-428; Assar Lindbeck and Dennis J. Snower, *The Insider-Outsider Theory of Employment and Unemployment* (Cambridge: MIT, 1989).

²³⁸ E.g., William T. Dickens and Kevin Lang, “A Test of Dual Labor Market Theory,” *ibid.*, LXXV, 4 (September 1985), 792-805; William T. Dickens and Kevin Lang, “The Reemergence of Segmented Labor Market Theory,” *American Economic Review*, LXXVIII, 2 (May 1988), 129-134.

negotiating an implicit contract. Another was enforcement of the contract, which required some implicit power. Ingenious arguments appeared about “strategy.” But “information” was always about markets and compliance, nothing about industrial or technical systems. It was almost always the companies that knew more; workers might know more only about their own compliance, the level of their “effort” at work. And only companies had strategies, against each other or their workers, or the unemployed. Workers were usually “homogeneous,” or “identical.” If not, they differed only by seniority, skills, or “preferences,” some personal “heterogeneity.”²³⁹ Very seldom did they differ even implicitly by location, and in none that I have found by technical position, which would have indicated a need to differentiate technical functions before trying to aggregate “utility functions.”

From a very different field, the study of oligopolies, came a most suggestive new literature on “strategic substitutes and complements.” Starting with a military example, it carried ideas of “strategic variables,” “strategic costs,” “strategic effect,” and “strategic consequences” that might have attracted economists interested (if only academically) in labor’s power.²⁴⁰ They did educe remarkable ideas of “positive externality,” of “complementarities arising from the production technology,” of “coordination among input suppliers to a shared production process,” of “technological complementarity”

²³⁹ E.g., Costas Azariadis, “Implicit Contracts and Underemployment Equilibria,” *Journal of Political Economy*, LXXXIII, 6 (December 1975), 1183, 1186, 1200; George A. Akerlof and Hajime Miyazaki, “The Implicit Contract Theory of Unemployment Meets the Wage Bill Argument,” *Review of Economic Studies*, XLVII, 2 (January 1980), 321, 326, 328, 336; Bengt Hölmstrom, “Equilibrium Long-Term Labor Contracts,” *Quarterly Journal of Economics*, XCVIII, Supplement (1983), 26-27, 32-33, 47, 49; Costas Azariadis and Joseph E. Stiglitz, “Implicit Contracts and Fixed Price Equilibria,” *ibid.*, XCVIII, Supplement (1983), 3, 10, 18; Oliver D. Hart, “Optimal Labour Contracts under Asymmetric Information: An Introduction,” *Review of Economic Studies*, L, 2 (January 1983), 5, 7, 24; Clive Bull, “The Existence of Self-Enforcing Implicit Contracts,” *Quarterly Journal of Economics*, CII, 1 (February 1987), 150.

²⁴⁰ Jeremy I. Bulow et al., “Multimarket Oligopoly,” *Cowles Foundation Discussion Paper* No. 674, iii, 1-4, 7-15, 20-22, 25-30, 33-36, 39-46, F5n18; Jeremy Bulow et al., “Holding Idle Capacity to Deter Entry,” *Economic Journal*, XCV, No. 377 (March 1985), 180-181.

entailing “multiplier effects.” And these brought out others. The idea of “temporal agglomeration,” concentrating “work” in spells, even “in one time,” for “thick-market effects” that “extend to actual production,” led its author to ask, out of the blue, strategically, “What would happen to U.S. GNP if the telephone system shut down for an extended period?” The idea of complements grew from “its traditional sense of a relation between *pairs of inputs*,” into “a broader sense...a relation among *groups of activities*...at the level of manufacturing, ...marketing, engineering, and organization.” Timed agglomeration turned into “sequential complementarities” in which “higher production in a given sector generates complementarities over a finite subset of other sectors,” and “leading sectors...industries that trade with all other industries...cause economy-wide complementarities.”²⁴¹ Of course the suggestion drawn from this literature was not strategic planning for a labor movement (God forbid a socialist movement), to plan strikes where they would matter most. It was rather for renovation of Keynesian economics.²⁴²

Meanwhile “radicals” applied their “Marxian [=Walrasian/Proudhonian] models” to explain U.S. “economic decline” and promote “democratic economics.”²⁴³ They recognized no power but capital’s in production. From their first serious inquiry into

²⁴¹ E.g., Russell Cooper and Andrew John, “Coordinating Coordination Failures in Keynesian Models,” *Cowles Foundation Discussion Paper* No. 745R (July 1985), 2-3, 10-11; Robert E. Hall, “Temporal Agglomeration,” *NBER Working Paper* No. 3143 (October 1989), 6ff, 13-14, 24; Paul Milgrom and John Roberts, “The Economics of Modern Manufacturing: Technology, Strategy, and Organization,” *American Economic Review*, LXXX, 3 (June 1990), 514; Steven N. Durlauf, “Multiple Equilibria and Persistence in Aggregate Fluctuations,” *NBER Working Paper* No. 3629 (February 1991), 1-8; D.G. Ferguson and Anming Zhang, “Strategic Labour Contracts,” *Canadian Journal of Economics*, XXVII, 3 (August 1994), 736-737, 739, 741, 746-747; Russel (sic) Cooper and John Haltiwanger, “Les complémentarités en macroéconomie: éléments théoriques et empiriques,” *Annales d’économies et de statistiques*, Nos. 37/38 (January-June 1995), 163-196.

²⁴² E.g., Russell W. Cooper, “Business Cycles: Theory, Evidence and Policy Implications,” *Scandinavian Journal of Economics*, C, 1 (March 1998), 213-237.

²⁴³ Samuel Bowles et al., *Beyond the Waste Land: A Democratic Alternative to Economic Decline* (Garden City: Anchor, 1983), 5, 11-13, 19-33, 62-149, 261-378.

“work” they had seen the boss in absolute command.²⁴⁴ Like labor historians, they believed solidarity was possible, indeed natural, in the workplace. But labor could exercise power there only if a mass movement of “popular mobilization” (including workers) realized “a democratic economy” at large, which “radicals” then thought likely to happen. The sharpest micro specialists among them did an excellent analysis of class conflict inside the firm, but deliberately without “the engineering relation,” the technical relations of production, an analysis only of the “social relations,” the struggle between the capitalist deciding on social divisions of labor for social control and workers in their social “interdependence” forming “coalitions” for collective action, nothing of any division’s technically strategic significance (one way or the other).²⁴⁵ None of the others (including one who had actually done some industrially strategic economic planning) pursued the matter.²⁴⁶

Then too Chicago extended vast new claims on labor. The founding editor of its new *Journal of Labor Economics* never explored any materially strategic question. His one effort on “union power” was about measuring it, not explaining it. His one effort on workers’ power at work was all about “personality types,” a merry account of “hawks” and “doves” competing individually with each other “to increase their wealth”; some “complementarities” appeared, but only in feelings. This stuff, so pop-psych and soc, ran

²⁴⁴ Stephen Marglin, “What Do Bosses Do? The Origins and Function of Hierarchy in Capitalist Production [1971],” *Review of Radical Political Economics*, VI, 2 (Spring 1974), 33-35, 38-39, 50-51; idem, “What Do Bosses Do? Part II,” *ibid.*, VII, 1 (Spring 1975), 20-37.

²⁴⁵ Michael Reich and James Devine, “The Microeconomics of Conflict and Hierarchy in Capitalist Production,” *Review of Radical Political Economics*, XII, 4 (Winter 1981), 27-45.

²⁴⁶ E.g., David M. Gordon, “Capital-Labor Conflict and the Productivity Slowdown,” *American Economic Review*, LXXI, 2 (May 1981), 30-35; Thomas E. Weisskopf et al., “Hearts and Minds: A Social Model of U.S. Productivity Growth,” *Brookings Papers on Economic Activity*, 1983, No. 2 (1983), 382-388, 392-395, 404-406, 438-439; Samuel Bowles, “The Production Process in a Competitive Economy: Walrasian, Neo-Hobbesian, and Marxian Models,” *American Economic Review*, LXXV, 1 (March 1985), 19-22; Samuel Bowles and Herbert Gintis, “The Revenge of Homo Economicus: Contested Exchange and the Revival of Political Economy,” *Journal of Economic Perspectives*, VII, 1 (Winter 1993), 83-89, 92-96.

weirdly like the new labor history; it eventually dwindled into B-School personnel economics.²⁴⁷ Of young Chicagoans maybe the best, a genuine *Wunder*-kid, examined with a mentor the new wage differentials of the '80s, found “dramatic changes,” white men paid much higher than before for age and education, which they took for “skill,” and figured, brilliantly, the reason was higher demand for same.²⁴⁸ In a second approach, assuming wage levels represented skill levels, “i.e, experience and education,” the kid and two of his students concluded (again) that the “enormous increase in wage inequality” came from higher “premia” for “skill,” two-thirds of it, however, not for experience or school, but for some “unobservable ability.” The authors constructively did not ask whether at least some “unobservables” were impersonal functions or positions.²⁴⁹ In the destruction of the Soviet Union, the kid and a pair of experts discovered “strategic state enterprises,” terrific “coordination failures” in production, that “strong complementarity of inputs can explain how moderate amounts of diversion can have large effects on output,” and that certain labor was a “critical input,” not “easily replace[d],” but again because of its assumed “quality,” regardless of its place in production.²⁵⁰ As if by an invisible hand the kid and another mentor, Gary Becker, then turned to a basic materially strategic question, the division of labor among industrially and technically “specialized workers.” To prove it was not only the market’s extent that

²⁴⁷ Edward P. Lazear, “A Microeconomic Theory of Labor Unions,” in Joseph D. Reid, Jr. ed., *New Approaches to Labor Unions* (Greenwich: JAI Press, 1983), 53-96; idem and Robert L. Moore, “Incentives, Productivity, and Labor Contracts,” *Quarterly Journal of Economics*, XCIX, 2 (May 1984), 275-296; Edward P. Lazear, “Pay Equality and Industrial Politics,” *Journal of Political Economy*, XLVII, 3 (June 1989), 561-580, quotations 562, 564 ff; idem, *Personnel Economics* (Cambridge: MIT, 1995).

²⁴⁸ Kevin M. Murphy and Finis Welch, “The Structure of Wages,” *Quarterly Journal of Economics*, CVII, 1 (February 1992), 319-322; Lawrence F. Katz and Kevin M. Murphy, “Changes in Relative Wages, 1963-1987: Supply and Demand Factors,” *Quarterly Journal of Economics*, CVII, 1 (February 1992), 35, 37, 43-46, 54, 67, 76-77.

²⁴⁹ Chinhui Juhn et al., “Wage Inequality and the Rise in Returns to Skill,” *Journal of Political Economy*, CI, 3 (June 1993), 411-413, 423-432, 441.

²⁵⁰ Kevin M. Murphy et al., “The Transition to a Market Economy: Pitfalls of Partial Reform,” *Quarterly Journal of Economics*, CVII, 3 (August 1992), 889-890, 896, 900, 902, 906.

limited labor's division, they examined three "costs" of coordinating these kinds of complementary, "task-specific" workers. But two of the costs were moral hazards, "principal-agent conflicts," shirking, and "hold-up problems," free-riding. And the third, "breakdowns in supply and communication," or just "misleading information," apparently logistical (so strategic), changed into mere "communication difficulties."²⁵¹ Between expansion of markets, perfection of them, and enforcement of contracts, materially strategic positions were inconceivable.

All these ideas feeding into academic labor economics in the '90s made it a wild show, at once sophisticated, confused, gripping, circular, incisive, silly. It involved much "strategic behavior," illogically less "strategic interaction," still less "strategic decision," almost no "strategic power," and all about the market. I found no Econ professor outside IR going (even by accident) into labor's materially strategic situation at work. A few would cite Dunlop, but always in the market. One, for example, who focused on "strategic" power in technology, thought it all belonged to the employer, for use against unions in the labor market.²⁵² Even in the market no one ever explained the accounting in labor's "premiums" and labor's "rent." Insurance payments to keep the place in business? This economics has resonated with Dunlop only in the literature on heterogeneous (or coalitional) bargaining, and there but rarely, faintly, where heterogeneity appears in

²⁵¹ Gary S. Becker and Kevin M. Murphy, "The Division of Labor, Coordination Costs, and Knowledge," *ibid.*, CVII, 4 (November 1992), 1138, 1140-1144, 1146, 1149, 1152, 1157.

²⁵² E.g., Henry S. Farber, "The Decline of Unionization in the United States: What Can Be Learned from Recent Experience," *Journal of Labor Economics*, VIII, 1, Part 2 (January 1990), S75-S105; Lawrence M. Kahn, "Unions and Cooperative Behavior: The Effect of Discounting," *Journal of Labor Economics*, XI, 4 (October 1993), 680-703; Steve Dowrick and Barbara J. Spencer, "Union Attitudes to Labor-Saving Innovation: When are Unions Luddites," *ibid.*, XII, 2 (April 1994), 316-344; Alan Manning, "How Robust Is the Microeconomic Theory of the Trade Union?" *ibid.*, XII, 3 (July 1994), on capital's strategic power in technology, 438, 441, 448, 450-451; James A. Robinson, "Dynamic Contractual Enforcement: A Model of Strikes," *International Economic Review*, XL, 1 (February 1999), 209-239; Michael Conlin and Taiji Furusawa, "Strategic Delegation and Delay in Negotiations over the Bargaining Agenda," *Journal of Labor Economics*, XVIII, 1 (January 2000), 55-73.

skills, seniority, or wage differentials, never, not once, in industrial or technical powers over production.²⁵³ A discipline ever more inventive, ever more cleverly inquisitive, it has been absolutely clear of static about work, actual modern production. It flies now utterly free from a question like differentials in striking power.²⁵⁴

Dunlop himself never retreated. After duty as dean at Harvard, he concentrated more on the public policy of industrial relations, most notably as director of Nixon's Cost of Living Council, 1973-74, and as Ford's secretary of labor, 1975-76.²⁵⁵ But he kept a sharp eye on academic labor economics. And as it went ever more Chicago, he made his disgust plain. The new tricks, he told the Fourth World Congress of the International Industrial Relations Association (in the presidential address) in 1976, were "almost totally irrelevant to the major problems...in government, and in labor and management as well," and had "almost no influence on actual decisions." Economics could serve the public interest, he insisted, only if it were micro, sectorial, but in a system, in line with his perspective of "almost twenty years ago," 1958.²⁵⁶ At a conference (partly in his honor) in 1986, reflecting on labor-market studies, starting with a reference to "Dunlop 1958," he proudly defended his generation's scholarship, in "methods," "results," and

²⁵³ E.g., Henry S. Farber, "The Analysis of Union Behavior," *National Bureau of Economic Research, Working Paper*, No. 1502 (November 1984), 2-14, 29-44, 52-29; John Pencavel, *Labor Markets under Trade Unionism: Employment, Wages, and Hours* (Oxford: Blackwell, 1991), 68-81.

²⁵⁴ E.g., Orley Ashenfelter et al., eds., *Handbook of Labor Economics*, 3 vols. in 5 (Amsterdam: Elsevier Science, 1986-1999); Victor R. Fuchs et al., "Economists' Views about Parameters, Values, and Policies: Survey Results in Labor and Public Economics," *Journal of Economic Literature*, XXXVI, 3 (September 1998), 1387-1425; George J. Borjas, *Labor Economics*, 2nd ed. (New York: Irwin McGraw-Hill, 2000); Ronald G. Ehrenberg and Robert S. Smith, *Modern Labor Economics: Theory and Public Policy*, 9th ed. (Boston: Addison Wesley, 2006), 37, 72-74, 92, 96-97, 102-105, 245, 339, 393-394, 416-417, 451-470. Cf. Richard B. Freeman, "Labor Economics Redux," *NBER Reporter*, new ser., No. 1 (2007), 1-4.

²⁵⁵ Accounts of his services outside Harvard, 1973-1983: John T. Dunlop, *Dispute Resolution: Negotiation and Consensus Building* (Dover: Auburn House, 1984), vii-ix, 227-290.

²⁵⁶ Idem, "Policy Decisions and Research in Economics and Industrial Relations," *Industrial and Labor Relations Review*, XXX, 3 (April 1977), 275-276, 280-282.

effect on national economic policy; he bitterly criticized the new “fashion,” now micro as well as macro, for superficiality in method, indifference to “a real labor market, a real workplace,” naïveté about statistics, “tragic” ignorance of vast collections of data, lack of “relevance or applicability” to policy, “a deep conservative, market-oriented bias,” and training “[t]he current generation...so that they have so much to unlearn.”²⁵⁷ He was right, but he did not see it no longer made any difference. He continued to warn (even fellow “practitioners”) against “deductive models” without “historical settings.”²⁵⁸ In 1993, 20 years after U.S. capital had broken the U.S. labor movement, “Dunlop 1958” appeared in a revised edition. The main revision was an introduction, a “Commentary.” There Dunlop recalled the new “environment” for labor studies in the 1960s and ‘70s, especially in economics, stuck (he thought) in the academy, to explain why “the new labor economists” were so useless, why for all their new skills they had delivered little but newly skillful confirmation of old observations, or had grossly misconceived “the real world,” and “are not taken seriously” outside the academy.²⁵⁹ Then 78, somehow sure nothing yet had “fundamentally transformed” U.S. industrial relations, he accepted the new Secretary of Labor Robert Reich’s typically academic call to run a national commission to talk industrial capital into letting unions back into the system. However hopeless, the Dunlop Commission made the best case Dunlop figured possible with the

²⁵⁷ Idem, “Labor Markets and Wage Determination: Then and Now,” in Bruce E. Kaufman, ed., *How Labor Markets Work: Reflections on Theory and Practice* (Lexington: Lexington Books, 1988), 47, 63, 72-77, 80-81.

²⁵⁸ John T. Dunlop, *The Management of Labor Unions: Decision Making with Historical Constraints* (Lexington: Lexington Books, 1990), 3-5.

²⁵⁹ John T. Dunlop, *Industrial Relations Systems*, rev. ed. (Boston: Harvard Business School, 1993), 3-8. This was “the inaugural volume in the *Harvard Business School Press Classics* series,” only one other volume of which has yet to appear, Pauline Graham, ed., *Mary Parker Follett--Prophet of Management: A Celebration of Writings from the 1920s* (Boston: Harvard Business School, 1995).

economists he judged most useful, four by degree (besides himself), only two dedicated academics, both his students.²⁶⁰

By 2000 all the professors gaily assuming the market's genius left the 86-year-old more than impatient. "...it is not fruitful to start off assuming a perfect market. I refuse to do it in any economic or policy discussion." The professors cogitated beautiful models of bargaining, "but no one should be fooled that this stuff impacts the people who are actually doing the mediation or arbitration. It doesn't, and in my view it is better that way." An optimal degree of unionization? "If it is some academic's idea of what is optimal, I am against it." One-third of American workers in favor of unions? "This is an academic way of thinking that is foreign to my thought process." The notion of "achieving some kind of balance in bargaining power by a single statute across all workplaces, industries, regions, or occupations is nonsense." Not only academics, but intellectuals too, gone sour on the labor movement? "I don't know whether it is a great cause for concern. ...there are not near as many intellectuals today who are knowledgeable about unions and who really understand the day-to-day reality of how collective bargaining works. ...I am very hostile to academics giving advice on things they don't have practical experience with... And I am *particularly* hostile to talking about changing labor policy based on intellectual speculation." Asked about his "legacy,"

²⁶⁰ Dunlop, *Industrial Relations* (1993), 19-21. "The Dunlop Commission": United States Commission on the Future of Worker-Management Relations, *Fact-Finding Report May 1994* (Washington: U.S. Department of Labor, U.S. Department of Commerce, 1994); idem, *Report and Recommendations December 1994* (Washington: U.S. Department of Labor, U.S. Department of Commerce, 1994). Dunlop's students were Richard Freeman and Paula Voos; the other two, Juanita Kreps and Ray Marshall. Only one professor of economics presented a report on research, Henry S. Farber. For Dunlop's public view of the commission, Bruce E. Kaufman, "Reflections on Six Decades in Industrial Relations: An Interview with John Dunlop," *Industrial and Labor Relations Review*, LV, 2 (January 2002), 342-345, 347.

he mentioned only one book, “my *Industrial Relations Systems* published in 1958, and the Revised Edition of 1993.”²⁶¹

He was right about his “general theory of industrial relations.” He was right about “contemporary labor economics.” And because he was right, his argument made no difference to contemporary economists. As little use as he had for them, so little use they had for him, or his book. No consideration of it has yet appeared in the *American Economic Review*.

If Dunlop’s “theory” proved (to its credit) a dud in economics, what good is it for labor history? More exactly, among now innumerable theories of industrial relations, what particular good does Dunlop’s do labor historians? Not much, if they are after questions arising from supply, demand, daily necessities, solidarity, dignity, sex, gender, race, ethnicity, the seven deadly sins, the seven holy virtues, spontaneous majorities, or faith. Many labor economists and experts on industrial relations would do as well as Dunlop for explaining printers’ organization in 16th-century Lyons, and maybe do better at explaining, for example, the domestication of 19th-century U.S. train crews, cane-cutters’ resistance on a Dominican plantation in the 1940s, or limits on 20th-century U.S. social policies.²⁶² But on any question of labor’s power at work, cohesive or divisive, Dunlop gives labor historians a view others do not. On power, among all the economists

²⁶¹ *Ibid.*, 333, 336-337, 339-340, 344 (his emphasis), 346, 348.

²⁶² Natalie Zemon Davis, “A Trade Union in Sixteenth-Century France,” *Past and Present*, ???, 52 n6, 58 n1; Paul Michel Taillon, “‘What We Want Is Good, Sober Men’: Masculinity, Respectability, and Temperance in the Railroad Brotherhoods, c. 1870-1910,” *Journal of Social History*, XXXVI, 2 (Winter 2002), 323, 335 n30; Catherine C. Legrand, “Informal Resistance on a Dominican Sugar Plantation during the Trujillo Dictatorship,” *Hispanic American Historical Review*, LXXV, 4 (November 1995), 556 n4; Alan Derickson, “Health Security for All? Social Unionism and Universal Health Insurance, 1935-1958,” *Journal of American History*, LXXX, 4 (March 1994), 1349-1352, 1355; Alice Kessler-Harris, “In the Nation’s Image: The Gendered Limits of Social Citizenship in the Depression Era,” *ibid.*, LXXXVI, 3 (December 1999), 1251-1279.

of his generation and their students in IR, only he explicitly opens the distinctly “technical context” for analysis. This is his argument’s originality and advantage for historians: To understand labor’s power, the power of working classes at large, or of a category or group of workers, its power in bargaining, the power of its moral appeals, its powers of resistance, coercion, endurance, you first have to think over labor’s industrial and technical divisions, the variations in material connectivity in production, the different weights and directions of industrial and technical linkages. Labor historians may well not get far into their subjects’ technicalities. But they cannot fully explain workers’ employment, unemployment, pay, income, resources, or commitments, trust, courage, shame, fear, or organization or politics, unless they have some reasonable sense of how much production the workers in question can technically stop.

To calm the culturalists it bears repeating Dunlop was not reductive about “the technical context.” His model was not Skinnerian materialism, but Parsonian functionalism, not determinist, but interactionist. He himself insisted on the need for students of real labor movements to take fully into account not only “the work place” and “the market,” but “the power context” of “the larger society,” specifically comprising the two “interrelated factors” of “community institutions of control [including political parties and the state], and ideas and beliefs.”²⁶³ He particularly qualified his argument about industrial or technical strategy by emphasizing the protection that labor law eventually offers (some) workers, so that “strategic position” may matter “much less” than votes, for a union, or a contract, or a strike.²⁶⁴ That is, abstractly, absent the social relations of production, absent the spaces and times off work (“the room of human

²⁶³ Dunlop, “The Development of Labor Organization,” 174-175, 184-185, 186-189; idem, *Collective Bargaining*, 25-26; idem, *Industrial Relations* (1958), 12-13, 33-34, 94-128.

²⁶⁴ Idem, “The Development of Labor Organization,” 183.

development”), absent other social relations (e.g., of security, reproduction), absent culture, politics, law, corruption, ideologies, and illegal coercion, a technical structure would issue in strategy. But really, because these concerns, needs, experiences, conventions, customs, influences, conditions, hopes, consolations, and fears, never lasting for the same time or changing at the same rate, move workers and families they may have, industrial work alone does not organize the industrial working class, and the industrial labor movement is therefore not definite or predictable.²⁶⁵

Moreover Dunlop insisted on international comparison to show how the different “contexts” actually “interrelated” in forming a system of industrial relations. He proved in detail that contemporaneous “technological contexts” in the bituminous coal industry, the construction industry, presumably the automobile industry, the electronics or pharmaceutical industry (any major industry), make the industrial rules specific to any of them similar in different countries.²⁶⁶ But since modern industrial economies and national states had historically developed together, he argued, each state a distinct complex of “institutions of control,” both official and cultural, the international comparisons also displayed nationally distinctive, even nationally “unique” controls on markets and technology; “national systems” were the biggest, most complex systems of industrial relations, and over time they changed. It took the study of national “public policy, including the history and traditions of a country,” to explain the differences between Danish, German, French, Dutch, Swedish, British, Yugoslav, Canadian, Italian,

²⁶⁵ “...the room of human development” is from Karl Marx, “Wages, Price and Profit,” in ???439. That families are the essential media for the formation and reproduction of class is implicit in Dunlop, “The Development of Labor Organization,” 184. Cf. Jerry Lembcke, “Why 50 Years? Working Class Formation and Long Economic Cycles,” *Science and Society*, LV, 4 (Winter 1992), 417-445. On variations among the industrial arrangements that labor movements in part form: Dunlop, *Industrial Relations* (1958), 307-379.

²⁶⁶ *Ibid.*, 10, 23-25. On coal and construction, *ibid.*, 129-263, 383-384. His comparisons are mostly of the United States and various European countries. Among the “underdeveloped countries” he considers the only one in Latin America is Brazil.

Australian, U.S., and other national industrial relations.²⁶⁷ For all the world's new "industrialism," this was why a "titanic struggle" between "uniformity" and "diversity" would continue around the world "for many decades and possibly even centuries ahead."²⁶⁸

Nevertheless, in the Dunlopian triptych, the "technical" is not accidental, contingent, or a matter of choice, but there essentially, inevitably, on its own terms, in its own terms--industrial production, industrial work. And it is the only site of "strategic" power. Despite Dunlop's theoretical deference to Parsons, despite his denial the technical determines the other contexts, he admits his "emphasis" on it, to "upgrade" it to "unique" and "decisive."²⁶⁹ He does not go for radical consequences, but he does imply their direction: Whatever the qualifications, because work in capitalist relations of production is fundamentally and urgently significant, to capitalists and to workers, it matters more than social relations (which can wait), matters more even than the state (let it investigate), in the incessant reconstitution of the working classes. Industrially and technically strategic positions at work matter all the more where social relations provide workers little if any protection, and where labor law's enforcement is irregular, often biased against workers, corrupt, and perverse. Materially strategic position is then the only real protection against private or official violence.

Taken loosely, keeping the technicalities lite, Dunlop's Parsonian notion of "interacting contexts" would pass for the explanatory scheme in most "new labor history." It would free its subject from old external assumptions, find the subject manifest

²⁶⁷ *Ibid.*, 94-128.

²⁶⁸ Clark Kerr et al. (including Dunlop), *Industrialism and Industrial Man* (Cambridge: Harvard University, 1960), 221-232, 238-239.

²⁶⁹ *Ibid.*, 34.

rather in its own goals, relationships, and choices, in the economy, the community, and the state. And if in this laxity the technicalities start to harden, then quick, change them, so that the technical is no longer just there, but always changing, no longer technology, but continuously “technical change.”

But Dunlop himself was tight. He analyzed cases, case after case, each in its own terms, where “the technical context,” whatever it was, was just there. The real value of his “theory” comes clear in excellent historical studies it has influenced, not only in the old Wertheim series, but in the very un-Dunlopian ranges of “the new labor history.” Since 1960 some of the best U.S. and British “new labor historians” have unwittingly drawn from his representation of “the work place” and the special power some workers there have, a special leverage against their employers and (at least implicitly) over their fellow workers too. Consider Brody, Montgomery, Lichtenstein, Schatz, Price, Zeitlin, Freeman. Given their historical concerns, their creative imagination, research, critical insights, and interest in IR, they drew from various theories to develop their vivid, compelling historical arguments. But Dunlop was definitely in the background. He was visible in Brody’s histories, and Brody recognized his direct influence.²⁷⁰ Montgomery and the others did not see him, which spared them much political grief. But indirectly from Brody and from numerous Dunlop students and collaborators they absorbed strong lessons in Dunlopian analysis, and taught them to their students.²⁷¹ It is no slight to these

²⁷⁰ Brody, *Steelworkers in America: The Nonunion Era* (Cambridge: Harvard University, 1960), x, 53 n5, 55, 63, 69, 73, 76-77, 85; idem, *The Butcher Workmen: A Study of Unionization* (Cambridge: Harvard University, 1964), ???; idem, “Labor History, Industrial Relations, and the Crisis of American Labor,” *Industrial and Labor Relations Review*, XLIII, 1 (October 1989), 10-13. Cf. the different (“Wisconsin”) influence, but also “strategic,” in Sidney Fine, “The General Motors Sit-Down Strike: A Re-examination,” *American Historical Review*, LXX, 3 (April 1965), 694; idem, *Sit-Down*, 49, 73, 79, 199-230, 309-310.

²⁷¹ The Dunlop students and collaborators most cited by these historians were (roughly by age) Allan D. Flanders, Hugh Clegg, Walter Galenson, Lloyd Ulman, Leonard Sayles, George Strauss, Mark Perlman, Benson Soffer, Alan Fox, James W. Kuhn, Peter B. Doeringer, Michael J. Piore, and Bernard Elbaum. On

historians, rather a tribute to them, to note the good use they made of certain ideas about power at work. That they did not know the ideas were mainly Dunlop's does not diminish the ideas' major importance to the distinctive conceptual quality of their studies, particularly, for example, in Brody's contrast between U.S. Steel's technically undermined mill workers and other, "strategically situated" workers, Montgomery's emphasis on "functional autonomy" at work, Lichtenstein's attention to "strategically located work groups," Schatz's focus on maintenance, autonomy, and mobility at work, Price's argument for "unformalised industrial relations" and "the work group" growing into "worker power," Zeitlin's assumption of technical divisions of labor and his appreciation of "small strategic groups," workers in "a strategic position in...production," "small strategic occupations within the plant," "centrality within the labour process," "bottleneck[s]" in production, certain workers' "technical indispensability," pattern-makers' "strategic bargaining position," certain firms especially "vulnerable to strike action," and "workplace organization," and Freeman's continually departmentalized analysis of New York City transit workers, his discussion of "informal groups" meeting mostly in "either shops or powerhouses," the Communist Party's "strategy of 'concentration'" on mass transit, the TWU's early organization in the Interborough system's shops and power plants, the powerhouse workers' "key strategic position," how "the work process" in other departments made them harder to organize, and his clarity on

Dunlop's influence among them: Allan Flanders, "Review: *Industrial Relations Systems*, by John T. Dunlop," *Industrial and Labor Relations Review*, XIII, 3 (April 1960), 437-439; George Sayers Bain and H.A. Clegg, "A Strategy for Industrial Relations in Great Britain," *British Journal of Industrial Relations*, XII, 1 (March 1974), 91-113; Charles McCarthy, "Industrial Relations: The Contribution of the Universities," *Journal of the Statistical and Social Inquiry Society of Ireland*, XXIV, Part II (1979/1980), 62; Walter Galenson, "Reflections on the Writing of Labor History," *Industrial and Labor Relations Review*, XI, 1 (October 1957), 85-95; George Strauss, "Present at the Beginning: Some Personal Notes on OB's Early Days and Later," *Institute for Research on Labor and Employment Working Paper Series* (1991), 4-5, 12, 16, 19; Bruce E. Kaufman, *The Global Evolution of Industrial Relations: Events, Ideas and the IIRA* (Geneva: International Labour Office, 2004), ???; and hereabove, footnotes 13-14, 16-17.

the TWU's "strategic position" in the city's post-war business with Consolidated Edison.²⁷²

What particular good would Dunlop's "theory" do labor historians of industrial Mexico? None on two of the three great divisive questions of modern Mexican history, faith and imperialism. Regarding faith Dunlop noted only "effects" of religion in the labor market and the weight of "the church ...or public opinion," in "the larger society," outside industrial relations, but bearing on them.²⁷³ Both references make sense for some parts of the world, Ireland, say, or (in due translation) the Middle East, or South Asia. But the division over faith in modern Mexico has not happened over jobs or holidays, only in the "larger" cultural and political context, but there so intensely between serious Catholics, Liberals, and Communists, over the profoundly different beliefs they have needed for their different hopes and visions, that it has precluded much civil trust in the

²⁷² David Montgomery, "Workers' Control of Machine Production in the Nineteenth Century," *Labor History*, XVII, 4 (Fall 1976), 487-493 n21; idem, "Quels Standards? Les ouvriers et la reorganization de la production aux États-Unis (1900-1920)," *Le mouvement social*, No. 102 (January 1978), 101 n1; idem, *Workers' Control in America* (Cambridge: Cambridge University, 1979), 8 n14, 11-15, 29 n21, 113, 130-131, 134, 183, 185; Nelson Lichtenstein, "Auto Worker Militancy and the Structure of Factory Life, 1937-1955," *Journal of American History*, LXVII, 2 (September 1980), 336 n3, 337 n5, 338, 344 n26, 347 n40, 349 n49, 350 n52, 352 n60; idem, *Labor's War at Home: The CIO in World War II* (Cambridge: Cambridge University, 1982), ??; Ronald W. Schatz, "Union Pioneers: The Founders of Local Unions at General Electric and Westinghouse, 1933-1937," *Journal of American History*, LXVI, 3 (December 1979), 595 n27; idem, *The Electrical Workers: A History of Labor at General Electric and Westinghouse, 1923-1960* (Urbana: University of Illinois, 1983), 33, 86-87, 100 n16-17, 118, 133 n16, 134 n34, 136 n77; Richard Price, *Masters, Unions and Men* (1980), 55-93, 167-194, 240-258, 285 n13, 294 n126, 295 n9 nn14-15 n18 n20, 300 n114-115, 301 n117 n119, 332 n20; idem, "Theories of Labour Process Formation," *Journal of Social History*, XVIII, 1 (Autumn 1984), 95-100, 103, 108 n15 n22, 109 n28 n30, 110 n52; Jonathan Zeitlin, "The Emergence of Shop Steward Organization and Job Control in the British Car Industry: A Review Essay," *History Workshop Journal*, X, 1 (Autumn 1980), 127, 130, 133 nn3-4, 134 n8 n13 n15, 135 n31, 136 n44 n50 n55, 137 n58 n65; idem, "Engineers and Compositors: A Comparison," in Royden Harrison and Jonathan Zeitlin, eds., *Divisions of Labour: Skilled Workers and Technological Change in Nineteenth Century England* (Brighton: Harvester, 1985), 185-188, 198-199, 205-206, 208, 219, 222, 225, 236-241; idem, "From Labour History to the History of Industrial Relations," *Economic History Review*, new ser., XL, 2 (May 1987), 161-163, 167-169, 172, 175, 179-183; Joshua B. Freeman, *In Transit: The Transport Workers Union in New York City, 1933-1966* (New York: Oxford University, 1989), 8-10, 17, 24, 40-45, 58-69, 75, 77, 80-84, 91-98, 101, 118-119, 214, 260-261, 268-269, 334-335.

²⁷³ Dunlop, *Industrial Relations Systems* (1958), 12, 85, 318.

Mexican state.²⁷⁴ Imperialism, Dunlop did not address at all. It is hiding behind several significant passages on some of its consequences in exploited countries, heavily politicized labor movements, “national independence,” “economic development,” and “revolutionary intellectuals.” (He mentioned Brazil and Chile in passing, but not Mexico.) But not even logical space opens for its presentation, where ownership of “the technical context” is foreign and has heavy political protection. Because he did not identify foreign capital in his argument, the state he showed in the exploited countries (which he did not call that) looks very strong. This is a gross error. Even regardless of foreign economic, political, and military interests in these countries his own evidence indicates their states were but formally powerful, actually in critical need of strength, struggling for coherence, stability, and direction, if not mere survival.²⁷⁵ Given “the larger society” of international capitalism, U.S. predominance since 1914 in Mexico’s finance, foreign trade, mining industry, oil industry (until 1938), public utilities (until 1960), and manufacturing (since 1945) has allowed a Mexican state strongest in declaring rights and claiming strength, but ordinarily not up to much in practice (except on unlucky individuals), often in crisis, rarely risking drastic action, then only on the cold calculation that it had to, or it would soon start falling apart.

But Dunlop’s very insistence on cultural and political factors opens a new perspective on the labor history of exploited countries. From his own logic a comparison

²⁷⁴ Jean Meyer, *La Cristiada*, 3 vols. (Mexico: Siglo XXI, 1973-74); Matthew Butler, *Popular Piety and Political Identity in Mexico’s Cristero Rebellion: Michoacán, 1927-1929* (Oxford: Oxford University, 2004); and idem, ed., *Faith and Impiety in Revolutionary Mexico* (New York: Palgrave Macmillan, 2007). Cf. Salvador Abascal, *Mis recuerdos: Sinarquismo y Colonia María Auxiliadora (1934-1944)* (Mexico: Tradición, 1980); Jesús Reyes Heróles, *La historia y la acción: La Revolución y el desarrollo político de México* (Madrid: Seminarios y Ediciones, 1972); and Valentín Campa S., *Mi testimonio: Experiencias de un comunista mexicano*, 2nd ed. (Mexico: Cultura Popular, 1985).

²⁷⁵ Dunlop, *Industrial Relations Systems* (1958), 100-101, 105-106, 111-114, 313-314, 335-340, 345-347, 356-358, 369-379. He did once mention foreign managers: *ibid.*, 314.

of countries strong versus weak in cultural consensus and national political organization makes clear how workers' industrial, technical power may matter (respectively) less or more. Abstractly, culture hostile to workers and government strong, strategic industrial action least effective, most risky; culture divided and government weak, strategic industrial action most effective. Concretely, compare the United States and Mexico, say between 1880 and 1950: U.S. civic piety and the U.S. government even at their weakest weighed more on industrial disputes here than the profoundly divided Mexican civil society and the very strongest Mexican government ever weighed on industrial disputes there. In other words, a history of industrial relations in Mexico then regardless of cultural and political factors would be truer than a history regardless of "the market" or "the work place," not only because of Mexico's divided culture and restricted politics, but also because of the country's special industrial complex of railroads, maritime ports, mining, hydroelectric power, and oil highly important to foreign capital and essential to the national economy; in their inter-connections these five major industries were each and all nationally strategic industries. No serious labor history could be so simple, but a tendentious summary can sharpen the point: The Mexican government's power over Mexican labor was less than labor's power over the government, because the government could not work any strategic industry, and labor could shut any of them down, which would promptly shut the others down, collapse the national economy, and bring the government down.

The standard labor histories of Mexico run almost entirely in incredible political terms. From a grossly exaggerated notion of the Mexican state's power and legitimacy, they treat modern industrial workers' collective capacities, action, experience,

institutions, movements, as a function of some high (or low) official's labor policy, or professed ideology. Their almost exclusive subject is the national labor organization highest in the contemporaneous president's favor, a national confederation of state labor federations from 1918 to 1928, a new national confederation, of industrial unions and state federations, since 1936. The still most authoritative historical studies of Mexico's industrial working class periodized the history from 1917 literally in presidential terms, 1917-1920, 1920-1924, and so on.²⁷⁶

From a Dunlopian perspective a much more credible industrial history comes clear, to a very different political point. While culture and politics--most violently contentious during "the Mexican Revolution" (at the national level seven revolutions from 1910 to 1920, some concurrent, none ideological, never mind socialist)--allowed national governments only brief concentrations of power until World War II, industrially strategic workers built their own nationally formidable labor movement. In major conflicts since 1906, through politically independent, broadly compelling deals and broadly compelling strikes, the most stunning of these in 1916 at Mexico's main electrical company, Mexico Light and Power, they gained for themselves and their fellow workers a remarkable array of rights in the country's new constitution already in 1917.²⁷⁷ Workers in manufacturing, substantial in numbers, but not strategic, organized local plant unions, won political protection in many states, and founded the territorially based national confederation of state labor federations and its Labor Party. But it was an

²⁷⁶ Pablo González Casanova, ed., *La clase obrera en la historia de Mexico*, 17 vols. (Mexico City: Siglo Veintiuno, 1980-1988). Cf. two exceptional monographs (on factory towns): Bernardo García Díaz, *Un pueblo fabril del Porfiriato: Santa Rosa, Veracruz* (Mexico: Fondo de Cultura Económica, 1981); and Michael Snodgrass, *Deference and Defiance in Monterrey: Workers, Paternalism, and Revolution in Mexico, 1890-1950* (Cambridge: Cambridge University, 2003).

²⁷⁷ See if I have enough AHDN and SME files to cite, original sources; Ignacio Marván Laborde, ed., *Nueva Edición del Diario de Debates del Congreso Constituyente de 1916-1917*, 3 vols. (Mexico: Suprema Corte de Justicia de la Nación, 2006), ???

independent confederation of the country's nationally most strategic unions, in "transport and communications," i.e., railroads, that despite their own divisions forced the government to create the first federal labor board in 1927. Then driving deals for Mexico's first national labor law (1931), then using the law better than other unions did, this confederation unified into a national industrial union of railroad workers in 1933, which promptly supported the organization of two other nationally strategic industrial unions, mine, mill, and smelter workers in 1934, oil workers in 1935. These with the critically strategic union at Mexico Light and Power in 1936 put together the national confederation of industrial unions and state federations, the country's mightiest ever labor organization, the Confederación de Trabajadores de México, the CTM, not the result, but the basis of Mexico's pro-labor, leftist government until 1940.²⁷⁸ By then, mainly because of the industrial unions' strategic power, more than 60% of the country's industrial labor force was in unions. But it was from their strategic positions, by strategic action, that unionized workers kept enforcement of the labor law favorable to them. Hence two highly significant questions: Why did they accept much worse working conditions and falling real wages during World War II? And if industrially strategic unions directly challenged governments elsewhere in Latin America at the war's end, in Colombia in 1945-46, Brazil and Chile in 1946-47, why did they not challenge the government in Mexico, but instead let a severe crisis split their main force, the railroad union? I think in both cases the reason was geopolitical. These unions all followed Communist leads, to sacrifice for the Allies from 1941 to 1945, then in most countries

²⁷⁸ William J. Suarez-Potts, "The Making of Labor Law in Mexico, 1875-1931," Ph.D., Harvard University, 2005; Mario de la Cueva, *Derecho Mexicano del trabajo*, 7th ed., 2 vols. (Mexico: Porrúa, 1966), ???; Confederación de Trabajadores de Mexico, *C.T.M., 1936-1941* (Mexico: Talleres Tipográficos Modelo, 1942?).

after the war try to force labor's recovery (and a leftist foreign policy), except in Mexico, not to give the United States any pretext for charges of a threat on its border. Communist restraint in Mexico led to the split in the railroad union. The result was, a Cold-War, pro-business, pro-U.S. government captured the union from the inside in 1948, assuring capital's dominance in the country's post-war development.²⁷⁹

Any serious history of a class wants to start in circumstances the class did not make, could not have made. The circumstances include nature, tradition, spirits of the past, ghosts, ideals, rules, sanctions, old classes, live villains and heroes. In capitalism they also include congealed labor time, commodities, dead labor, capital, and already existing, already ordered arrays of dead means of production in already coordinated industrial and technical divisions, ready for the workers in the period in question to work for production, which can happen, however, only in the established industrial and technical divisions, until there are new material divisions in which to produce. From perspectives on feelings and thought the historian can understand a class's agency. But agency requires an object, and only the industrial perspective exposes objectified, objective systems and structures of work.²⁸⁰ Without a clear view of them the historian cannot understand the materially strategic powers working classes had at their disposal, actually used, or did not use, in struggling with other classes and their own divisions, making their history.

²⁷⁹ Cf. Kevin J. Middlebrook, *The Paradox of Revolution: Labor, the State, and Authoritarianism in Mexico* (Baltimore: Johns Hopkins University, 1995), 123-147; César Zazueta and Ricardo de la Peña, *La estructura del Congreso del Trabajo: Estado, trabajo y capital en México* (Mexico: Fondo de Cultura Económica, 1984). [Check latter. Should this go in reverse order?]

²⁸⁰ The language is mostly from Karl Marx, 18th Brumaire, right after footnote 66; idem, *Capital: A Critique of Political Economy*, 3 vols. (London: Penguin Classics, 1990), I, (vii) 302, (ix) 322, (x) 342. [In English it says lifeless; in German, dead.] [Should I leave this in English?] Agency is Thompson.

Dunlop's concept of industrially and technically strategic positions does not simplify my study of Veracruz's industrial labor history, 1880-1948. It rather complicates the analysis. But I think it will also make my explanation of the history truer, more convincing, and more useful. The story would involve families, daily necessities, communities, customs, markets, capital, faith, and politics in Veracruz, but continually follow the two different labor movements in rivalry there, in continual conflicts with business and each other. In a preliminary, schematic, superficial, flagrantly general summary, the only version reasonable now: It was mostly rural immigrants from surrounding states who first formed an industrial working class in Veracruz, then Mexico's politically most important state. The first workers unionized there were machinists in a national trade union in 1900 fighting to organize railroad shops, technically strategic to the country's most strategic industry, including its biggest corporation. The next to unionize were workers fighting local companies in the textile and cigar industries, neither of them strategic (although some companies were big). For their numbers and concentration in certain towns, these workers won local political power during "the Revolution," and by 1920 local textile unions and the port of Veracruz's stevedoring and dock unions, industrially strategic but locally organized, were major collective forces in state politics, together dominating the new state labor board. Mostly (therefore) in accord with them local unions organized in other industries, brewing, garment-making, flour milling, construction, sugar, coffee, the other ports, electrical power, and oil, the last three industrially strategic, but still locally organized. Key to all these unions were workers who held technically strategic positions, electricians wherever the plant ran on electricity, loom-fixers at the textile mills, refrigerating

engineers, pipefitters, and machinists at the brewery, cutters and mechanics at the garment factories, stevedores, winchmen, and mechanics on the docks, and so on, maybe not on their union's executive committee, but at the core of its *grupo acción*, which decided whom the members would elect to the committee. After 1918 in Veracruz these two powerful industrial labor movements fought business and contended with each other, one movement industrially strategic and nationally organized, after 1933 in the new national industrial railroad union, enormously powerful by direct industrial action alone, the other movement not industrially strategic, locally organized in plant unions, but for their numbers politically powerful in the state and sometimes (because the state was Veracruz) nationally. The alliance in 1935 of the industrially strategic railroad, oil, and port unions, joined by numerous politically powerful sugar workers' unions, all in the CTM in 1936, dominated the state (with great national consequences) until 1945, enrolling most other local unions there in the CTM. Even so, on political grounds, the other movement survived in the main textile towns. In the national post-war crisis, because of the crisis in the national railroad union, the local CTM unions in Veracruz seized control of the CTM there, making it the state's main vehicle of local political unionism. Thereafter national politics and internal divisions crippled all the national industrial unions, across the entire country, while the local unions in the CTM (in Veracruz as elsewhere) simply disputed with the local unions in other federations the political franchise for managing local labor contracts. The national industrial structure of 1935 remained in 1948, material webs of great strategic utility, several in Veracruz. But as the government helped business boom, spreading corruption, the best unions there retrenched, fortified their towns, and took only tactical opportunities; the worst became

rackets. Workers in industrially and technically strategic positions still got special deals. But they, their comrades, and their communities turned leery of great causes, put their trust in small numbers, and stuck for security to the shop and the neighborhood. This was not culture. It was a historic shift in class power, a historic turn in the class struggle there.

Across the capitalist world since the 1950s academic labor history's growth through several "new labor histories" has continually broadened and complicated the field.²⁸¹ Already in the '60s labor historians were deliberately expanding their studies from unions, leaders, parties, laws, policies, into ordinary working people's social relations, in detail and at large, at work, on strike, in daily local life, in migration, almost historical sociology for cities, historical anthropology for working-class communities, all a good thing. Over the last generation in several languages they went deep into social questions mockingly slighted if not ignored before, working-class traditions, rituals, attitudes, mentalities, arts, education, values, especially into relations of race, family, solidarity, and gender, and workers' ideas of them. From the first the most significant new practice (not all pursued it) was to study the subject dialectically, not to measure its approximation to any prescribed line or end, but to follow its development in action in the terms of its time, learn from the action ever more about the terms, how the action continually changed them, so understand the action's meaning then, therefore its meaning for the future too, to explain it now. Reflectively critical analysis remains characteristic

²⁸¹ Among the first signs in the United Kingdom, from the Communist Party Historians Group: John Saville, ed., *Democracy and the Labour Movement: Essays in Honor of Dona Torr* (London: Lawrence & Wishart, 1954). In France: Ernest Labrousse et al., "Le militant ouvrier français dans la seconde moitié du xix^e siècle: Colloque organisé par le I.F.H.S.," *Le Mouvement social*, Nos. 33-34 (October 1960-March 1961), 4-86. The first U.S. preacher of a new turn may be Vaughn Davis Bornet, "The New Labor History: A Challenge for American Historians," *The Historian: A Journal of History*, XVIII, 1 (Autumn 1955), 1-24. The work that ensued was not quite what he foresaw.

of the best work in the field. Through these cumulative “new labor histories” some powerful, wonderful books have emerged.

It is no surprise that U.S. new labor historians alone kept calling for a “synthesis” of the literature they produced.²⁸² Wherever historians have understood class, power, and struggle are central to labor history, to all modern history, they have ignored big integrative stories, done without them, or opposed them, because of the conciliatory pull in them. This is why the United States is where historical “synthesis” springs eternal, especially during heavy national troubles, in academic hopes for a new, improved national consensus. By 1960 U.S. racial and labor conflicts had forced the question of “consensus” into the academy. There the old Wisconsin dogma that U.S. (white male) workers would fight only for jobs, that the labor movement meant (only) unions defending their members, and labor history was (only) union history, no longer satisfied bright young labor historians. They agreed (mostly) that classes in the United States formed not from antagonistic relations of production, but from “multidimensional social stratification,” differences in income, for example, or status, but the inequalities felt wrong to them.²⁸³ Through an extraordinarily violent decade they learned from E.P.

²⁸² Among European, Middle Eastern, African, Australian, Canadian, or Latin American new labor historians, this did not happen much. Cf. Serge Bonnet, “Annexes,” in R. Gallissot, “Histoire ouvrière, histoire sociale: Table ronde du 6 novembre 1976,” *Le Mouvement social*, No. 100 (July 1977), 73; Marcel van der Linden, “Transnationalizing American Labor History,” *Journal of American History*, LXXXVI, 3 (December 1999), 1078-1099.

²⁸³ The dogma: John R. Commons et al., *History of Labor in the United States*, 4 vols. (New York: Macmillan, 1918-1935); Selig Perlman, *A History of Trade Unionism in the United States* (New York: Macmillan, 1922). I believe the first explicit recognition of “the Commons tradition” was Arthur W. Calhoun’s review of Commons & Co.’s third and fourth volumes (by Perlman and Philip Taft, published in 1935), in *American Sociological Review*, I, 3 (June 1936), 505; the first explicit recognition of “the Perlman tradition,” Michael Rogin, “Voluntarism: The Political Functions of an Antipolitical Doctrine,” *Industrial and Labor Relations Review*, XV, 4 (July 1962), 523, 525; and the first expressed hope for “the next great synthesis,” Thomas A. Krueger, “American Labor Historiography, Old and New,” *Journal of Social History*, IV, 3 (Spring 1971), 281. Two bright young labor historians in 1960: David Brody, “The Steel Makers: A Labor History of the American Iron and Steel Industry to 1929,” Ph.D., Harvard University, 1958; Herbert G. Gutman, “Social and Economic Structure and Depression: American Labor in

Thompson and British Marxists to defy old Wisconsin, ask new questions, and see exciting new possibilities in their field. They were soon gung-ho to erase old “textbook clichés” for a new kind of labor history. Eclectic, ecumenical, in a word multidimensional, it would a history of all (U.S.) working people. Since the historian most effective in this cause was the radically beloved Gutman, it would carry the principal merits and principal confusions of his work, his provocative anti-elitism, constant concentration on underdogs, and democratic conviction of their nationally redemptive powers. In 1973, crucial year, his brilliant project for a new socio-cultural U.S. labor history set the most widely accepted terms for a new textbook, “the new...American social history,” which would no longer assume “the American past,” or “the American experience,” but go beyond “conflict” and “consensus” to explore “cultural-societal interaction” in “many American pasts.” Gutman’s happily incoherent synthesis inspired many a young U.S. social historian then.²⁸⁴

The “new synthesis” Brody and Montgomery proposed then was different, not so much for comprehensive reinterpretation, as for a divisively new perspective and focus, on class conflict. They knew U.S. labor history was not European labor history, but they wanted a historical vision of the U.S. field more like that of the European field, in terms

1873 and 1874,” Ph.D., University of Wisconsin, 1959. The accumulated wisdom of orthodox U.S. social science on class then: Bernard Barber et al., “Stratification, Social,” in David L. Sills, ed., *International Encyclopedia of the Social Sciences*, 17 vols. (New York: Macmillan and the Free Press, 1968), XV, 288-337; the quoted term is my gloss. The same theory in radical populist terms: C. Wright Mills, *The New Men of Power: America’s Labor Leaders* (New York: Harcourt, Brace, 1948); idem, “The Labor Leaders and the Power Elite,” in Arthur Kornhauser et al., eds., *Industrial Conflict* (New York: McGraw-Hill, 1954), 144-152; C. Wright Mills, *The Power Elite* (New York: Oxford University, 1956), 30-46, 262-268, 277, 300-302, 357-361, 367-369, 408.

²⁸⁴ Herbert G. Gutman, “The Worker’s Search for Power: Labor in the Gilded Age,” in H. Wayne Morgan, ed., *The Gilded Age: A Reappraisal* (Syracuse: Syracuse University, 1963), 38-68, 250-254; Herbert G. Gutman, “Protestantism and the American Labor Movement,” *American Historical Review*, LXXII, 1 (October 1966), 74-101; idem, “Work, Culture, and Society in Industrializing America,” *American Historical Review*, LXXVIII, 3 (June 1973), 531-588; idem and Gregory S. Kealey, *Many Pasts: Readings in American Social History*, 2 vols. (Englewood Cliffs: Prentice-Hall, 1973), I, 1-6, II, 181-182, 295-296, 421-422. ??? *Radical History Review*, ???

of “changing structures of economic and political power,” including 20th-century “imperialism.”²⁸⁵ After decades of Wisconsin dogma, multidimensional social stratification, and U.S. exceptionalism, the U.S. academy’s conversion to the idea of class struggle in the country’s history would have been startling; and of course it did not happen. Having demonstrated the struggle in some brilliant studies, but won few converts to their synthesis, the econo-politically minded new labor historians quit proselytizing, and went back to their regular work.²⁸⁶ Their successors, the next generation studying deep structures of antagonism, delusion, and wrong in U.S. labor history, did not bother to campaign for their view. Having learned its lessons well, they made their case for it implicit in their own often brilliant work.²⁸⁷

Gutman could not hold his “many pasts” together academically. The notion failed before an especially demanding audience, U.S. intellectuals at the American Writers Congress in 1981, desperate to understand how the country could go for the Reagan Revolution, in all its triumphant nationalism. But he imagined then yet another new synthesis, more cultural than before, “an alternative synthesis,” “a coherent synthesis,” his synthetic synthesis, virtually a mission for a new publicly “compelling” U.S. “American history,” the whole shebang. Here the new studies he and others had done of

²⁸⁵ E.g., David Brody, “The Old Labor History and the New: In Search of an American Working Class,” *Labor History*, XX, 1 (Winter 1979), 111-126; David Montgomery, “To Study the People: The American Working Class,” *ibid.*, XXI, 4 (Fall 1980), 485-512; idem, *The Fall of the House of Labor: The Workplace, the State, and American Labor Activism, 1865-1925* (Cambridge: Cambridge University, 1987), ???2.

²⁸⁶ I believe their last call for a synthesis, around “power relations,” was by David Brody, “Reconciling the Old Labor History and the New,” *Pacific Historical Review*, LXII, 1 (February 1993), 1-18.

²⁸⁷ E.g., Alexander Keyssar, *Out of Work: The First Century of Unemployment in Massachusetts* (Cambridge: Cambridge University, 1986); Gary Gerstle, *Working-Class Americanism: The Politics of Labor in a Textile City, 1914-1960* (Cambridge: Cambridge University, 1989); Eric Arnesen, *Waterfront Workers of New Orleans: Race, Class, and Politics, 1863-1923* (New York: Oxford University, 1991); Robin D.G. Kelley, *Hammer and Hoe: Alabama Communists during the Great Depression* (Chapel Hill: University of North Carolina, 1990); Dorothy Sue Cobble, *Dishing It Out: Waitresses and Their Unions in the Twentieth Century* (Urbana: University of Illinois, 1991); Dana Frank, *Purchasing Power: Consumer Organizing, Gender, and the Seattle Labor Movement, 1919-1929* (Cambridge: Cambridge University, 1994).

the country's "segments (such as blacks, workers or women)" would come together, now reconciled, diversity in transcendent union, *e pluribus unum*, hopefully to "alter our [not just historians' but everybody's] understanding of American history," so as "to live more decently and humanely in the late twentieth century." In brief the "alternative synthesis" would be a new national consensus. And thanks to NEH and Ford he managed to found "the American Working-Class History Project" at the CUNY Graduate Center, a base for a new "general social history of the American people."²⁸⁸ Again thanks to NEH some 65 Gutman admirers and disciples conferred at Northern Illinois in 1984 hoping for the new "new synthesis," to configure class, race, and gender in the new cultural vision of the (now reaffirmed) "national experience," a vision which, if they could just get it right, would rally the nation (away from Reagan) to libertarian, egalitarian decency and humanity. Alas, they could not agree (or write like Peggy Noonan).²⁸⁹

Most historians at DeKalb returned to their work doubtful about any synthesis. But Gutman did not quit. Ever thanks to the NEH he expanded "the American Working-Class History Project" into "the American Social History Project," and was planning a national multimedia campaign (textbook and visuals) on working people's experiences in making "America."²⁹⁰ He died, only 57, in 1985. But his disciples did not quit either. They could not believe culture was not the key to the definitive, complete synthesis and solution, which would finally redeem U.S. history and somehow finally make the USA

²⁸⁸ Herbert G. Gutman, "Whatever Happened to History? The Missing Synthesis," *The Nation*, November 21, 1981, 521, 553-554; Mike Merrill, "Herbert Gutman," in Henry Abelove, ed., *Visions of History* (Pantheon: New York, 1984), 187-216. The "alternative" turn probably came from reading Raymond Williams, "Beyond Actually Existing Socialism," *New Left Review*, 120 (March 1980), in re Rudolf Bahro, *The Alternative in Eastern Europe*, tr. David Fernbach (London: New Left Books, 1978).

²⁸⁹ J. Carroll Moody and Alice Kessler-Harris, eds., *Perspectives on American Labor History: The Problems of Synthesis* (DeKalb: Northern Illinois University, 1989), dedicated to Gutman.

²⁹⁰ William Serrin, "Prof. Herbert Gutman, Labor Historian, Is Dead," *New York Times*, July 22, 1985; <http://www.ashp.cuny.edu/ashp-who.html>; Bruce Levine et al., *Who Built America? Working People and the Nation's Economy, Politics, Culture, and Society*, 2 vols. (New York: Pantheon Books, 1989).

all right. They now took pride in being “culturalists.” And they would seek (as the weekly express of U.S. progressive patriotism encouraged them in Gutman’s name to seek) “an alternative vision of our history that all Americans could understand, recognize and eventually act on.”²⁹¹

This is the group that has most influenced U.S. labor history over the last 20 years. And all Gutman’s deep confusions about Marxism and “economic determinism,” production, reproduction, and development, materiality and economics, systems and locality, imperialism, divisions of labor, industrial work and other work, labor’s peculiar power and its other powers, everyday life and movements, and earnest vacuity in the “alternative,” thinking them intellectual sophistication and subtlety, they have loyally done their best to cultivate in the field. For some years they continued the synthetic search for “vital clues to the cultural context.” As Gutman’s spiritual heir expressed it (in pretty gassy prose), they should look beyond “American popular culture,” or “‘mass values,’ attitudes, and motivations, per se, to the manner and moment in which such thoughts were articulated.” In particular they should study the language in U.S. “public discourse,” to understand “the very processes by which meanings were organized and empowered in American life,” thereby “firing our imagination of the future,” maybe even leading to reappropriation of “the very ‘vital center’ of American political discourse.”²⁹² Then they contemplated a synthesis around “gender.” In their confusions they might just as well have tried “race.” Then they did try race, too, after suffering public

²⁹¹ “Editorial: Herbert G. Gutman,” *The Nation*, August 3, 1985, 68-69.

²⁹² Leon Fink, “The New Labor History and the Powers of Historical Pessimism: Consensus, Hegemony, and the Case of the Knights of Labor,” *Journal of American History*, LXXV, 1 (June 1988), 115-136, quotations 124, 136; idem, “Relocating the Vital Center,” *ibid.*, LXXV, 1 (June 1988), 158-161. Cf. Arthur Schlesinger, Jr. (??who took the phrase from Walter Lippmann), *The Vital Center: The Politics of Freedom* (Boston: Houghton-Mifflin, 1949), which Fink does not recognize.

embarrassment for ignoring it. Whatever, the more vital centers, the more cultural studies, the better.²⁹³ In the actual resegmentation of the field some new disciples wrote good books arguing for a synthesis, others in disregard of it.²⁹⁴ The whole synthetic mission might have come to grief under the National History Standards of 1994-96, which for U.S. history were all about cultural “diversity.” And the grief would not have been only intellectual, for federal, state, and local grants, fellowships, contracts, and jobs for U.S. historians, not to mention textbook and multimedia sales, were at stake. But Gutman’s heir presumptive shrewdly turned the mission’s very incoherence to a Gutmanite advantage. He quit synthesis for a simple “encompassing view,” to expand “our definition of the field,” for an “American labor history” right in line with the likewise adaptive American Social History Project, “our story” under the National Standards now being “the continuing struggle for *e pluribus unum*...and the overarching goal of making social and political practice conform to the nation’s founding principles,” yet another patriotic consensus (i.e., a “bipartisan” white male consensus). As the heir managed this expansion, it eventually split the oldest, best journal in the U.S. field to make a new journal claiming international coverage where several good journals already existed, and for no intellectual reason, only (as he explained) to make the field more attractive to historians in other fields, publishers, and “a larger public” (private and public

²⁹³ Leon Fink, “Culture’s Last Stand? Gender and the Search for Synthesis in American Labor History,” *Labor History*, XXXIV, 2/3 (Spring/Summer 1993), 178-189; Alice Kessler-Harris, “Treating the Male as ‘Other’: Redefining the Parameters of Labor History,” *ibid.*, XXXIV, 2/3 (Spring/Summer 1993), 190-204; Eileen Boris, “From ‘Culturalism’ to Cultural Studies: Toward An Embodied Working Class,” *Left History*, IV, 2 (Summer 1996), 101-111.

²⁹⁴ E.g., Elizabeth Faue, *Community of Suffering: Women, Men, and the Labor Movement in Minneapolis, 1915-1945* (Chapel Hill: University of North Carolina, 1991); Ardis Cameron, *Radicals of the Worst Sort: Laboring Women in Lawrence, Massachusetts, 1860-1912* (Urbana: University of Illinois, 1993); Eileen Boris, *Home to Work: Motherhood and the Politics of Industrial Homework in the United States* (Cambridge: Cambridge University, 1994).

funding agencies).²⁹⁵ Predictably the new Gutmanite journal has most on the indignations of class, gender, and race. But its eclecticism is a virtue; there is much econo-political labor history, some of it excellent on class struggle, and though the editor has no clue to the industrial context, so far three good pieces on work.²⁹⁶

Nothing in the Brody-Montgomeryite new labor history would have raised an objection from Dunlop. He would cheer it. Nothing in the Gutmanite socio-culturalist labor history would have provoked him, except its daffy forays into economics. Its segmentations and localism would interest him for comparative analysis, to see where interregional cultural differences outside work created different rules in similar “technical contexts” at work (or if not, why not). He would easily grant the obviously frequent fact (which new labor historians themselves rarely see) that strategic positions also exist in economic, political, legal, social, cultural, and other senses (and structures), and working people have drawn strategies from them. And it would give him a wry pleasure that for the last 20-odd years the culturalists continually shocked at the USA’s racist, pro-business history have enjoyed substantial public support in their patriotic, but manifestly futile campaign to educate the public to stand against racism, for labor, in the future--as if the public’s problem were lack of education, not “the nation’s founding principles.”

²⁹⁵ On National Standards: Charlotte A. Crabtree and Gary B. Nash, eds., *National Standards for History: National Center for History in the Schools* (Los Angeles: National Center for History in the Schools, 1996; Gary B. Nash et al., *History on Trial: Culture Wars and the Teaching of the Past* (New York: A.A. Knopf, 1997); <http://nchs.ucla.edu/standards.html>. On Gutmanite labor history’s evolution: Leon Fink, “Editor’s Introduction,” *Labor History*, XLIII, 3 (August 2002), 245-246; idem, “What is to be Done--in Labor History?” *ibid.*, XLIII, 4 (November 2002), 419-424; idem, “Editor’s Introduction,” *Labor: Studies in Working-Class History of the Americas*, I, 1 (Spring 2004), 1-3.

²⁹⁶ E.g., Joseph A. McCartin, “‘Fire the Hell out of Them’: Sanitation Workers’ Struggles and the Normalization of the Striker Replacement Strategy in the 1970s,” *ibid.*, II, 3 (Fall 2005), 67-92; Jefferson Cowie, “Portrait of the Working Class in a Convex Mirror: Toward a History of the Seventies,” *ibid.*, II, 3 (Fall 2005), 93-102. On work: Paige Raibmon, “The Practice of Everyday Colonialism: Indigenous Women at Work in the Hop Fields and Tourist Industry of Puget Sound,” *ibid.*, III, 3 (Fall 2006), 23-56; Timothy Messer-Kruse, “Technology and the Decline of Child Labor: The Impact of the Owens Bottle Machine Reconsidered,” *ibid.*, V, 1 (Spring 2008), 23-45; Jennifer Luff, “Surrogate Supervisors: Railway Spotters and the Origins of Workplace Surveillance,” *ibid.*, V, 1 (Spring 2008), 47-74.

Here would be a compromise between the Gutmanite and a Dunlopian labor history, space for an easy dialogue between them: Double-new labor historians need only allow yet one more “category of historical analysis,” work, not only socially or culturally, but also industrially and technically conceptualized work; not a trivial consideration, for working is all that distinguishes their subject. Of course the analysis could not go through everything. It may include only a sketch of the (no, no, not basics) elements. But as historians of art, the body, disability, ethnicity, the family, film, gender, markets, medicine, music, politics, race, science, sexuality, or war, do not resort to generalities about their subject, or assume direct intelligibility of it, but use libraries of specialized, serious scholarship, indeed add to the scholarship, so labor historians ought to have some idea what the workers they study actually did at their work, enough of an idea to tell if they occupied any industrially or technically strategic positions. They could see then if the workers in question saw this power (or lack thereof), and if so, understood what they could do with it (or without it), which would allow a much richer socio-cultural explanation of why they did as much (or as little) as they did. Guaranteed, no determinism, no dreaded causal primacy; just real, everyday history, like real, everyday life. In the long run workers use what they see may be useful for their (culturally? politically?) “organized and empowered” purposes.

But another kind of labor history goes deeper, is truer to its real subject. It is not after synthesis or consensus, but difference and distinctions, drawing them sharply, getting to the point, stressing contradictions to find new meaning in labor’s past for new understanding of its present and future possibilities. In modern class struggles the

addition of industrial and technical points of view is not a simple extension, but changes all the other perspectives for the new focus that it gives, the focus on industrial production's special complexity, labor's power in collective, complex action, as force, industrial work. Other powers, commercial, political, legal, social, cultural, moral, religious, ideological, each and all are what every class, any class, can have. And among these powers, so many in all parts, classes are always in much confusion, contradiction, controversy, continuous discussion. Different from them, work is specifically and exclusively working force, ultimately workers' only force. Besides, different from the others, this is a force not only in a positive sense, for what it poses, production, but also-- here it is most remarkable--in a negative sense, for what it takes away when it stops work, which is production, and if its action is missing in an industrially and technically strategic position, then very much production. It is not a question of an aggregate of various sorts of forces, or a free selection of them. The other forces, commercial, political, cultural, and so on, try to fulfill various purposes, run in all directions, abhor a vacuum; if one goes, another fills the gap, and the discussion continues. In contrast, if working force goes, a gap opens that no other force can fill (without working); taking away much production, its denial may change commercial, political, cultural, and other forces' directions, undo them, put them out of action, bring new powers into effect. Only labor's self-negation, a material vacuum under political and social gravity, brings such definitive force, maybe critical and decisive force.

Let Dunlop rest. Here instead of his argument (though derived from it) is my brief explanation of a materially informed, strategically conceptualized labor history. Addressed to the culturalists, mainly to the materiaphobes, it starts from scratch: Work

happens between energy and matter; it is about using energy, transforming matter, objects and objectives. Human work is human subjects making lives into abilities to work, making specific objects, and making specific conditions, all for consumption to produce more such abilities, other objects, and other conditions for more production, now and in the future. It is socially creative, and its consequences always include the unintended. But labor historians who dwell only on the subjective are missing their subject's distinctive quality, its connection through work with the objective (objects and purpose). The subject has to use objective means of production according to their instructions for them to meet their purpose; a hammer's handle will not drive the nail. Subjects work in various systems. Even in the most industrialized societies most working people still work in families, small groups. This work happens in simple divisions of labor, each member's part mattering intensely within the group, maybe invaluable, but of no matter elsewhere, the whole group's work materially negligible to others. In modern industry, all kinds of modern industry, the work happens in established, structured, complex divisions of labor, collectively, simultaneously, consecutively. It is no denial of subjectivity, only a focus on actual subjection, to study subjects at work in these complex systems of production, not for their individual experiences (however interesting or moving), but in externally engineered, materially determined, collective, systematically productive action. Yes, history happens, and industrial systems change. But a new system has a new structured complex where its workers work. This is the history of modern industrial work, in episodically shifting and continually new complexity.

Yes, yes, labor history concerns social relations. Industrial workers have relations with domestic workers in their own living quarters. They may have relations with

agricultural and artisan workers, e.g., in kinship, in their community or neighborhood, in other ritual, formal, or informal bonds, for mutual insurance, security. Other relations are for contractual exchange, commerce, or leasing/renting, or lending/borrowing. Others are specific to a mode of production, the social relations of production, typically in modern industry (any industry) the relations between capitalists and hired workers. Others are social relations in production, or at the place of production, bonds (of solidarity or enmity) among fellow workers, e.g., in unions, clans, gangs. Other relations are explicitly or implicitly political, or legal, bearing on official authorities, local, provincial, national, or foreign. All these are social relations, all maybe sources of power, cultural, economic, political, legal, and all on reflection familiar to labor historians old and new.

But a materially informed, strategically conceptualized labor history returns continually to other relations. Unexamined not only by most historians, but also by most economists, sociologists, anthropologists, and political scientists, they are essential to understanding a modern industrial working class. These are the material relations of production, the basics. They derive from industrial and technically detailed divisions of labor, big and small sets of networks. Industrial relations, not in the corporate or academic sense of (socio-political) labor-management rules, but the inanimate, objective, systematic, technologically determined connections between different, but mutually dependent complexes of production, are the relations among workers so connected between industries, e.g., between mine workers and railroad workers, or information workers and electrical workers. Technical relations, also inanimate, objective, systematic, but technologically connecting different, mutually dependent parts within a complex of production, are the relations among workers so connected between departments within an

industrial firm, installation, or operation, e.g., between spinners and weavers, or nurses and workers in the boiler room, or workers in the power plant or maintenance and most other departments. Both industrial and technical relations are systems of positions of work, positions which for workers at work are just there, independent of the particular person occupying them, working or not working. Some industries are more “strategic” than others, in that if they stop, as in a “strategic strike,” several or many others have to stop, in a concatenation of stoppages, across the economy; and if “strategic” industries resume production, the industries dependent on them, or substitutes, will soon follow. Likewise, some departments and positions are more “strategic,” in that if the workers there do not work, workers in other departments cannot work, whether they want to or not; and if “strategic” workers return to work, others or their subs will quickly follow. This is industrial or technical power, the objective capacity to cause many objective effects. You find it by specific research and analysis, “grubbing,” to quote Dunlop again, not by looking for its forceful exercise, its dramatic manifestation, since it is still power even if not manifest. While technology remains the same, this power is a material base where other kinds of power may grow or which the otherwise powerful may capture. When technology changes, the objective structure of this power changes, and other powers dependent on it change.

Modern labor history is one of the historical discipline’s special fields where academic study often carries a sense of extraordinary responsibility. In pulling toward relevance, doing modern labor history may be a little like doing modern art history, which can lead to art criticism. It may be more like doing modern military history, the

study of which often comes from a deep sense of public responsibility, goes in search of lessons for present application, and may affect contemporary public debate on war, even the conduct of a war. Like many modern military historians, many modern labor historians cultivate memory, promote memorials, guard the flame. Likewise some of them also want to make a difference now, for their historical studies to serve contemporary labor's cause. There is a fundamental, divisive question, what labor's cause is. But there is a necessary prior question, what labor's power is. What labor can and cannot do, what is possible, impossible, with or without labor, obviously conditions what labor should fight for, now and for the future. As it is essential to understand an army's capabilities before judging its operations, so it is essential to understand labor's capabilities before judging its operations. And on this question, labor's power, labor historians engaged in labor's concerns now divide again. Some think class struggle no longer means much; they see labor's power in its convocation of all society's wronged, for a new, labor-plus social movement, swelling voluntarily, consensually, peacefully, able in good time to induce a new regime of social justice. Others focus on class struggle, which they think is capitalism's ever most important social fact, however complex, whether recognized or not. While they see the powers labor can earn from righting other wrongs, powers and duties they do not slight, they concentrate on labor, because capitalism beats anything but losing value from industrial production, to which some workers always have keys, strategic positions from which it is possible to disable the material system and critically disrupt the regime's vital social relations. However important other powers are, no force can overcome capitalism and build a new regime without industrial labor. This is the point of industrially and technically strategic studies

now. It is not to add one more area to the field. It is that once you see a productive system has objectively strategic positions, you understand the other, terrific power industrial labor holds, which only industrial labor can use, actually does use for limited purposes now, but could use otherwise, and then it all looks different, including of course, at once, the subjective, urgent questions of action for other, larger purposes.

Neither Dunlop nor any of his fellows or followers ever specified a strategy industrial workers should practice. They could not, because the actual use of materially strategic positions depends on economic, political, and cultural questions. It is ultimately a question of purpose, a question of actual workers' ultimate purpose. For workers in revolution the strategy has meant the Clausewitzian offensive, where battle is essential, battle as Alexander, Caesar, and Napoleon sought it, decisive battle, to crush the enemy and conquer his territory, at least hold the economy's "commanding heights."²⁹⁷ It was the strategy Engels knew best, studying which he learned "...war is most like trade. Action in war is what cash payment is in trade..."²⁹⁸ And it was most certainly Lenin's, and that which after 1905 he thought industrial workers could master.²⁹⁹ But revolutionary workers are rare. Militant workers have typically followed the strategy implicit in the conflicts Marx called "guerilla fights," tactical offensives. If consciously developed, this is the Clausewitzian defense, not an inferior "form of war," but

²⁹⁷ Carl von Clausewitz, *On War*, tr. and ed. by Michael Howard and Peter Paret, rev. ed. (Princeton University: Princeton, 1984), 90-99, 127-132, 194-197, 204-209, 258-262, 352-354, 595-600, 617-637. On the economic heights: V.I. Lenin, "Notes for a Report 'Five Years of the Russian Revolution and the Prospects of the World Revolution' at the Fourth Congress of the Comintern," October 1922, in idem, *Collected Works*, 45 vols. (Moscow: Progress Publishers, 1971??), XXXVI, 585-587??. Cf. "key positions," "all the vital branches": idem, "Fourth Congress of the Communist International," November 4, 1922, *ibid.*, XXXIII, 415-432??.

²⁹⁸ Engels to Marx, January 7, 1858, in their *Werke*, XXIX, 252. Cf. Clausewitz, *op. cit.*, 149.

²⁹⁹ E.g., V.I. Lenin, "War and Revolution," in idem, *Collected Works*, XXIV, 399, 402; and Alan Shandro, "'Consciousness from Without': Marxism, Lenin and the Proletariat," *Science and Society*, LIX, 3 (Fall 1995), 268-297.

“intrinsicly stronger than the [strategic] offensive,” which it in time enables, to which it may lead.³⁰⁰ And the best school in which to study it is Hans Delbrück’s, where it is the strategy of Pericles, Gustavus Adolphus, and Frederick the Great, the strategy of limited war, of exhaustion, *Ermattungsstrategie*, not so much defensive as conservative, a strategy of continual maneuvers to avoid battle, to deny decision, a strategy of blockades, ambushes, frontier occupations, raids to devastate territory, operations of attrition, until the enemy can no longer bear the costs of war, and collapses or retreats.³⁰¹ It appealed to Marx’s first biographer, the German Socialist Franz Mehring. In a monstrous, rigid distortion it became the French, British, German, and Russian strategy in the Great War. And it informed the historiography behind the (original) Gramsci’s thoughts on the war of position for hegemony.³⁰² So developed, this strategy has served militant workers in

³⁰⁰ Caveat on workers’ operations as guerrilla warfare: Through the 19th century this warfare supposedly had no strategy, only tactics; in the 20th century it became a phase of revolutionary strategy. Cf. Clausewitz, *op. cit.*, 373, 479-483; C. E. Callwell, *Small Wars: Their Principles and Practice*, 3rd ed. (London: HMSO, 1906), 51-52, 84-96, 125-149; Mao Zedong, *On Guerrilla Warfare* [1937] (New York: Praeger, 1961); and Vo Nguyen Giap, *People’s War, People’s Army* (Hanoi: Foreign Languages Publishing House, 1961). Clausewitz on defense is the longest “book” in his treatise, *op. cit.*, 357-519.

³⁰¹ Hans Delbrück, *Geschichte der Kriegskunst im Rahmen der politischen Geschichte* [3rd ed., 1920], 4 vols. (Berlin: Walter de Gruyter & Co., 1962-1966), I, 123-131, 163, 352-385, 612-619, II, 400-410, III, 339-346, IV, 126-133, 333-363, 382-395, 426-444, 449-451, 487-521. In English: *History of the Art of War*, 4 vols., tr. by Walter J. Renfro, Jr. (Lincoln: University of Nebraska, 1975-1980). In 1936-39 the Soviet Union’s Defense Commission published in Russian a 7-volume edition of the *Geschichte der Kriegskunst*: Otto Hainz, “Vorrede zur Neuausgabe der ersten vier Bände,” in Delbrück, *op. cit.*, IV, envelope inside front cover, 6-7. Delbrück’s alternative strategy was *Niederwerfungsstrategie*, usually translated as “annihilation,” more accurately “throwing the enemy down,” crushing him.

³⁰² Hainz, *ibid.*, IV, 8; Franz Mehring, “Eine Geschichte der Kriegskunst,” *Die Neue Zeit*, October 16, 1908, in his *Gesammelte Schriften*, 15 vols. (Berlin: Dietz Verlag, 1960-66), VIII, 134-140. The first to popularize the terms *manoeuvres*, *positions*, *le mouvement*, was Ferdinand Foch, *Des principes de la guerre* [1903] (Paris: Imprimerie Nationale, 1996), 117-141; and idem, *De la conduite de la guerre: La manoeuvre pour la bataille* [1904], 3rd ed. (Paris: Nancy, Berger-Levrault, 1915), *passim*. It was Delbrück who first described the impact of offensives in 1914-15 as *Stellungskampf*, or *Stellungskrieg*, war of position: Hans Delbrück, *Krieg und Politik, 1914-1916*, 3 vols. (Berlin: Georg Stilke, 1918), I, 76, 80-84, II, 29, 164, 240-242, III, 86. Popularizers of this term include Anton Fendrich, *Der Stellungskrieg bis zur Frühlingsschlacht (1915) in Flandern* (Stuttgart: Franckh, 1916); and Paul J. L. Azan, *The War of Positions* (Cambridge: Harvard University, 1917). On *movimento*, *logoramento*, *assedio*, and these other then current strategic terms in post-Delbrückian publications on war that Gramsci had in prison: Enrico Caviglia, *La battaglia della Bainsizza: Seguita da uno studio sulla direzione politica e il comando militare nella grande guerra* (Milan: A. Mondadori, 1930), 16, 134, 160, 193, 211-212, 245-246; idem, *Le tre battaglie del Piave* (Milan: A. Mondadori, 1934), 69-70, 115-117; P. N. Krassnoff, *Dall’aquila imperiale alla bandiera rossa*

many countries, Mexico among them, fighting to defeat capitalism by harassing and outlasting it. But half-developed, as it has remained in most labor movements, it has served industrial guerrillas for no more than to improve the terms of labor's continual surrenders, usually served only industrial avengers, or industrial bandits, aiming only to make capitalism do better by its workers (or at least labor's racketeers). In that semi-clueless phase it bears close resemblance to Slichter's negative definition of bargaining power and Dunlop's "diversion of operations" and "exact[ion of] a price."³⁰³

Since strategy is for a purpose, its premise is choice, inevitable, constrained, irreversible, maybe fatal, but still a choice. If the hotly cultural and particularly the "progressive" Latin American labor historiography were not so naive, it would not be necessary here, as it is, to repeat the obvious, that neither Dunlop's "structure" nor my extrapolation that industrial and technical structures have framed, oriented, and given force to strategy means workers have not had "agency." To use a strategic position to any purpose is to act: Structure (inevitable but always liable to change) is positions (at least in the short run, but never permanent), from some of which subjects who are principals act in regard to each other; they may act without strategy, but wherever there is strategy,

(Florence: Salani, 1929), 424-425, cited in Gramsci, *Quaderni*, II, 859; Leon Trotsky, *Moia Zhizn': opyt avtobiografii*, 2 vols. (Berlin: Izdatel'stvo Granit, 1930), I, 245, II, 190-192, which Gramsci read in Italian, *La mia vita: Tentativo di autobiografia*, tr. by E. Pocar (Milan: Mondadori, 1930); and Ernesto Brunetta, "Clausewitz [a review of Emilio Canevari, *Clausewitz e la guerra odierna* (Rome: F. Campitelli, 1933)]," *L'Italia Letteraria*, February 4, 1934, 8. The other military writings available to Gramsci then, e.g., Benedetto Croce, "Azione, Successo e Giudizio: Note in margine al 'Vom Krieg' del Clausewitz," *Società Reale di Napoli: Atti della Reale Accademia di Scienze Morali e Politiche*, No. 56 (1934), 152-163, had nothing Delbrückian to them. Gramsci's notes on *guerra di movimento, guerra manovrata, guerra d'assedio o di posizione*, originally made in some 15 paragraphs in nine notebooks between 1929 and 1935, are (most of them) in English in "Notes on Italian History," "The Modern Prince," and "State and Civil Society." Cf. the references in *Quaderni*'s index, IV, 3203-3204; and Hoare and Smith, *op. cit.*, 59 (their note 11), 88, 105-120, 185, 229-239, 243. But again: Gramsci was only one among many in the Comintern then pondering "hegemony."

³⁰³ Dunlop, "The Development of Labor Organization," 179-180.

there is agency. The cultural question is, for whom in the prevailing culture can the agents act, for whom do they act, why, and how they can change their purpose.

Chapter IV. Theories of Production, Strategic Analysis of Production, 1945-2005

Labor economics aside, what about other economists in “the Free World” then, some of them giants in the profession, the kind who could claim any field, change it, or define a new one? They had enormous worries in 1945, threats of capitalist

“disequilibrium,” rampant inflation, another depression, duties of planning reconstruction from the war’s ruins, planning “development,” preparing for another world war. Even so preoccupied, could they if only by the way, inadvertently, have formed a concept like Dunlop’s of industrially or technically strategic position, one that would do as well for labor history?

Yes, they could have, in studies of production. Here was a field (since Quesnay) essential to all economics, and since Adam Smith at least theoretically involving labor. And many economists who did not study labor then did study production, more than went into any other serious topic but value. At least they went onto the premises of the structure Marx once called “the hidden abode of production,” where “hangs the notice, ‘No admittance except on business.’”³⁰⁴ It is irrelevant (here) that very few of them queried the sign’s presumption. It is to the point if any of them cast new light on productive forces in operation, intentionally or not advancing materially strategic analysis of them. Even if this meant no more than explaining industrial or technical constraints on operation, it could lead to questions about modern material divisions of labor, modern productive complexity, the nature of modern productivity. Economists then roamed over premises much more recondite, e.g., physics, physiology, complex numbers, topology, illuminating along the way many economic problems. As some of them pursued concerns about production, they could have expressly clarified the strategic matter too.

³⁰⁴ In Economics from 1945 to 1980 JSTOR finds 32,693 results for “value,” 29,907 for “production,” 29,566 for “work,” 24,144 for “capital,” 21,682 for “business,” fewer than 20,000 for labor, trade, investment, money, consumption, profit, wages, sales, finance, and taxes (in that order); from 1981 to 2006 the results are in almost the same order: JSTOR, July 4, 2006. The “hidden abode”: Marx, *Capital*, vol. 1, 279-280. From Jakob Böhme, via Schelling and Hegel, Marx’s evocation of mystery in “hidden,” *verborgene*, is kabbalistic: Gershem Scholem, *Kaballah* (Jerusalem: Keter, 1974), 4, 89-115, 143, 200-201, 416. It might also have carried an allusion to Freemasonry; Masons had no hidden places, but did have “hidden knowledge,” *das verborgene Wissen*. Cf. Don Robotham, *Culture, Society and Economy: Bringing Production Back In* (London: Sage, 2005), 160.

But for by far the most part they did as dimly as most historians. The reason was not their neoclassicism, for that was Dunlop's training and practice too, but the uses they made of it. Whereas he looked for inevitable disruptions in the productive system, belabored them until he understood the specific key to them, and drove (intellectually and otherwise) not to resolve them, but to conceptualize, recommend, or extract compromises over them to restore production for as long as possible, they almost all sought macro-solutions to frame national discussion of national policies for steady, balanced growth. It is not that he was a fox, they hedgehogs. It is more that he was arguing about the nature of a system's faults, they about the nature of its integrity. In ambition he was a fixer, they masterminds.

The great majority of them conceived of production as business. They accepted as given it was "technological," involving "techniques" in a "process." But they thought of the process in terms of trade. Instead of a model of real production, the changing of certain present forces into certain new forces or situations, they kept cogitating a deal, X for Y, commodities delivered for commodities received (usually in no time). They would not imagine transubstantiation, only transaction, no change but exchange. Analogically, as some liked to argue, they approached the firm's no longer hidden (but still mysterious) abode of production like a shrine, around which they prayed the productive prayer, while on the inside, where they did not venture, the wonder of production happened, "factors of production" somehow combining in a technical (=arcane) exchange for the product desired. Look, here the factored "inputs" go into the shrine, and look, presto, here the "output" comes out. Count what goes in, x_1 's, x_2 's, count what comes out, y 's, figure the relation between them, and we have to believe it, "the production function." The great

majority of economists who studied production then actually had their minds on productivity, marginal productivity, why firms buy the factors they buy, and about the distribution of returns, for rent, wages, profit.³⁰⁵ Theorizing like physicists (in classical mechanics), fluent in mathematics (at least calculus), they abstracted motion, forces, displacement, and equilibrium into their function, and so mathematized “production theory.” The theory yielded abundant debate over logic, math, realism, subjectivism, aggregation, time, homogeneity, discontinuity, complementarity, fixed proportions, substitution, outputs in joint production, indivisibility, and so on. But very few of the theorists modeled strategic analyses of production, or termed them “strategic,” and none ever wrote strategically about labor.

For example, of the intellectually most ambitious economists then, the U.S. neo-Paretians, the most brilliant, most aggressive, and probably most learned was Paul Samuelson. Keenly aware of the resonance of a claim to a “general theory,” he proposed a “general theory” for “the essential unity and interdependence of economic forces.” From “theoretical physics” he adopted “the method of *comparative statics*” to create “a theory of *comparative dynamics*.” His first “comprehensive restatement” was on “production,” in his mind “cost curves” and the firm’s “production function embodying technical relations between inputs and output,” relations on principle totally promiscuous for whatever result, “ v_i ,” inputs for “ x ” output. He recognized the trouble in fixed proportions among a firm’s inputs, which would entail questions of complementarity. But he dismissed it, since no particular case would invalidate the rule, a stuck firm could change to new inputs, and lingering “difficulties” would dissolve in “general equilibrium

³⁰⁵ George J. Stigler, *Production and Distribution Theories: The Formative Period* (New York: Macmillan, 1941), 320-387; Paul H. Douglas, “Are There Laws of Production?” *American Economic Review*, XXXVIII, 1 (March 1948), 1-41.

analysis of supply and demand.” At MIT since 1940 Samuelson had had immense opportunities to learn the logic of real industrial production, actual technical relations. He did allow, “What one calls economics, economic engineering, engineering, etc., is to a considerable degree a matter of choice.” And he approved “the economist” going into “traditionally noneconomic variables such as technology,” for “data” for “light upon a particular process....” But this was trivial. On his grand hypotheses, “maximization” in “single economic units” and “‘stable’ equilibrium” in the “economic system,” any such system including “technical relations” adjusts to disturbances for return to stable equilibrium in the long run.³⁰⁶ Samuelson never granted the inherently imbalanced structure of technical relations, only oiled the terms of the discussion, to make the inherent disequilibrium incidental, pointless.³⁰⁷

To absorb into their “conventional [=neo-Paretian] theory” any theory of constraints, Samuelson and company would exclude technicalities. “The production function,” they wrote, “is a description of the technological conditions of production, and the economist takes no direct responsibility for ascertaining it. Instead he regards it as falling within the purview of the technologist or engineer. But...technologists do not take responsibility for production functions either...” A comprehensive function was actually nobody’s business. “The engineer can analyze an assembly line without studying the shipping room or billing department, and therefore he has no occasion to formulate a production function for the firm as a whole.” Anyway the variables important to the

³⁰⁶ Paul Anthony Samuelson, *Foundations of Economic Analysis* (Cambridge: Harvard University, 1947), 3-10, 19, 57-58, 70-76, 208, 221, 230, 232, 246, 251-252, 257-269, 284-285, 315-316, 319-320, quotes 3, 5, 19, 57, 71, 76, 84, 230, 319-320, 351.

³⁰⁷ Idem, “Abstract of a Theorem Concerning Substitutability in Open Leontief Models,” in Tjalling J. Koopmans, *Activity Analysis of Production and Allocation: Proceedings of a Conference* (New York: John Wiley & Sons, 1951), 142-146; Robert M. Solow and Paul A. Samuelson, “Balanced Growth under Constant Returns to Scale,” *Econometrica*, XXI, 3 (July 1953), 412-424.

engineer are not important to economics. “His problem, typically, is not whether to use slightly more capital and slightly less labor but how many units to install of a new machine that costs slightly more but requires less tending and has other distinguishing characteristics as well. ...the [engineer’s] choice is not among various time rates of input and output but, more directly, among different ways of doing things, each of which implies its own characteristic pattern of input and output rates. ...the production function short-circuits certain aspects of the problem that the engineer cannot afford to neglect. The economist cannot afford to neglect them either when he wants to look inside the firm,” because “...this is the language in which engineering and accounting data are expressed.” But by the authors’ own criteria an economist (of their sort) would be wasting time if “he” went looking into a firm, since “the essence of the problem is to seek from all the feasible programs the one which yields the greatest possible profit,” which “he” would learn not from engineers and accountants, but looking “out into the market....”³⁰⁸ The authors did consider “strategies,” but only in game theory.

When Samuelson turned from theory to analysis, he seemed to take offense at real production. He gruffly misadvised “a believer in a fixed-coefficient single-technique world,” a straw man’s input-output analysis: “Go into any machine plant, pick up any engineering catalogue, study the books of physics and the histories of industrial processes, and you will see the variety of different ways of doing anything.” But the fact of difference told nothing about the intrinsic difficulty of industrial and technical

³⁰⁸ Robert Dorfman et al., *Linear Programming and Economic Analysis* (New York: McGraw-Hill, 1958), 127, 130-132, 141, 183-184, 186-189, 198-203, 305-308, 340-351, 370, 375-381, 390-416; quotes 131-132, 149, 202. Simple versions of the same: Paul A. Samuelson, *Economics: An Introductory Analysis* (New York: McGraw-Hill, 1948), 521-526, 534-537; same title, 2nd ed. (1951), 546-554; ditto, 3rd ed. (1955), 490-498. It was false that engineers did not do plant-wide production functions. In industry there were few generic engineers; most engineering duties were departmental. But every month the manager saw a full function in the power engineer’s and accountant’s reports.

coordination in “doing anything,” about connecting (and disconnecting) sequences, simultaneities, and scales.³⁰⁹

Samuelson’s introductory textbook was a marvel of unity, interdependence, continuity, and integration. In often revised, always successful editions it spread neo-Paretian assumptions far and wide. The edition of the year of Dunlop’s flop pictured “technological choices,” “the economic theory of production,” and “economics of technology” all without a single discontinuity, all lovely smooth curves, nothing to spook a beginner. The section on “technical law relating output to input: the ‘production function’” reassured students technology would not be on the test, ever. Any “engineering or technological information” they might need for a function, an “engineer” would have listed “in a thick book,” where they could just look it up. It came out that “discontinuities can sometimes happen, but perhaps they do not occur quite so often as some critics have claimed.” Anyway, not to worry about fixed proportions; “fortunately” patience and the means “to make a drastic rearrangement” at the right time would keep production going, maybe at a profit, so that “[o]ur same logic still applies” as in “the nicely continuous case.”³¹⁰ By his logic Samuelson could not admit Dunlop’s strategic question.

³⁰⁹ Paul A. Samuelson, “Wages and Interest: A Modern Dissection of Marxian Economic Models,” *American Economic Review*, LXVII, 6 (December 1957), 907. The title is misleading. In the guise of criticism of Marx’s theories of production and value (without reference to Marx’s work), the article is an attack on Marxist economists whom the author poses in front of his main target, input-output analysis.

³¹⁰ Paul A. Samuelson, *Economics: An Introductory Analysis*, 4th ed. (New York: McGraw-Hill, 1958), 18-25, 501-519, 568 n1, 711-728, quotes 501-502, 510, 512. Cf. Samuelson’s MIT colleague and frequent co-author, too intent on “technical progress” to worry about kinky curves, Robert M. Solow, “The Production Function and the Theory of Capital,” *Review of Economic Studies*, XXIII, 2 (November 1955), 101-108; idem, “A Contribution to the Theory of Economic Growth,” *Quarterly Journal of Economics*, LXX, 1 (February 1956), 65-94; idem, “Technical Change and the Aggregate Production Function,” *Review of Economics and Statistics*, XXXIX, 3 (August 1957), 312-320.

The economics promoted from MIT then most offended Keynes's English apostles. In response the Cantabrigians proved the fiercest. And they made their points often on the production function, against continuity. A strong feel for complementarities ran deep in the two most combative among them, Joan Robinson and Nicholas Kaldor.³¹¹ Virtually beside them (physically at Oxford) stood a superb Cambridge mathematician, an old chess partner of Alan Turing, and during the war a statistician at the Ministry of Aircraft Production.³¹² Another connoisseur of complements, only an honorary Cantabrigian, but significant for intellectual support, was Michal Kalecki.³¹³ None of them had done research (much less worked) inside the hidden abode; only the mathematician had studied industrial division of labor, in practice, in wartime. Nevertheless Cambridge fought MIT hard over technology. In a general onslaught against "neo-classical doctrine" (i.e., not her own version of it) Robinson demanded consideration of "actual techniques." She emphasized factors came technically not in "spoonfuls of investment," or one more "man," but in fixed proportions. Against

³¹¹ This is not the place to argue Mengerian influence on Cambridge, but consider: Carl Menger, *Grundsätze der Volkswirtschaftslehre* (Wien: Wilhelm Braumüller, 1871), iii, x, 2 n*, 5 n*, 7-21, 38-45, 54 n*, 72 n*, 78 n*, 214 n*, 216 n*, 226 n*, 230 n*, 251 n*, 259 n*, 264 n*, 270 n**, 272 n*; Anon., "[Adolf] Wagner on the Present State of Political Economy," *Quarterly Journal of Economics*, I, 1 (October 1886), 113-133; Alfred Marshall, *Principles of Economics* (London: Macmillan, 1890), x, 64-66, 71-77, 86-90, 106-115, 135-137, 150-161, 300-301, 572-577, 607-608; Adolf Wagner, "Marshall's Principles of Economics," *Quarterly Journal of Economics*, V, 3 (April 1891), 319-338; Richard T. Ely et al. [including Allyn A. Young], *Outlines of Economics*, rev. ed. (New York: Macmillan, 1908), 7-15, 39-41, 93-105, 107-116, 156-186, 319-333, 368-371, 669-670, 673-676; Allyn A. Young, "Economics as a Field of Research," *ibid.*, XLII, 1 (November 1927), 5-11; idem, "Increasing Returns and Economic Progress," *Economic Journal*, XXXVIII, No. 152 (December 1928), 527-542; Joan Robinson, *Collected Economic Papers*, 5 vols. (Oxford: Basil Blackwell, 1951-79), I, vii-ix, 225-233, II, 1-26, IV, 247-253; Roger Sandilands, ed., "Nicholas Kaldor's Notes on Allyn Young's LSE Lectures, 1927-29," *Journal of Economic Studies*, XVII, 3/4 (1990), 23-26, 86-88.

³¹² D.G. Champernowne, "The Construction of Decimals Normal in the Scale of Ten," *Journal of the London Mathematical Society*, VIII (1933), 254-260; idem, "A Mathematical Note on Substitution," *Economic Journal*, LXV, No. 178 (June 1935), 246-258; idem, "Unemployment, Basic and Monetary: The Classical Analysis and the Keynesian," *Review of Economic Studies*, III, 3 (June 1936), 201-216.

³¹³ Menger's influence here comes via M.I. Tugan-Baranovskii, "Osnovy politicheskoi ekonomii [1909, 5th ed. 1918]," *Izbrannye sochineniia*, 2 vols. (Donetsk: Donetskii Gosudarstvennyi Universitet Ekonomiki i Torgovli, 2004), and N.D. Kondrat'ev, *Bol'shie tsikly kon'iunktury i teoriiia predvideniia: Izbrannye trudy* (Moscow: Ekonomika, 2002).

Samuelson's nice, smooth production-function curve, she drew a cranky, kinky "factor-ratio curve." Even so she would return to the standard function. Like Samuelson, she took the "internal description of a given technique" for "a purely engineering question," and denied a production function could "specify purely technical relations, not involving prices...." Increasingly interested in "technical progress," she continually ignored chances to consider technical positions.³¹⁴ Kaldor's special concern (all his scholarly life) was "technical progress." In these years, always in high contempt of the neo-Paretians, fighting for "economic development" of "under-developed areas," he dismissed "unity-elasticity of substitution between Capital and Labour," and wrote much about production "techniques." Even so he came around on a "technical progress function," another curve, cycles of growth surging up it by "continuous...improvement in methods of production," in "technical dynamism."³¹⁵ But he ignored the technical bases on which industrial labor in Great Britain then resisted "dynamism," and the technical bases industrial workers in developing countries used to charge "dynamic" businesses premiums.

From his wartime duties the mathematician probably understood better than Robinson or Kaldor the difficulties of "technical progress." He demonstrated mathematically (as they could not) the requirements, structure, and limits of the standard production function, even elaborated a quasi-new form of it. With the very math he used

³¹⁴ Joan Robinson, "The Production Function and the Theory of Capital," *Review of Economic Studies*, XXI, 2 (November 1953), 81-106, quotes 84, 90-93; idem, "The Production Function and the Theory of Capital--A Reply," *ibid.*, XXXIII, 3 (June 1955), 247; idem, "The Production Function," *Economic Journal*, LXV, 257 (March 1955), 71; idem, *The Accumulation of Capital* (London: Macmillan, 1956), 65-66, 85-100, 159-172, 418-420; idem, "The Real Wicksell Effect," *Economic Journal*, LXVIII, 271 (September 1958), 600-605.

³¹⁵ Nicholas Kaldor, "Mr. Hicks on the Trade Cycle," *ibid.*, LXI, 244 (December 1951), 833-847; idem, "The Relation of Economic Growth and Cyclical Fluctuations," *ibid.*, LXIV, 253 (March 1954), 53-71; idem, "Characteristics of Economic Development," in *Atti del Congresso Internazionale di Studio sul Problema delle Aree Arretrate*, 4 vols. (Milan: A. Giuffrè, 1955-56), II, 716-726; idem, "Alternative Theories of Distribution," *Review of Economic Studies*, XXIII, 2 (November 1955), 83-100; idem, "A Model of Economic Growth," *Economic Journal*, LXVII, No. 268 (December 1957), 591-624, quotes 592, 596, 604-605, 618.

for a new measure of capital accumulation, he could have analyzed a productive system's material vulnerability.³¹⁶ But he was a good Fabian soul, to whom this did not occur.

In September 1958, just as Dunlop's *Industrial Relations Systems* appeared, the International Economic Association met in Corfú on "the theory of capital." MIT and Cambridge clashed directly there over the production function, but were equally incurious about its keys or code.³¹⁷ Kaldor several times (and passionately) cited the then strongest economic model assuming fixed proportions, but overlooked its relevance to his "technical progress function."³¹⁸ The most Dunlopian paper was a French Keynesian's on capital intensity. For a micro-economic model he went straight into "the technical relation between capital and labour," declared it "technically complementary," so that "[t]his complementarity underlies the technical structure of the process of production," and accordingly explained the problem of production as "not one of substitution at the margin..., but one of comparing...technically possible" combinations of capital and labor--where, it did not occur to him to explain, labor could use technical positions for its own purposes. His paper prompted little discussion, that mainly from a Belgrade economist.³¹⁹

The most powerful theory in neoclassical economics then was the genius John von Neumann's neo-Walrasian "system." While game theorists he had inspired abstractly

³¹⁶ D.G. Champernowne, "The Production Function and the Theory of Capital: A Comment," *Review of Economic Studies*, XXI, 2 (November 1953), 112-135; idem, "On the Use and Misuse of Mathematics in Presenting Economic Theory," *Review of Economics and Statistics*, XXXVI, 4 (November 1954), 371-372; idem, "Capital Accumulation and the Maintenance of Full Employment," *Economic Journal*, LXVIII, No. 270 (June 1958), 211-244.

³¹⁷ F.A. Lutz and D.C. Hague, eds., *The Theory of Capital: Proceedings of a Conference held by the International Economic Association* (London: Macmillan, 1961), v-viii, 410.

³¹⁸ Nicholas Kaldor, "Capital Accumulation and Economic Growth," *ibid.*, 177-222, 295, 298.

³¹⁹ Alain Barrère, "Capital Intensity and the Combination of Factors of Production," *ibid.*, 143-160, 357-358, 361-367.

pursued “players” (imaginary businessmen et al.) in their strategic exchanges, economic-growth theorists were trying to absorb his short, rigorous examination of “states where the whole economy expands without change of structure,” and his proof (on certain extreme assumptions) that among the economy’s multiple technically possible and differently profitable fixed processes of production one combination of them, the one particular complex of “intensities [scales] of production” and prices allowing no profit, would determine a relation between the rate of interest and the rate of expansion such that growth would continue in equilibrium, and this growth would be the fastest technically possible. And they had to understand the model without marginal products or a production function.³²⁰ They might have seen that any refusal of labor anywhere would throw the system out of balance, stop everything, theoretically. But they were looking for other issues.

Strategically much more interesting, von Neumann had decided on a new direction. Away from “game theory” and quantum mechanics, he had turned to designing “a very high speed automatic digital computing system, and in particular...its *logical control*,” and joined the EDVAC (Electronic Discrete Variable Automatic Computer) project for the realization of “the device,” to make it a means of production. The new computer would prune “*input*” into “*output*,” specifically “perform...operations” on some “numerical material” to “produce” other “numerical material,” in other words “process” by established rules “the original...information” into the product, “the final

³²⁰ In the background: Gustav Cassel, *Theoretische Sozialökonomie* (Leipzig: C.F. Winter, 1918); Leo Szilard, “Über die Entropieverminderung in einem Thermodynamischen System bei Eingriffen Intelligenter Wesen [1922],” *Zeitschrift für Physik*, No. 53 (1929), 840-856; Kurt Gödel, “Über formal unentscheidbare Sätze der *Principia Mathematica* und verwandter Systeme, I,” *Monatshefte für Mathematik und Physik*, No. 38 (1931), 173-198; J.V. Neumann, “Über ein ökonomische Gleichungssystem und eine Verallgemeinerung des Browserschen Fixpunktsatzes [1932],” *Ergebnisse eines mathematischen Kolloquiums*, VIII (1937), 73-83, translated, “A Model of General Economic Equilibrium,” *Review of Economic Studies*, XII, 1 (October 1945), 1-9.

information.”³²¹ It is beside the point here that the product would belong to the U.S. Army and U.S. Atomic Energy Commission, to develop the most tremendous means of destruction the world had yet known, the hydrogen bomb, which von Neumann urged the United States to use against the Soviet Union; that is another story. It is also beside the point here that the computer finally built on his directions, the “IAS machine,” in Princeton, became the prototype for Los Alamos’s MANIAC, Aberdeen Proving Ground’s ORDVAC, the Argonne National Laboratory’s AVIDAC, Oak Ridge’s ORACLE, Rand’s JOHNNIAC, the Soviet Academy of Sciences’ BESM, the Israeli Weizmann Institute’s WEIZAC, and others, including, definitively, the IBM 701.³²² The point here is, von Neumann had broken neoclassical economics’ taboo, was thinking inside the hidden abode, thinking economically not of exchange, but of production, industrial production. Implicit in his vision of “the device” was not just a means of production, but all modern produced means of production.

Logically, as he explained, his “automatic computing system,” or “general-purpose computing machine,” represented somewhat the human brain at work. Even more, as he did not notice, it represented an industry or at least a big, integrated plant or transport-communications complex at work, “built” as much from “a blueprint” as a steel

³²¹ John von Neumann et al., “First Draft of a Report on the EDVAC [Contract No. W-670-ORD-4926, between the United States Army Ordnance Department and the University of Pennsylvania, June 30, 1945],” *IEEE Annals of the History of Computing*, XV, 4 (October 1993), 27-75.

³²² M.D. Godfrey and D.F. Hendry, “The Computer as von Neumann Planned It,” *ibid.*, XV, 1 (January 1993), 11-21; Michael R. Williams, “The Origins, Uses, and Fate of the EDVAC,” *ibid.*, XV, 1 (January 1993), 22-38; Arthur W. Burks et al., “Preliminary Discussion of the Logical Design of an Electronic Computing Instrument, Part I, I,” Contract No. W-36-034-ORD-7481, between the United States Army Ordnance Department and the Institute for Advanced Studies, Princeton, June 1946, in A.H. Taub, ed., *John von Neumann: Collected Works*, 6 vols. (New York: Macmillan, 1961-63), V, 34-79; John von Neumann, “The General and Logical Theory of Automata [and “Discussion,” 1948],” in Lloyd A. Jeffress, ed., *Cerebral Mechanisms in Behavior: The Hixon Symposium* (New York: John Wiley & Sons, 1951), 1-41.

mill, an interstate highway interchange, or a broadcasting system.³²³ There were the “main subdivisions,” “specialized organs,” or “principal components,” and “uniformly only one organ for each basic operation,” each distinctively organized in its own separate “unit,” or plant or department. There were “the connections between the elements,...the general...regularities...in the complex syntheses of the organisms,” the central coordination of the technical divisions, through technical (not social) “memory,” “control,” and “orders that exercise” it, a “code” of technically determined interdependence.³²⁴ The descriptions of memory were highly suggestive. Although von Neumann often called this part “storage,” it was much more, all of the industry’s or plant’s system in production, not only the raw material in storage, in particular locations, but also the material in the established (remembered) process, from one location to another, the entire mechanism of the process, its maintenance, the inspection of the product in process, and the “final” product, up to delivery.³²⁵ The code of orders and instructions for operation was virtually industrial. It spoke as if of regional networks, warehousing rules, plant layout, routing, regulations, specifications, user’s manuals, operating instructions, standard procedure, maintenance schedule, inspection locations, logs. For the system’s “normal *modus operandi*” the code included orders to change

³²³ Von Neumann, “First Draft,” 1, 3-6, 9; Burks et al., “Preliminary Discussion,” 35, 39, 41, 43-44, 66, 70, 72-74, 76-77; von Neumann, “The General and Logical Theory,” 3, 5, 9-15, 18-31, 33-34, 37-39, 109-111; idem, “Theory of Self-Reproducing Automata [1952-53],” in William Aspray and Arthur Burks, eds., *Papers of John von Neumann on Computing and Computing Theory* (Cambridge: MIT, 1987), 466; John von Neumann, *The Computer and the Brain* [1956] (New Haven: Yale University, 1958), 1-2, 30-82.

³²⁴ Von Neumann, “First Draft,” 1-4, 6, 8-9, 25, 37; Burks et al., “Preliminary Discussion,” 35-43, 58-59, 61, 65-70, 73-74, 76-79; von Neumann, “General and Logical Theory,” 2-3, 28; idem, *The Computer*, 8-10, 13, 29-31, 50-51.

³²⁵ Idem, “First Draft,” 2-3, 25-39; Burks et al., “Preliminary Discussion,” 35-36, 38-41, 44, 55, 67, 76; von Neumann, “General and Logical Theory,” 41, 58; idem, *The Computer*, 14, 17-20, 31-37, 60-69.

memory's "contents," accordingly change its own instructions.³²⁶ Most demystifying were von Neumann's descriptions of "operations," in their "long and complicated sequences." They resembled abstracts of modern industrial operations, the conversion of humanly comprehensible data to binary digits like rendering bales of cotton to fiber, or crude oil to its atoms, the recombination of the bits and their conversion into humanly useful information like recombining fiber into yarn and cloth, recombining hydrocarbons into gas and liquid fuels, lubricants, paraffin, asphalt, not in fact final products, but useful for making them. And the process happened in real time, calculated time, all the more real precisely because so fast, in microseconds, so many (so few) 10^{-6} real seconds.³²⁷ Also, hardly least significant, it was labor using other instruments that built the machine, its motor-generator, transformer, air conditioning, vacuum tubes, diodes, magnetic core, wiring, etc., all 20-odd tons of it, and its codes, and it was labor, "the human operator," that used it and maintained it, "for the control of complicated processes" to produce output to put into other production. In the author's old, explicit model of economic equilibrium workers' *vis viva* had figured among the economy's means of production, the costs of producing and maintaining it no different from such costs for other means. Here workers were in the process, but not elements built into the machine. Here this inanimate "artificial automaton," *vis exanima*, responded duly to stimuli, obeyed automatically, and delivered the product.³²⁸

³²⁶ Von Neumann, "First Draft," 2, 39-42; Herman H. Goldstine and John von Neumann, "Planning and Coding Problems for an Electronic Computing Instrument, Part II [1947-48]," in Aspray and Burks, *op. cit.*, 151-306; von Neumann, *The Computer*, 20, 70-73.

³²⁷ Idem, "First Draft," 2, 6-8, 11-25, 37-39; Burks et al., "Preliminary Discussion," 35-38, 41-78; von Neumann, "General and Logical Theory," 3-5, 7-9, 15-19, 35-39, 110; idem, "Theory of Self-Reproducing Automata," 478-479; idem, *The Computer*, 8-14, 17-19, 26-31, 36-37, 43-44; idem, "The Impact of Recent Developments in Science on the Economy and on Economics," in Taub, *op. cit.*, VI, 100-101.

³²⁸ Idem, "A Model," 2; idem, "First Draft," 1, 3, 7; Burks et al., "Preliminary Discussion," 35-38, 41-44, 48, 50-51, 54-56, 58-60, 62-63, 65-74, 76-79; Goldstine and von Neumann, *op. cit.*, 104, 152, 170-174,

Von Neumann, a grand master at strategic exchange, which he called “strategic,” correctly saw none such in the computer. The technical problems he saw in real production, he described in ordinary language. The need for so many operations so fast “shows in a most striking way where the real difficulty, the main bottleneck, of an automatic very high speed computing device lies: At the memory... Clearly the [device’s] practicality...depends most critically on the possibility of building such an M, and on the question of how simple such an M can be made. ...the decisive part of the device, determining more than any other part its feasibility, dimensions, and cost, is the memory.”³²⁹ He might have added maintenance of memory mattered no less, to avoid errors, or worse, “a total break-down,” and to improve the “operating ratio,” the “good time” in the time “attempted to run.”³³⁰ His computer being a productive system, it did in its expansion bear industrially and technically strategic features. Von Neumann sensed them in his “probabilistic” logic that “precautions against [the computer’s] failure” were only attempts “to achieve a state where at least a majority of all failures will not be lethal.”³³¹ These features were two. One was a simple strategic fault inherent in all modern production. Any system less than global was a division, producing its special

181-222, 224-285, 292-306; von Neumann, “Theory of Self-Reproducing Automata,” 439; idem, *The Computer*, 36, 71, 74. Cf. “electrical engineer,” “electrical-instrument repairman,” “jig runner,” “job setter,” “librarian,” “maintenance mechanic,” and “program-transmission supervisor,” in Job Analysis and Information Section, Division of Standards and Research, U.S. Department of Labor, *Dictionary of Occupational Titles* (Washington: Government Printing Office, 1939), 320, 321, 486, 487, 547, 572-573, 713; and Martin H. Weik, “A Survey of Domestic Electronic Digital Computing Systems,” Report No. 971, Department of the Army Project No. 5B0306002, Ordnance Research and Development Project No. TB3-0007, December 1955, <http://ed-thelen.org/comp-hist.BRL.html>, 28, 54, 71-72, 85, 87, 105, 144, 148.

³²⁹ Von Neumann, “First Draft,” 28-29. See also Burks et al., “Preliminary Discussion,” 35-43, 65-70, 73-74, 76-77; von Neumann, “General and Logical Theory,” 63; Goldstine and von Neuman, *op. cit.*, 152-157, 162, 267, 287; idem, “Theory of Self-Reproducing Automata,” 441-443; idem, *The Computer*, 14, 17, 19, 60.

³³⁰ Weik, *op. cit.*, 28, 54, 71-72, 85, 87, 105, 144, 148, 230-235, 238-243.

³³¹ Idem, “General and Logical Theory,” 110; idem, “Theory of Self-Reproducing Automata,” 460-461. The question of simulation, e.g., “unstable power supplies,” was not von Neumann’s concern: Ward C. Halstead, “Discussion,” Jeffress, *op. cit.*, 40.

array of products, in theory one (composite) specialty, which by reprogramming it could change, but only to another specialty, so that no system less than global was ever complete in itself, but every system needed connection with another (or others), for inputs and outputs; every such connection was (to some degree) a materially strategic risk. The other was a strategic fault inherent in von Neumann's design. His sequential, imperative, binary system implied an industrial complex producing in batches, one after another, processing each element separately, each partly processed element stored and progressively retrieved for further processing, the operations often by complements, with fixed proportions in each product, and all disjunctively. The specific problem in the warehouse, millions on millions of trips back and forth, all along the same corridor, von Neumann recognized in principle before it became "the von Neumann bottleneck" in fact. If he had conceptualized "strategy" more broadly, for production too, he might have seen his M standing for transport and communications between plants, departments, divisions, and called this productive connection "strategic" too. M was the key to the system, precisely because of the system's logical, central, arch-typical defect, its internal inconsistency, "for the sake of efficiency" its "highly composite" structure, its inevitably faulty "balance" of mismatches in the material division of labor, maybe 30% of which (by his guess) endangered production. If he had thought "strategically" of combinatorics, he better than anyone else could have explained the system's instability.³³² But he did not.

³³² Von Neumann, "Final Draft," 1, 6, 39; "General and Logical Theory," 5, 17, 35, 110; idem, "Theory of Self-Reproducing Automata," 460-461, 465-466, 475.

The most realistic neoclassical operation in the United States then was Wassily Leontief's Harvard Economic Research Project. Conceived as a tableau of the entire U.S. economy, a matrix of its vast inputs and outputs, grounded in Leontief's research with the U.S. Bureau of Labor Statistics and Army Air Force during the war, organized post-war hopefully for U.S. economic planning, to prevent a widely feared U.S. depression, the project concentrated on production.³³³ Its general aim was to show how "technical and natural conditions of production and the tastes of consumers" together determined the quantity and price of the economy's "different types of commodities and services." To connect variables and data, Leontief proposed an "industrial production function" to represent "the technical relation between the physical output of an industry and the input of all the different cost elements absorbed in production." But this function was not smooth. Since Leontief believed the "specialized technological investigation" to specify each industry's function was still impossible, he imposed "quite definite assumptions" on the function's form. To get "the most rigid type," to make it "operational," he required "the amount of each cost element...to be strictly proportional to the quantity of output." Like Walras's original "*coefficients de fabrication*," his "technical coefficients" were therefore fixed, allowing no factor substitution or joint production.³³⁴ Analysis of "the technical structure of all the [U.S. economy's] many branches" would then indicate the

³³³ In his background: Ladislaus von Bortkiewicz, "Wertrechnung und Preisrechnung im Marxschen System," *Archiv für Sozialwissenschaft und Sozialpolitik*, XXV, 1 (July 1907), 10-51, 445-488; Wassily Leontief, "Quantitative Input and Output Relations in the Economic System of the United States," *Review of Economics and Statistics*, XVIII, 3 (August 1936), 105-125; idem, "Interrelation of Prices, Output, Savings, and Investment: A Study in Empirical Application of the Economic Theory of General Interdependence," *ibid.*, XIX, 3 (August 1937), 109-132; idem, *The Structure of the American Economy, 1919-1939: An Empirical Application of Equilibrium Analysis* (Cambridge: Harvard University, 1941).

³³⁴ Idem, "Introduction to a Theory of the Internal Structure of Functional Relationships," *Econometrica*, XV, 4 (October 1947), 361-373; idem, *The Structure of the American Economy, 1919-1939: An Empirical Application of Equilibrium Analysis*, 2nd ed., enl. (New York: Oxford University, 1951), 14-16, 33-41, 51-52. So far as I can tell Leontief coined the term "industrial 'production function,'" in his "Interrelation of Prices," 111.

“structural relationships” most important especially for post-war employment. Once the project delivered a batch of remarkable essays in the theory and “use of technological data” from several U.S. industries, Leontief insisted on “engineering production functions,” or “technical production...functions.” Here as in the industrial function each “cost factor” in the final product “is technologically fixed.” Using “engineering data” to determine the constant coefficients of technical functions, economists and planners could finally derive their simple “economic production functions.” Indeed Leontief’s tables listed how much each industry counted cost-wise in other industries’ production. But that was it, in dollars, not in material consequences. Leontief never advised economists to learn any engineering, only (like Samuelson) to use it, here to determine the industrial balance; if he wrote once “tactical” and “strategic,” he did not mean it materially.³³⁵ A matrix of industrial accounts, based on the technicalities of production, fixed for the technology’s duration, implied a map of technical vulnerability, which would open a wide prospect for strategic analysis of work. But Leontief did not move a hair in this direction.

Among his many students the most brilliant did explore “partial dynamics” in “general interdependence.” Given “continuous marketing and production planning,” he argued, “coupling” unevenly lagged production across markets (a problem of “simultaneous dynamical equations,...one of forced motion, or inhomogeneity”)

³³⁵ Leontief, *The Structure*, 139-152, 202-218; idem et al., *Studies in the Structure of the American Economy: Theoretical and Empirical Explorations in Input-Output Analysis* (New York: Oxford University, 1953), ix, 3, 5-6, 10, 12-15, 53-55, 65-68, 82-83. Cf. W. Duane Evans and Marvin Hoffenberg, “The Interindustry Relations Study for 1947,” *Review of Economics and Statistics*, XXXIV, 2 (May 1952), 97-142. On “operational,” a word Samuelson had used since 1938, but Leontief not until 1946: Henry Schultz, “Rational Economics,” *American Economic Review*, XVIII, 4 (December 1928), 647-648; Schultz’s source is P.W. Bridgman, *The Logic of Modern Physics* (New York: Macmillan, 1927), 5, 28.

increased instability in the economy at large. But he wanted to explain the business cycle's "irregular oscillations," not the link and timing of strikes for most instability.³³⁶

Another Leontief student actually invented an "engineering production function." Himself a second-generation engineer, an Air Force meteorologist in Italy during the war, he figured at the HERP as the principal technical expert on production.³³⁷ He well knew one kind of industrial transportation, and by second nature grasped real "technical relations," "industrial processes," "an actual productive process," "physical processes." But at Harvard he lost this grip. Allowed by Leontief to slip under Samuelson's influence, he then translated engineering into MIT-economics, the Econ game. Using technical data for gas pipelines, "only one feasible technique, and the production function is continuous," he called the main considerations in pipeline design (viz., pipe and horsepower) "engineering variables," ignored the industry's other "processes" (finding the gas, recovering, cleaning, storing, and distributing it, and maintenance), and by "a simple transformation" put his engineering function mathematically in the very same form as Samuelson's, i.e., equations from thermodynamics.³³⁸ From analysis of industrial

³³⁶ Richard M. Goodwin, "Dynamical Coupling with Especial Reference to Markets Having Production Lags," *Econometrica*, XV, 3 (July 1947), 181-183, 186-187, 190, 197-204.

³³⁷ Hollis B. Chenery, whose father was long chairman of the Southern Natural Gas Company, which pipelined gas from Houston via Birmingham to Atlanta, held a B.S. in mathematics from the University of Arizona (1939) and a B.S. in natural-gas engineering from the University of Oklahoma (1942), before he took an M.A. in economics from the University of Virginia (1947), for a thesis revised as Raymond F. Mikesell and Hollis B. Chenery, *Arabian Oil: American's Stake in the Middle East* (Chapel Hill: University of North Carolina, 1949), and wrote "Engineering Bases of Economic Analysis," Ph.D., Harvard University, 1950 (directed by Edward S. Mason, co-signed by Wassily Leontief). I thank Samuel Bowles, Marcie Fritz, Carl Kaysen, Arthur MacEwan, Dwight Perkins, Jerry Snow, and Lance Taylor for information on Chenery's academic career. I am grateful to Sister Hollis Ann Chenery for the information on her father's military service in Italy.

³³⁸ Hollis B. Chenery, "Engineering Production Functions," *Quarterly Journal of Economics*, LXIII, 4 (November 1949), 507-531; idem, "Overcapacity and the Acceleration Principle," *Econometrica*, XX, 1 (January 1952), 1-28; idem, "Process and Production Functions from Engineering Data," in Wassily Leontief, ed., *Studies in the Structure of the American Economy: Theoretical and Empirical Explorations in Input-Output Analysis* (New York: Oxford University, 1953), 297-325. A primer on Chenery's industry: "Natural Gas Fundamentals: From Resource to Market," U.S. Department of Energy, DOE/FE-0457, June 2003, www.fe.doe.gov/programs/oilgas/publications.

interdependence, he could have constructed a function for industrial disruption. But he sought to overcome bottlenecks, not use them.³³⁹

The biggest rival to Leontief's HERP was the neo-Walrasian Cowles Commission, which Tjalling Koopmans then directed at Chicago. In the same grand post-war hope for a theory and practice of planned capitalism, their social democracy, the Cowlesmen concentrated on how to figure "the best allocation of limited means toward desired ends." For theory they deferred to both von Neumann and Leontief (except for Leontief's empirics). For practice, from direct experience during the war, they knew about fixed proportions, knew too the consolations of minimaxing, and wanted an efficient algorithm for the choices, which one of them found.³⁴⁰ Production they took not as the mysterious rendition of priced quantity x into (or for) priced quantity y , but as deliberate industrial combinations of basic technical processes, "elementary activities." The best combination technically attainable, giving the highest feasible "allocative efficiency," would come clear through "activity analysis." Here the production function was not a smooth or a kinked curve, but a convex polyhedral cone, representing a set of efficiently combined activities, each facet a specific "elementary activity."³⁴¹

³³⁹ Hollis B. Chenery and Paul G. Clark, *Interindustry Economics* (New York: John Wiley & Sons, 1959), 39-42, 143-145, 157-164.

³⁴⁰ Tjalling C. Koopmans, "Introduction," in idem, ed., *Activity Analysis of Production and Allocation: Proceedings of a Conference* (New York: John Wiley & Sons, 1951), 1-4; Jacob Marschak and William H. Andrews, Jr., "Random Simultaneous Equations and the Theory of Production," *Econometrica*, XII, 3/4 (July/October 1944), 143-205; Tjalling C. Koopmans and Stanley Reiter, "A Model of Transportation [1944]," in Koopmans, *op. cit.*, 222-259; George B. Dantzig, "The Programming of Interdependent Activities: II Mathematical Model," *Econometrica*, XVII, 3/4 (July 1949), 200-211; idem, "Maximization of a Linear Function of Variables Subject to Linear Inequalities," in Koopmans, *op. cit.*, 339-347.

³⁴¹ Koopmans, "Introduction," 2, 6, 8, 10-11; idem, "Analysis of Production as an Efficient Combination of Activities," in *op. cit.*, 33-97. Here (I bet) is the Taylor-Dewey lineage of the term "activity analysis": John Franklin Bobbitt, "The Elimination of Waste in Education," *Elementary School Teacher*, XII, 6 (February 1912), 259-271; W. W. Charters, *Curriculum Construction* (New York: Macmillan, 1923); Ralph W. Tyler, *Basic Principles of Curriculum and Instruction* (Chicago: University of Chicago, 1949); idem, "The Leader of Major Educational Projects," *Educational Research Bulletin*, XXXII, 1 (February 11, 1953), 42-52. As dean of the Division of Social Sciences at Chicago Tyler served on the Cowles Commission's executive

Industrial/technical allocations were then problems of “linear programming,” solved by the new “simplex method.” The Cowlesmen allowed factor substitution and joint production, but always within limits, within “linear inequalities” that symbolized material constraints, maybe operational disjunction, “no feasible solution.”³⁴² Graphically, industrial/technical relations of production would be a convex polyhedron, some or all of its vertices originating convex polyhedral cones, some or all of the vertices of which would originate the next stage of convex polyhedral cones, and so on, the more complex the production, the bigger and more elaborate the network, and the more heavily loaded certain vertices and edges.³⁴³ Had Koopmans put his mind to it, he could have soon drawn a graph theory of production, including hierarchical networks.³⁴⁴ From graphed “activity analysis” it would have taken but a sketch to explain a transport or communication system’s, or an industry’s, or a plant’s, most vulnerable nodes and links. But Koopmans and his fellows were trying to prove they could correct capital’s economy, not threaten it. It would have seemed to them crazy or purely idle to think of disactivation.³⁴⁵

committee, 1948-53, then became first director of the Center for Advanced Study in the Behavioral Sciences at Stanford, 1954-66. I cannot find that von Neumann ever wrote the words “activity analysis.”

³⁴² Koopmans, “Introduction,” 5, 8, 11; idem, “Analysis of Production,” 33-34; George B. Dantzig, “The Programming of Interdependent Activities: Mathematical Model,” in Koopmans, *op. cit.*, 19-32, idem, “Maximization of a Linear Function of Variables Subject to Linear Inequalities,” *ibid.*, 339-347; Melvin E. Salveson, “On a Quantitative Method in Production Planning and Scheduling,” *Econometrica*, XX, 4 (October 1952), 554-590.

³⁴³ Cf. David Gale, “Convex Polyhedral Cones and Linear Inequalities,” in Koopmans, *op. cit.*, 287-297; Murray Gerstenhaber, “Theory of Convex Polyhedral Cones,” *ibid.*, 298-316.

³⁴⁴ Koopmans and Reiter, *op. cit.*, 227 n6, 258-259. For an “analogy” to “linear graphs” entering “transportation theory,” they refer to G. Kirchhoff, “Über die Auflösung der Gleichungen, auf welche man bei der Untersuchung der linearen Vertheilung galvanischer Ströme geführt wird,” *Annalen der Physik und Chemie*, 2nd ser., LXXII, 12 (1847), 497-508. Cf. George K. Zipf, *Human Behavior and the Principle of Least Effort* (Cambridge: Addison-Wesley, 1949).

³⁴⁵ E.g., Kenneth Arrow, *Social Choice and Individual Values* (New York: John Wiley & Sons, 1951); idem, Alternative Approaches to the Theory of Choice in Risk-Taking Situations,” *Econometrica*, XIX, 4 (October 1951), 404-437; idem and Gerard Debreu, “Existence of an Equilibrium for a Competitive Economy,” *Econometrica*, XXII, 3 (July 1954), 265-290.

Maybe the sharpest, probably the most original, certainly the crankiest of the Cowlesmen adopted a richly significant term in his analysis of production, “elementary process.”³⁴⁶ If he had not then wasted it on homogeneity and linearity, but used its entailment of boundaries, especially for interruptions in time, which he sharply understood from his old agrarian service in Romania, Nicholas Georgescu-Roegen could have connected “limitationality” and complementarity into the design of a new “engineering economics,” and diagrammed systematic vulnerability and disruption.³⁴⁷

Another neo-Walrasian project meanwhile flourished at Cambridge (despite Joan Robinson). Its leader, Richard Stone, had influence of which Leontief and Koopmans could only dream. A principal at Britain’s National Institute of Economic and Social Research (economic planning during and after the war), founding director of Cambridge’s new Department of Applied Economics, chairman of the experts behind the U.N.’s new “System of National Accounts,” and chief of the Marshall Plan’s National Accounts Research Institute, he was then trying to combine input-output analysis and his

³⁴⁶ Nicholas Georgescu-Roegen, “Leontief’s System in the Light of Recent Results,” *Review of Economics and Statistics*, XXXII, 3 (August 1950), 216-217, 221-222. In English, French, and German this seemingly innocent term has had an adventurous history in physics, chemistry, biology, philosophy, and psychology. I believe Georgescu-Roegen took it from physics. Cf. M. Planck, “Über das thermodynamische Gleichgewicht von Gasgemengen,” *Annalen der Physik*, 3rd ser., XIX, 6 (1883), 365; A. Einstein, “Über einen die Erzeugung und Verwandlung des Lichtes betreffenden heuristischen Gesichtspunkt,” *ibid.*, 4th ser., XVII, 6 (1905), 144; idem, “Zum gegenwärtigen Stand des Strahlungsproblems,” *Physikalische Zeitschrift*, VI, 10 (March 15, 1909), 186, 190, 191; idem, “Zur Quantentheorie der Strahlung,” *ibid.*, XVIII (1917), 122, 124, 126-127; idem, “Über ein den Elementarprozess der Lichtemission betreffendes Experiment,” *Sitzungsberichte der Preussischen Akademie der Wissenschaften, Physikalisch-mathematische Klasse*, (1921), 882-883; idem, “Vorschlag zu einem die Natur des elementaren Strahlungsemissionsprozesses betreffenden Experiment,” *Die Naturwissenschaften*, XIV, 14 (April 1926), 300; Bridgman, *op. cit.*, 156-157, 165-166, 194. Cf. Melvin T. Copeland, “Technical Development in Cotton Manufacturing since 1860,” *Quarterly Journal of Economics*, XXIV, 1 (November 1909), 120.

³⁴⁷ Nicholas Georgescu-Roegen, “A Diagrammatic Analysis of Complementarity,” *Southern Economic Journal*, XIX, 1 (July 1952), 1-20; idem, “Limitationality, Limitativeness, and Economic Equilibrium,” in Office of Scientific Research, United States Air Force, *Proceedings of the Second Symposium in Linear Programming* (Washington: National Bureau of Standards and Directorate of Management Analysis, 1955), 295-330; idem, “Economic Activity Analysis,” *Southern Economic Journal*, XX, 4 (April 1956), 474; idem, “Economic Theory and Agrarian Economics [1948 ff],” *Oxford Economic Papers*, new ser., XII, 1 (February 1960), 1-40. Cf. John Chipman, “Linear Programming,” *Review of Economics and Statistics*, XXXV, 2 (May 1953), 104.

own “social accounting.”³⁴⁸ Through research and applications he was teaching economists worldwide the logic of both systems. He did not do production functions; he did the metrics of “economic flows.” But precisely therefore, in collaboration with Cowles, his fellows were spreading “activity analysis” in Britain and on the Continent. And Stone and they were using network theory and graphs.³⁴⁹ Cambridge’s DAE then offered countless chances to conceptualize production’s strategic positions, even how to forecast the cost of the damage strategic disruption could do. Moreover, renewed concern for British industrial efficiency gave virtual license to young DAE economists to spy into the hidden abode, to do technical studies showing strategic positions.³⁵⁰ And by 1960 Stone & Company were thinking strategically about production (without the word). But it was all for planning national economic growth, not labor’s power, anywhere.³⁵¹ DAE

³⁴⁸ Richard Stone, “Appendix: Definition and Measurement of the National Income and Related Totals,” in Sub-Committee on National Income Statistics, League of Nations Committee of Statistical Experts, *Studies and Reports of Statistical Methods No. 7: Measurement of National Income and the Construction of Social Accounts* (Geneva: United Nations, 1947), 23-113; idem, “The Theory of Games,” *Economic Journal*, LVIII, No. 230 (June 1948), 185-201; idem and J.E.G. Utting, “The Relationship between Input-Output Analysis and National Accounting [1950],” and “Discussion,” in Netherlands Economic Institute, ed., *Input-Output Relations: Proceedings of a Conference on Inter-Industrial Relations* (Leiden: H.E. Stenfert Kroese, 1953), 195-229; Richard Stone, *The Role of Measurement in Economics* (Cambridge: Cambridge University, 1951), 39-46, 50, 54-55; idem, “Input-Output and the Social Accounts [1954],” in Tibor Barna, *The Structural Interdependences of the Economy: Proceedings of an International Conference on Input-Output Analysis* (New York: John Wiley & Sons, 1956), 155-172; idem and Giovanna Croft-Murray, *Social Accounting and Economic Models* (London: Bowes and Bowes, 1959), 25-54.

³⁴⁹ Richard Stone, “Comptabilité sociale, agrégation et invariance,” *Économie appliquée*, II, 1 (January 1949), 35-36, 38-42; J. Marczewski and G. Th. Guilbaud, “Essai d’analyse graphique d’une comptabilité nationale,” *ibid.*, 138-147; Richard Stone and S.J. Prais, “Systems of Aggregative Index Numbers and Their Compatibility,” *Economic Journal*, LXII, No. 247 (September 1952), 581.

³⁵⁰ E. A. G. Robinson, *The Structure of Competitive Industry* [1931], 4th ed., rev. (London: James Nisbet & Co., 1958), 1-3, 10-33; George Maxcy and Aubrey Silberston, *The Motor Industry* (London: George Allen & Unwin, 1959), 53-56, 75-86, 132-134; Robin Marris et al., *The Economics of Capital Utilisation: A Report on Multiple-Shift Work* (Cambridge: Cambridge University, 1964), 1-7, 23, 27-29, 41-42, 61-86, 143-145, 171-207.

³⁵¹ Richard Stone, ed., *A Programme for Growth*, 3 vols. (London: Chapman and Hall, 1962-1963).

research for “an organizational theory of the firm” could have made labor quite useful strategic discoveries. But it was to help businessmen maximize profits.³⁵²

By 1960 the Free-World Econ generally was turning its focus from “production” to “growth.” In the lead, by then dominating the profession, Samuelson & Company radiated confidence their Keynesianism, econometric forecasting, and new “Phillips Curve” would bring the economies that mattered most to them just the right rate of growth, or close enough.³⁵³ So confidently they transformed neo-Paretian “production theory” into neo-Paretian “growth theory,” more to the point neo-Paretian “capital theory,” in effect how to blame labor for inflation. And soon, smoothly, the neo-Paretians absorbed the neo-Walrasians, backing neoclassical economics farther than ever away from production, deeper into Econ’s exchange, not only in the United States, but in Britain and France too.³⁵⁴ In all the new consensus I caught but one “strategic”

³⁵² E.g., M. J. Farrell, “The Measurement of Productive Efficiency,” *Journal of the Royal Statistical Society, Series (General)*, CXX, 3 (1957), 253-263, 289; idem, “The Convexity Assumption in the Theory of Competitive Markets,” *Journal of Political Economy*, LXVII, 4 (August 1959), 377-391; idem, “Research on the Theory of the Firm--Discussion,” *American Economic Review*, L, 2 (May 1960), 562-564; idem and A. R. Jolly, “The Structure of the British Coal Mining Industry in 1955,” *Journal of Industrial Economics*, XI, 3 (July 1963), 199-216. Cf. P. Sargant Florence, *The Logic of Industrial Organization* (London: K. Paul, Trench, Trubner & Co., 1933); P. W. S. Andrews, *Manufacturing Business* (London: Macmillan, 1949).

³⁵³ A.W. Phillips, “The Relation between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom, 1861-1957,” *Economica*, new ser., XXV, No. 100 (November 1958), 283-299; Paul A. Samuelson and Robert M. Solow, “Analytical Aspects of Anti-Inflation Policy,” *American Economic Review*, L, 2 (May 1960), 177-194; Paul A. Samuelson, “Parallel and Realism in Capital Theory: The Surrogate Production Function,” *Review of Economic Studies*, XXIX, 3 (June 1962), 193-206.

³⁵⁴ Dorfman et al. [Samuelson and Solow], *op. cit.* 39-63, 130-203, 265-308; Tjalling C. Koopmans, “Economic Growth at a Maximal Rate,” *Quarterly Journal of Economics*, LXXVIII, 3 (August 1964), 355-394; Richard Stone, “Models of the National Economy for Planning Purposes,” *OR [Operational Research]*, XIV, 1 (March 1963), 51-59; idem, “Consistent Projections in Multi-Sector Models,” in E. Malinvaud and M.O.L. Bacharach, eds., *Activity Analysis in the Theory of Growth and Planning: Proceedings of a Conference held by the International Economic Association [1963]* (London: Macmillan, 1967), 232-244; Richard Stone, *A Programme for Growth, Vol. 5: The Model in Its Environment* (Cambridge: Chapman and Hall, 1964); L. R. Klein, “Estimation of Interdependent Systems in Macroeconometrics,” *Econometrica*, XXXVII, 2 (April 1969), 171-192; Paul A. Samuelson, “Maximum

observation on production, in criticism of Stone's confusion of "real flows and financial flows."³⁵⁵ For the rest, on one assumption or another, mainly by omitting intractable essentials, every problem ended in a trade. Through "constant elasticity of substitution" even Leontiefians and Cowlesmen could see beyond "limitational factors," industrial bottlenecks, technical fixtures, to find "feasibility."³⁵⁶ Along the way some used "activity analysis" for "process analysis," hopefully to improve "investment planning within the newly developing countries."³⁵⁷ Because this analysis came in part from RAND's Operations Research, it yielded excellent, almost literally strategic studies of metal and metalworking industries.³⁵⁸ If these studies had been for labor movements, not "policy planners," if labor movements then had used such studies instead of, or besides, legal briefs and political pull, "if wishes were horses...." But on neo-Paretian terms economists did not ask which kind of utility, whose utility, to optimize, except a few around Stone, implicitly, and they let it go.³⁵⁹ Good economists were to assume inequality, sanctify efficiency, purge Econ of strikes. Under Nixon this Keynesianism dissolved in

Principles in Analytical Economics [Nobel Memorial Lecture, 1970],” *American Economic Review*, LXII, 3 (June 1972), 249-262.

³⁵⁵ R. Frisch, "Discussion," in *Input-Output Relations*, 228.

³⁵⁶ E.g., K.J. Arrow et al., "Capital-Labor Substitution and Economic Efficiency," *Review of Economics and Statistics*, LXIII, 3 (August 1961), 225-250; Daniel McFadden, "Constant Elasticity of Substitution Production Functions," *Review of Economic Studies*, XXX, 2 (June 1963), 73-83; K. Sato, "A Two-Level Constant-Elasticity-of-Substitution Production Function," *ibid.*, XXXIV, 2 (April 1967), 201-218; Kenneth J. Arrow, *The Limits of Organization* (New York: W. W. Norton, 1974).

³⁵⁷ Alan S. Manne and Harry M. Markowitz, eds., *Studies in Process Analysis: Economy-Wide Production Capabilities* (New York: John Wiley & Sons, 1963), 6-7. "...activity analysis is to process analysis as calculus is to physics...." 4 n.

³⁵⁸ "...industrial ramifications of strategic bombing," *ibid.*, 7; Tibor Fabian, "Process Analysis of the U.S. Iron and Steel Industry," *ibid.*, 237-263; Harry M. Markowitz and Alan J. Rowe, "The Metalworking Industries," *ibid.*, 264-284; Harry M. Markowitz and Alan J. Rowe, "A Machine Tool Substitution Analysis," *ibid.*, 323-351.

³⁵⁹ In Stone's group, e.g., P. Lesley Cook, *Railway Workshops: The Problems of Contraction* (Cambridge: Cambridge University, 1964); J. A. Mirrlees, "The Dynamic Nonsubstitution Theorem," *Review of Economic Studies*, XXXVI, 1 (January 1969), 67-76; Colin Leicester, *An Econometric Model for National Manpower Planning* (Cambridge: Cambridge University, 1971); Alan R. Roe, *The Financial Interdependence of the Economy, 1957-1966* (Cambridge: Chapman & Hall, 1971).

“stagflation,” from which Chicago arose in new glory, “rational expectations,” oblivious of materially strategic utility.

The main economists the Samuelsonian synthesis did not subsume (outside Chicago) were at Cambridge. The Corfú debates over capital continued through the 1960s in the “Cambridge Controversy,” Samuelson & Co. vs. Robinson & Co.³⁶⁰ The resistance of the latter never flagged, nor did their edge dull. In the old terms they gave better than they got; Kaldor found “strategic factors” in curves for increasing returns in development.³⁶¹ But more than resistance was cooking there, a deep reconsideration of production that challenged the terms of the whole controversy. From an idea of production as internally articulated structures of transformation, Piero Sraffa had theorized the inequality of proportions of labor to means of production across industries and the different proportions in which an industry used “basic commodities” to produce commodities.³⁶² This was very significant for materially strategic analysis. Taken seriously, it would undo neoclassicism, and explain Stone’s planning. No one jumped at the chance to do either. But the idea did excite the dean of neo-Paretian general equilibrium, the Oxonian J.R. Hicks. In a twist over linear programming, he could not hold coefficients fixed in joint production from t to $t+1$. The problem was structural, shifting scales. Slipping neo-Paretian discipline, Hicks opened a short transition between t ’s equilibrium and $t+1$ ’s, “the Traverse,” during which you abused the forces of

³⁶⁰ Two would-be summations: G. C. Harcourt, *Some Cambridge Controversies in the Theory of Capital* (Cambridge: Cambridge University, 1972); and Joseph E. Stiglitz, “The Cambridge-Cambridge Controversy in the Theory of Capital: A View from New Haven,” *Journal of Political Economy*, LXXXII, 4 (July 1974), 893-903.

³⁶¹ Nicholas Kaldor, *Strategic Factors in Economic Development* (Ithaca: Cornell University, 1967). The keyword appears only in the title.

³⁶² Cf. Piero Sraffa, “Sulle relazioni fra costo e quantità prodotta,” *Annali di Economia*, No. 2 (1925), 277-328; and idem, *Production of Commodities by Means of Commodities: Prelude to a Critique of Economic Theory* (Cambridge: Cambridge University, 1960), vi, 12-18, 21, 43-46, 56-58, 63-64, 89.

production and just altered the ratios, issuing in a new equilibrium. Directly he headed into the longest traverse, “economic history,” where he emphasized the definitive disequilibria of modern “fixed capital goods.” Soon he had (he thought) “a neo-Austrian theory” to explain growth in time from one “steady state” to another. Amazingly it was about “the process of production” in “the extreme of (vertical) integration,” to explore “the general productive process...composed of...*separable elementary processes*.” This was a theory of systematic, continual, irreversible disparities between old and new means of production, in scale and utilization, all matters of much strategic significance-- however otherwise Hicks viewed them.³⁶³

Another independent was the crankiest old Cowlesman. For his own agrarian reasons, ever stronger as the European Economic Community made agricultural policy an international controversy, Georgescu-Roegen also went deep (and much more sharply than Hicks) into studies of productive processes, and turned into a terrific critic of neo-classicism. While the Cantabs debated capital/labor ratios, quantities, he pondered the prior concept of quality, difference, the logic of size and scale in production.³⁶⁴ At an IEA conference in Rome in 1965 on “agriculture in industrial societies” he slammed the profession’s standard production function, useless for qualitative variables, ridiculed

³⁶³ Hague, *op. cit.*, 305-306; J. R. Hicks, “Thoughts on the Theory of Capital--The Corfu Conference,” *Oxford Economic Papers*, new ser., XII, 2 (June 1960), 123-132; idem, “Linear Theory,” *Economic Journal*, LXX, No. 280 (December 1960), 671-709; idem, “The Story of a Mare’s Nest,” *Review of Economic Studies*, XXVIII, 2 (February 1961), 77-88; John Hicks, *Capital and Growth* (New York: Oxford University, 1965), 183-197; idem, *A Theory of Economic History* (London: Oxford University, 1969), 141-145, 151-154, 164-165, 168-171; idem, “A Neo-Austrian Growth Theory,” *Economic Journal*, LXXX, No. 318 (June 1970), 257-281; idem, “The Austrian Theory of Capital and Its Rebirth in Modern Economics [1971],” in idem and W. Weber, eds., *Carl Menger and the Austrian School of Economics* (Oxford: Clarendon, 1973), 190-206; John R. Hicks, “The Mainspring of Economic Growth,” http://nobelprize.org/nobel_prizes/economics/laureates/1972/hicks-lecture.html; idem, *Capital and Time: A Neo-Austrian Theory* (Oxford: Clarendon, 1973), 3-8, 11, 27-36, 50, 81-148, 180-182, 185-210, his emphasis.

³⁶⁴ Nicholas Georgescu-Roegen, “Measure, Quality, and Optimum Scale,” in C.R. Rao, ed., *Essays in Econometrics and Planning Presented to Professor P.C. Mahalanobis* (Oxford: Pergamon, 1964), 231-256.

economists who ignored “the engineering production function,” and proposed an “economic production function,” a function of functions, including engineering, to analyze “economic production.” And he put it to richly significant use. From a fundamental distinction between productive “funds” (factors indefinitely reusable) and productive “flows” (inputs for depletion or outputs for consumption), he explained the basic difference between agricultural and industrial operations, naturally different economies of time.³⁶⁵ It was as if he had mind-melded into the hidden abode, filmed days on end there, and got the special chronologic. Returned to his “elementary processes,” he insisted on their analytical separation from each other and their analytically specific durations or capacities per day. And he deliberately represented production as networks of these processes, each to engage “funds” according to a technically specific order, scale, and schedule.³⁶⁶ This was an argument practically made to develop materially strategic analysis. But he would take it to universal dimensions, to explain “the entropic nature of the [entire] economic process,” regardless of the nature of economic disruption.³⁶⁷

Von Neumann, Leontief, Koopmans, Georgescu-Roegen, Stone, Sraffa, Hicks (sooner or later) all had theories especially good for analysis of production’s incongruities. No wonder none of them ever applied his theory to analysis of material or

³⁶⁵ Nicholas Georgescu-Roegen, “Process in Farming versus Process in Manufacturing: A Problem of Balanced Development,” in Ugo Papi and Charles Nunn, eds., *Economic Problems of Agriculture in Industrial Societies: Proceedings of a Conference Held by the International Economic Association* [1965] (London: Macmillan, 1969), 497-528, quotes 502-503.

³⁶⁶ Nicholas Georgescu-Roegen, “The Economics of Production,” *American Economic Review*, LX, 2 (May 1970), 1-9; idem, “On the Case of Catalytic Labor,” *International Economic Review*, XI, 2 (June 1970), 315-317; idem, “Process Analysis and the Neoclassical Theory of Production,” *American Journal of Agricultural Economics*, LIV, 2 (May 1972), 279-294.

³⁶⁷ Idem, “Energy and Economic Myths,” *Southern Economic Journal*, XLI, 3 (January 1975), 357, 363, 379; idem, “Energy Analysis and Economic Valuation,” *ibid.*, LXV, 4 (April 1979), 1024, 1042.

temporal disjunction. But in the 1970s, during the tremendous international financial shift from the Bretton Woods to the petrodollar system, Chicago's ascendancy in Econ, and terrific class struggle in Italy, their theories did come together in a new approach to production clearly more useful for analytical representation of industrial and technical factors with different powers. Theories do not of course just drift together; usually the theorists themselves put them together, claiming improvements on each other. In this case, mainly through an Anglo-Italian connection, some of the theorists' students put them together, for various other purposes (to rewrite Marxist value theory in Sraffa's neo-Ricardian terms, to translate Keynes's "general theory" into a Sraffian/neo-Ricardian theory of capital and distribution, to extrapolate contrasts between Leontief's direct and Sraffa's mediated structuralism, etc.), but in effect, unintentionally, nevertheless logically, to clarify how to analyze production's disproportionality.³⁶⁸ On the Anglo side the teachers from whom they had drawn most influence were at Cambridge, particularly the quieter souls there, Sraffa, Stone, and Leontief's most brilliant student, whom Stone had brought to Cambridge, Richard Goodwin; in Italy, at the Catholic University in Milan, a German- and U.S.-trained "institutionalist," expert on "industrial syndicates," Francesco Vito.³⁶⁹ By 1973 the leader of the new approach was a Cambridge-Cattolica economist whom they had all taught, Luigi Pasinetti.

³⁶⁸ This connection (in economics) dates at least from the British Economic Association's appointment of Maffeo Pantaleoni as its Italian correspondent: M. Pantaleoni, "Due nuovi giornali di economia," *Giornale degli economisti*, 2nd ser., 2 (March 1891), 188-189; Francis Y. Edgeworth, "Osservazioni sulla teoria matematica dell'economia politica con riguardo speciale ai principi dell'economia di Alfredo Marshall," *ibid.*, 2nd ser., 2 (March 1891), 233-245.

³⁶⁹ Francesco Vito, *I sindacati industriali: cartelli e gruppi* (Milan: Vita e Pensiero, 1930); idem, "Lo stato presente della teoria dello sviluppo delle aree arretrate e il caso dell'Italia [1954]," in *Atti del Congresso*, II, 91-115; idem, "Monopolistic Competition and Italian Economic Thought," in Robert E. Kuenne, ed., *Monopolistic Competition Theory: Studies in Impact, Essays in Honor of Edward H. Chamberlin* (New York: John Wiley & Sons, 1967), 293-305; Alberto Quadrio Curzio and Claudia Rotondi, "Sulle ricerche di economia politica in Cattolica: Proiezioni specialistiche ed internazionali," in Giuseppe Garofalo and

The lessons Pasinetti had learned at Cambridge, he had come well prepared to learn. But his Cambridge teachers took him into much more sophisticated orders of thought. From Sraffa he had learned a new Ricardo, theoretical purism, the reason for statics, stylizing circulation, consolidating production into “subsystems,” imagining production without scarcity. From Stone he had learned the dialectics and pragmatics of building models, the politics in defining variables, the reconceptualization of industries as technical structures, the conservatism in an “organic” model of “steady growth,” the risks in dynamic analysis along broken lines. From Goodwin, his first teacher at Cambridge, disciple of Schumpeter and Leontief, he had learned Goodwin’s ratio-altering business-cycle theory, the structure of “pervasive asymmetry in economic interdependence,” nonlinear difference equations (“virgin territory” then, for dynamic analysis of asymmetric systems), why technical progress made economic growth irregular, how to see dynamic connection of different markets forcing instability.³⁷⁰ These lessons (and more), his original development of them, and his innovative insights had appeared in a brilliant dissertation in 1963, “A Multi-Sector Model of Economic Growth.” On the

Augusto Graziani, eds., *La formazione degli economisti in Italia (1950-1975)* (Bologna: Il Mulino, 2004), 361-422. Cf. Siro Lombardini, *Il monopolio nella teoria economica* (Milan: Vita e Pensiero, 1953); and Paolo Sylos-Labini, *Oligopolio e progresso tecnico* (Milan: Giuffrè, 1957).

³⁷⁰ Richard Stone, “The Analysis of Economic Systems,” in Pontificiae Academiae Scientiarum [Piero Giarda and Giacomo Vacaggio], ed., *Study Week on the Econometric Approach to Development Planning, October 7-13, 1963* (Amsterdam: North-Holland, 1965), 1-86, 111-113, quotes 29; Luigi L. Pasinetti, “Professor Sir Richard Stone (1913-1991),” *The Caian: The Annual Record of Gonville and Caius College*, November 1992, 112-118 (for a copy of which I thank Ingrid Bleynat and Paul Segal). Richard Goodwin, “Innovations and the Irregularity of Economic Cycles,” *Review of Economic Statistics*, XXVIII, 2 (May 1946), 95-104; idem, “Dynamical Coupling with Especial Reference to Markets Having Production Lags,” *Econometrica*, XV, 3 (July 1947), 181-204; idem, “A Non-Linear Theory of the Cycle,” *Review of Economics and Statistics*, XXXII, 4 (November 1950), 316-320; idem, “The Nonlinear Accelerator and the Persistence of Business Cycles,” *Econometrica*, XIX, 1 (January 1951), 1-17; idem, “A Growth Cycle,” in C.H. Feinstein, ed., *Socialism, Capitalism and Economic Growth: Essays presented to Maurice Dobb* (Cambridge: Cambridge University, 1969), 54-58; idem, *Elementary Economics from the Higher Standpoint* (Cambridge: Cambridge University, 1971); Luigi L. Pasinetti, “Richard Murphey Goodwin (1913-1996): a pupil’s tribute to a great teacher,” *Cambridge Journal of Economics*, XX, 6 (November 1996), 645-649.

proposition that exchange was essentially static, production dynamic, he had argued “a *pure production* model” to explain why any modern economy making technical changes (for “technical progress”) is continually (in real time) shifting its industrial structure, can grow only erratically, and is explicable only by dynamic analysis. Key to his argument was an algebraic reclassification of all industries in the static, “very disaggregated input-output” model into the technically progressive, “completely aggregated...vertically integrated sectors” of his model, only vertical integration allowing dynamic analysis.³⁷¹ However brilliant or important the argument, it did not float in the Free World’s mainstream. Pasinetti got much more professional respect for his part in Cambridge’s post-Corfu war with the Samuelsonians over capital theory, i.e., which side understood Keynes better; it was he who beat Samuelson on “reswitching.”³⁷² But he had kept developing his argument, in print and lectures, both at Cambridge and back at La Cattolica, teaching it in deeply Sraffian Keynesianism to a new generation of English and Italian economics students.³⁷³

³⁷¹ Idem, “A New Theoretical Approach to the Problems of Economic Growth,” in Pontificiae Academiae Scientiarum [Piero Giarda and Giacomo Vacaggio], ed., *Study Week on the Econometric Approach to Development Planning, October 7-13, 1963* (Amsterdam: North-Holland, 1965), 571-687, especially 665-677, quotes 578, 619ff, 674. Cf. Vito, *op. cit.*, 69-80, 83, 96-104.

³⁷² Paul A. Samuelson, ed., “Paradoxes in Capital Theory: A Symposium,” *Quarterly Journal of Economics*, LXXX, 4 (November 1966), 503-583.

³⁷³ Luigi L. Pasinetti, “The Notion of Vertical Integration in Economic Analysis,” *Metroeconomica*, XXV, 1 (January 1973), 1-29; idem, *Growth and Income Distribution: Essays in Economic Theory* (Cambridge: Cambridge University, 1974); idem, *Lezioni di teoria della produzione* (Il Mulino: Bologna, 1975; revised, English translation, London: Macmillan, 1977); idem, ed., *Essays on the Theory of Joint Production* (New York: Columbia University, 1980); idem, *Structural Change and Economic Growth: A Theoretical Essay on the Dynamics of the Wealth of Nations* (Cambridge: Cambridge University, 1981); idem, “Theory of Value: A Source of Alternative Paradigms in Economic Analysis,” in Mauro Baranzini and Roberto Scazzieri, eds., *Foundations of Economics: Structures of Inquiry and Economic Theory* (Oxford: Basil Blackwell, 1986), 409-431; Luigi L. Pasinetti, “Growing Subsystems, Vertically Hyper-Integrated Sectors and the Labour Theory of Value,” *Cambridge Journal of Economics*, XII (1988), 125-134; idem, *Structural Economic Dynamics: A Theory of the Economic Consequences of Human Learning* (Cambridge: Cambridge University, 1993); Richard Goodwin and Michael Landesmann, “Structural Change and Macroeconomic Stability in Disaggregated Models,” in Michael Landesmann and Roberto Scazzieri, eds., *Production and Economic Dynamics* (Cambridge: Cambridge University, 1996), 167-187.

After 1973, as tremendous questions of long-run structural change resurfaced, Pasinetti's model was increasingly interesting to students (for some years anyway, until Thatcher and Friedman cleared the decks). From their new Keynesianism Pasinetti himself and most of these students took the questions in their new macro-dynamic terms, to theorize systematic transformation and coordination (or lack thereof) among supra-industrial sectors improving technically over time. But as they developed the theory, they considered only macro-coordination, at national (or international) levels, for evolutionary growth. Their concerns reduced all divisions of labor to "specialization" of labor, the sectors subsuming the industrial, the social coinciding with the technical, and representing it. This extreme functionalism made materially strategic analysis impossible, even if (highly improbable) Pasinetti or any of these students had ever wanted to pursue it (never mind use it to plan strikes).

But some students, whom Pasinetti encouraged, would not let go of the industrial or technical question. Since vertical integration did not eliminate the problem of coordination, only framed it, the problem of inter-industrial differences remained. These students had nothing against macro-dynamics, but they wanted to focus on comparative micro-statics, not over time, but in time, from time to time. They would study Ricardo, Marx, von Neumann, Leontief, Koopmans, Stone, Sraffa, not for a production model of growth, but for a theory of production. Here specialization of labor was quite a different question from technical division of labor, and could not represent it.

Pasinetti was not the only teacher from whom these students were learning. At Cambridge they went to several others for lessons, not so much to the famous old

Keynesians, as to the young DEA micro-economists in “industrial economics.”³⁷⁴ At Oxford too, thanks to Cantabrigian colonization there, they now found such guides, Stone students and collaborators, including a lecturer expert on input-output dynamics, the new Edgeworth Professor of Economics, an “apostolic” teacher of econometrics, and the DAE’s former chief industrial economist.³⁷⁵ Of most significance there the new, implicitly nonlinear Hicks (though retired) was still lecturing, and now on “causality.”³⁷⁶ To both universities, particularly because of Pasinetti’s remarkable international connections, ever more students drawn to questions of production were coming from the Continent, mainly Italians, among the brightest and best-supported of their generation.³⁷⁷ The Italians enjoyed two advantages, whereby they also contributed to the local econ-student culture. They came knowing the history of economic thought was essential to doing economic analysis, and that Marshall’s chapters on “industrial organization” were

³⁷⁴ E.g., Robin Marris, “Why Economics Needs a Theory of the Firm,” *Economic Journal*, LXXXII, 325 (March 1972), 321-352; C. F. Pratten, *Economies of Scale in Manufacturing Industry* (Cambridge: Cambridge University, 1971); idem, “Economies of Scale for Machine Tool Production,” *Journal of Industrial Economics*, XIX, 2 (April 1972), 148-165; Kenneth D. George, “Concentration and Specialization in Industry,” *Journal of Industrial Economics*, XX, 2 (April 1972), 107-121. The DEA Labor Studies group, mainly Christine Craig, Jill Rubery, and Frank Wilkinson, did not do economics, but sociology.

³⁷⁵ This is according to the order of their arrival in Oxford: (i) Michael Bacharach, *Bi-Proportional Matrices and Input-Output Change* (Cambridge: Cambridge University, 1970); (ii) James A. Mirrlees, “The Dynamic Nonsubstitution Theorem,” *Review of Economic Studies*, XXXVI, 105 (January 1969), 67-76; idem, “Introduction,” in idem and N.H. Stern, eds., *Models of Economic Growth: Proceedings of a Conference Held by the International Economic Association at Jerusalem [1970]* (New York: John Wiley & Sons, 1973), xi-xxi; James A. Mirrlees, “Autobiography,” nobelprize.org/nobel_prizes/economics/laureates/1996/mirrlees-autobio.html; (iii) J.A.C. Brown, on whom Richard Stone, “James Alan Calvert Brown: An Appreciation,” *Oxford Bulletin of Economics and Statistics*, XLVII, 3 (August 1985), 191-197; and (iv) Aubrey Silberston (dean of Nuffield College, 1972-78), “Economies of Scale in Theory and Practice,” *Economic Journal*, LXXXII, 325 (March 1972), 369-391; idem and Francis Seton, eds., *Industrial Management: East and West: Papers from the International Economic Association Conference on Labor Productivity [Ravello, 1971]* (New York: Praeger, 1973).

³⁷⁶ John Hicks, *Causality in Economics* (Oxford: Basil Blackwell, 1979).

³⁷⁷ Carlo Casarosa, “Gli studi del Regno Unito della seconda generazione,” in Garofalo and Graziani, *op. cit.*, 535-553; Alessandro Roncaglia, “Josef Steindl’s Relations to Italian Economics,” *Review of Political Economy*, VI, 4 (October 1994), 453-455; Vera Zamagni and Stefano Zamagni, “Italian Economists and Linacre College,” *The Linacre Journal*, No. 6 (October 2002), 26-29.

key to understanding production.³⁷⁸ The Oxford students were missing an officially established Economics department--which in England then, still, might have been a helpful institutional community. But they made their own circles. From 1976 an Italian Swiss economics tutor at Queen's ran a workshop/seminar for them on "paradigms" in "political economy" and econometrics.³⁷⁹ And from both universities the Continental alumni returned home mostly to teach, so that the Anglo-Italian connection involved many who did not make it to England.

Moreover, in England and Italy, these students of production were studying Georgescu-Roegen. This was not as before, for his Cowlesian critique of Leontief's model. It was for his own new physical theory of production, his use of physics to explain the specific nature of production, the naturally different qualities of different productions, the futility of "arithmomorphism," the need for dialectics, to understand material change.³⁸⁰ In England the new Hicks gave Georgescu's arguments their most impressive endorsement.³⁸¹ In Italy, thanks to the Marshallians at Firenze, Italian students were

³⁷⁸ Alberto Quadrio Curzio and Roberto Scazzieri, eds., *Protagonisti del pensiero economico*, 4 vols. (Bologna: Il Mulino, 1977-82); Giacomo Becattini, *Il concetto d'industria e la teoria del valore* (Turin: Boringhieri, 1962); idem [as IRPET], "Lo sviluppo economico della Toscana: un'ipotesi di lavoro," *Il Ponte*, XXV, 11 (November, 1969), 1404-1435; idem, ed., Alfred Marshall and Mary Paley Marshall, *Economia della produzione*, tr. Alberto and Cecilia Zanni (Milan: ISEDI, 1975); Giacomo Becattini, "Dal 'settore' industriale al 'distretto' industriale: Alcune considerazioni sull'unità d'indagine dell'economia industriale," *Rivista di economia e politica industriale*, V, 1 (January 1979), 7-21; Nicolò Bellanca and Tiziano Raffaelli, "L'economista DOC: Intervista a Giacomo Becattini," *Il pensiero economico italiano*, VII, 1 (1999), 194-201.

³⁷⁹ Mauro Baranzini, "Curriculum Vitae," www.common.unisi.ch/cv_baranzim; idem, "Un essai de modèle monétaire de croissance (À deux classes et a[vec] taux d'intérêt différencié" (Ph.D., University of Fribourg, 1971); idem, "On the Distribution of Income in Two-Class Growth Models," D.Phil., University of Oxford, 1976); idem, ed., *Advances in Economic Theory* (Oxford: Basil Blackwell, 1982), vii-x. Cf. Luigi Pasinetti and Alessandro Roncaglia, "Le scienze umane in Italia: Il caso dell'economia politica," *Rivista italiana degli economisti*, XI, 3 (December 2006), 463, 481.

³⁸⁰ G.L.S. Shackle, "Analytical Economics: Issues and Problems," *Economic Journal*, LXXVII, No. 308 (December 1967), 856-859; Giovanni Demaria, "Sulla economia matematica esposta senza troppa giustizia essenziale," *Giornale degli economisti e Annali di economia*, new ser., XXVII, 7-8 (July-August 1968), 545.

³⁸¹ J. R. Hicks, "Some Questions of Time in Economics," in Anthony M. Tang et al., eds., *Evolution, Welfare, and Time in Economics: Essays in Honor of Nicholas Georgescu-Roegen* (Lexington: Lexington

reading Georgescu's most important new articles in Italian; one professor was teaching students how to use the theory to explain Northern Italy's current wave of industrial subcontracting. Maybe not at Cambridge, but certainly at Oxford, Siena, Firenze, Parma, and Modena, Georgescuvian analysis of industrial production gained several young intellectual champions then.³⁸²

It was in the Anglo-Continental group at Oxford that the economics for a materially strategic analysis of production began to come together. Three young economists were instrumental. None of them had it in view to pose such a question, how to find industrially or technically strategic positions. But their general and particular theoretical concerns mixed so creatively--choice, constraint, industrial organization, technical divisions of labor, interdependence, disequilibrium, proportionality, specialization, shifts in scale, feasibility, heuristics, cooperation, uncertainty, coordination, series, sequence, capacity, efficiency of use--that to anyone learning from all three the combinations would continually suggest objective strategic questions.

The eldest of the trio (b. 1936) was the expert on input-output dynamics. Michael Bacharach, who had sat Goodwin's lectures for his Tripos at Trinity (a first in Maths and Economics), studied the econometrics of industrialization at Stanford, and done his dissertation on the Leontief/Stone matrix model for estimating future inter-industrial

Books, 1976), 135, 139, 144-146, 149, 151. It was most likely Michio Morishima, from 1970 at LSE, who in 1974-75 got Hicks to read Georgescu-Roegen on "entropy." Cf. Michio Morishima, "Capital and Growth," in Harald Hagemann and O.F. Hamouda, eds., *The Legacy of Hicks: His Contributions to Economic Analysis* (London: Routledge, 1994), 28, 37-40; and Nicholas Georgescu-Roegen, "Time in Economics," *ibid.*, 242-252.

³⁸² Nicholas Georgescu-Roegen, *Analisi economica e processo economico*, trans. Marco Dardi (Bologna: Sansoni, 1973), combines essays and articles from his *Analytical Economics* and *The Entropy Law*. Becattini introduced the Italian edition: Bellanca and Raffaelli, *op. cit.*, 177-179. Nicholas Georgescu-Roegen, "L'economia politica come estensione della biologia [Florence, May 14, 1974]," *Note Economiche*, IV, 2 (1974), 5-20; Piero Tani, "La rappresentazione analitica del processo di produzione: alcune premesse teoriche al problema del decentramento," *ibid.*, VI, 4/5 (1976), 124-141. Mario Morroni e-mail to Womack, December 5, 2007; Michael Landesmann e-mail to Womack, October 19, 2008; Roberto Scazzieri e-mail to Womack, November 4, 2008.

structures, was now teaching game theory for economists. His exposition of its uses made neo-classical micro-theory idiotic. Probably from reflection on a premise of reasonable economic planning, the logical resolution of differences among (imperfectly) informed experts both about facts and the best agenda for reaching common objectives, he had a mathematical argument for why and how a “group” should decide to act consensually for its collective good (and when it could not). For the not mathematical he explained game theory’s logic most pointedly where it involves both interdependence and uncertainty, i.e., individualism, which goes cooperative only when “elementary decision-units” openly negotiate for all to do better together, in a group, than each could alone. Always the key was the jointly negotiated ranking of agendas. But “here the final distribution of utility must recognize the strategic strengths of the individuals.... In the theory, fools don’t play games.”³⁸³

The second eldest (b. 1944) was the Italian Swiss tutor, Mauro Baranzini. Not only from his own training, a dissertation at Fribourg with a Stanford (Operations Research)-trained econometrician, a dissertation at Oxford directed by three Nuffield neo-Keynesians (including the Edgeworth Professor), regular visits to Pasinetti’s Cambridge, and a summer at Samuelsonian MIT and Harvard, but as well from his Oxford situation, teaching students all the theories they would need for their exams, he had to think always of theoretical distinctions and connections if only for the students. Cantabrigian ideas about growth were most on his mind. But from Pasinetti’s lessons on

³⁸³ Shepley Orr, “Michael Bacharach,” *The Guardian*, September 17, 2002; Judith Curthoys e-mail to Womack, March 25, 2009; Hollis B. Chenery (himself a student not only of Leontief’s, but also of Goodwin’s), “Patterns of Industrial Growth,” *American Economic Review*, L, 4 (September 1960), 624; Michael Bacharach, “Group Decisions in the Face of Differences of Opinion,” *Management Science*, XXII, 2 (October 1975), 182-191; idem, *Economics and the Theory of Games* (Boulder: Westview, 1977), 2-5, 9-10, 12, 14-17, 35-37, 41-43, 58-61, 81-83, 111-117, 122-123, 153, quotes 9, 37. On unions: *ibid.*, 10, 46-47, 105-111, 115-116, including a reference to Dunlop’s *Wage Determination*, 106.

dynamic theory, he knew how to bring colleagues and students focused on micro-questions of production into discussions of macro-issues, growth, distribution, and accumulation. Without Baranzini the Anglo-Continental group would probably not have formed. He induced the group's intellectual synergy, and maintained it.³⁸⁴ He also organized the Swiss and Italian support to publish its English debut.³⁸⁵

The youngest (b. 1952) was an Austrian graduate student, Michael Landesmann. At the University of Vienna and at Vienna's Institute for Advanced Studies (1970-75) he could have delved into the Austrian School of economics, from Menger to Menger's latest successor.³⁸⁶ But like many other students then he wanted to debate Marx and Keynes. Arrived at Oxford in 1975, however, he found himself studying economic classics not for light on value and distribution, but to understand production. Soon, from Marx, so from Quesnay, Smith, Ricardo, and Babbage, on industrial and technical divisions of labor, indivisibilities, "the law of multiples," he discovered Georgescu-Roegen on productive funds and flows, and connected it with Pasinetti's lessons on growth. Only then did he catch the old Continental theories of the *Konjunktur*, some of them Austrian, and read deep there (in German) on "the business cycle," capitalism's

³⁸⁴ Pietro Balestra and Marc Nerlove, "Pooling Cross Section and Time Series Data in the Estimation of a Dynamic Model: The Demand for Natural Gas," *Econometrica*, XXXIV, 3 (July 1966), 585-612; J. S. Flemming, *Inflation* (Oxford: Oxford University, 1976); James A. Mirrlees, "The Optimal Structure of Incentives and Authority within an Organization," *Bell Journal of Economics*, VII, 1 (Spring 1976), 105-131; David Soskice, "Strike Waves and Wage Explosions, 1968-1970: An Economic Interpretation," in Colin Crouch and Alessandro Pizzorno, eds., *The Resurgence of Class Conflict in Western Europe since 1968*, 2 vols. (New York: Macmillan, 1978), II, 221-246; Mauro Baranzini, *A Theory of Wealth Distribution and Accumulation* (Oxford: Clarendon, 1991), vii-viii; idem, *Advances*, v-vii, ix-x, 1-15, 243-261; idem, "Taux d'intérêt, distribution du revenu, théorie des cycles vitaux et choix du portefeuille," *Kyklos*, XXXIV, 4 (1981), 593-610; idem, "Distribution, Accumulation and Institutions," in Arnold Heertje, ed., *The Makers of Modern Economics*, 4 vols. (Aldershot: Edward Elgar, 1993-1995??), II, 4-13.

³⁸⁵ Baranzini, *Advances*, iv, viii.

³⁸⁶ E.g., Erich Streissler, "Structural Economic Thought: On the Significance of the Austrian School Today," *Zeitschrift für Nationalökonomie*, XXIX, 3-4 (December 1969), 243-261; idem, *Pitfalls in Economic Forecasting* (London: Institute of Economic Affairs, 1970).

continually shifting structure, booms, and crashes.³⁸⁷ “...his room became one of the most intellectually lively places for young economists in Oxford.”³⁸⁸ Under the triple supervision of the “apostolic” econometrician, Oxford’s main Marxist economist, and a Marxist specialist on capitalist crises, Landesmann wrote his dissertation on modeling “interdependent structural change” in the European Community’s economies. But along the way he gained an impressive hold on the history of the concept and on contemporary approaches to the analysis of productive organization.³⁸⁹

This was the intellectual community in which an Italian grad student from red Bologna landed in 1975. Already at Bologna’s university Roberto Scazzieri (b. 1950) had studied logic, philosophy of science, and economic history besides his main field of economics, not in the old Faculty of Economics, but in the new Economics Institute in

³⁸⁷ Landesmann to Womack, October 19, 2008; Michael Landesmann e-mail to Womack, March 22, 2009; Michael von Tugan-Baranowsky, *Studien zur Theorie und Geschichte der Handelskrisen in England* [1894] (Jena: Gustav Fischer, 1901); Arthur Spiethoff, “Vorbemerkungen zu einer Theorie der Überproduktion,” *Jahrbuch für Gesetzgebung, Verwaltung und Volkswirtschaft im Deutschen Reich*, XXVI, 2 (1902), 267-305; Mentor Bouniatian, *Wirtschaftskrisen und Überkapitalisation* (Munich: 1907); Albert Aftalion, *La réalité des surproductions générales: Essai d’une théorie des crises générales et périodiques* (Paris: L. Larose & L. Tenin, 1909); Joseph Schumpeter, *Theorie der wirtschaftlichen Entwicklung* (Leipzig: Duncker & Humblot, 1912); Dennis H. Robertson, *A Study of Industrial Fluctuation: An Enquiry into the Character and Causes of the So-Called Cyclical Movements of Trade* (London: P.S. King & Son, 1915); Adolph Löwe, “Wie ist Konjunkturtheorie überhaupt möglich?” *Weltwirtschaftliches Archiv*, XXIV, 11 (1926), 165-197; Friedrich Hayek, *Preise und Produktion* (Vienna: J. Springer, 1931); Gottfried von Haberler, *Prosperity and Depression: A Theoretical Analysis of Cyclical Movements* (Geneva: League of Nations, 1937); Joseph Schumpeter, *Business Cycles: A Theoretical, Historical and Statistical Analysis of the Capitalist Process*, 2 vols. (New York: McGraw-Hill, 1939); Hicks, *Capital and Time*.

³⁸⁸ Roberto Scazzieri, “Actions, Processes and Economic Theory,” in *Makers of Modern Economics*, I, 105.

³⁸⁹ Landesmann to Womack, October 19, 2008, March 22, 2009; John Creedy, “J.A.C. Brown (1922-1984): An Appreciation,” University of Melbourne, Department of Economics, Research Paper No. 1027 (January 2008), 7-11; F. Seton, “The ‘Transformation Problem,’” *Review of Economic Studies*, XXIV, 3 (June 1957), 149-160; Francis Seton, *Shadow Wages in the Chilean Economy* (Paris: Development Centre of the Organisation for Economic Co-operation and Development, 1972); Andrew Glyn and Bob Sutcliffe, *British Capitalism, Workers and the Profit Squeeze* (Harmondsworth: Penguin, 1972); “Andrew Glyn,” *The Times*, January 8, 2008; Michael Landesmann, “Disproportional Growth and Structural Change in the European Communities,” in Anatoli Smyshlyaev, ed., *Proceedings of the Fourth IIASA Task Force Meeting on Input-Output Modeling, 29 September-1 October 1983* (Laxenburg: International Institute for Applied Systems Analysis, 1983); Michael A. Landesmann, “Conceptions of Technology and the Production Process,” in Mauro Baranzini and Roberto Scazzieri, eds., *Foundations of Economics: Structures of Inquiry and Economy Theory* (Oxford: Basil Blackwell, 1986), 281-310. On Landesmann’s “descriptive-analytical” approach, *ibid.*, 281-282. Its proximate origins: Georgescu-Roegen, *Entropy Law*, 22-26, 42; Spiro J. Latsis, ed., *Method and Appraisal in Economics* (Cambridge: Cambridge University, 1976).

Political Sciences, lately founded to raise the Christian Democratic left's new economic experts. His primary mentor there taught analytical categories both mathematically and historically. His other teachers, post-Keynesians, gave him excellent training in Pasinettian methods and models. And exciting visitors came to lecture, a Japanese econometrician, for example, on "the mathematical reformulation of Marxian economic theory." At Oxford from 1975 to 1979, still close to his old mentor, but advised and befriended by Bacharach, recruited into Baranzini's seminar, best friends with Landesmann, and soon in a Hicks circle too, Scazzieri made much scholarly use of the university, sharpened his epistemology, and discovered (via Italy) Georgescu-Roegen. In 1979 he took an M.Litt. in Economics for his thesis, "Scale and Efficiency in Classical and Post-Classical Theories of Production."³⁹⁰

Here already he was developing ideas essential for a strategic theory. The ideas were not new. Like the classicals, he took production not as a transaction, exchange, inputs allocated to outputs, blending into them, but as a structure of technical operations for transforming things. He made his argument by the logic of Austinian criticism, faulting marginal analysis of production for its narrow limits and the confusion in its laws of proportion and functional curves, promoting classical analysis instead for its breadth, distinctions, and power to explain production's organization and changes. He put most weight on Georgescu's "fund factors," forces used, but (in theory) not used up in

³⁹⁰ Roberto Scazzieri, "Recenti discussioni sulla teoria economica," *Il Mulino*, XXII, 227 (May 1973), 480-499; Alberto Quadrio Curzio and Roberto Scazzieri, "Sul ritorno ai classici dell'economia politica," *ibid.*, XXVI, 254 (November 1977), 933-945; Scazzieri, "Actions, Processes," 101-105, quote 103; Patrizio Bianchi, "Industrial Economics in Italy," in Henry W. de Jong and William G. Shepherd, eds., *Pioneers of Industrial Organization: How the Economics of Competition and Monopoly Took Shape* (Cheltenham: Edward Elgar, 2007), 95; "Scompare Nino Andreatta," www.nuovacosenza.com/cs/07/marzo/andreatta.html. Hicks's wife, Ursula Hicks, née Webb (daughter of Sidney and Beatrice), herself an economist, was Scazzieri's "moral tutor" and a senior fellow at his college, Linacre. For leading me to Scazzieri's work in the first place I am very grateful to Mathew Forstater and Heinz-Dieter Kurz.

production, always (if maintained) as useful as ever. Smith, Gioja, Babbage, Marx, and Georgescu gave him almost all the substance he had in his argument.³⁹¹ But the way he connected their ideas made the argument new and brilliant. Here production's structure is the technical organization of work, "inter-temporal division of labor" and "intra-temporal" divisions, Georgescu's "elementary processes," each operation in order, taking its particular time, each process, after its last operation ends, starting over again, at once or lagged to link with a differently timed process (or set of processes). And here efficiency is not output/input, but a classical rate of "net product," surplus output/necessary output, the product more (or less) than needed relative to that needed just to sustain production, the ratio higher the more the funds on hand (and duly maintained) are not waiting, but in use. Given the distinctions between input, input-use, total product, and necessary product, a change in organization (same funds, same operations, reorganized in series, parallel, or in-line) may make efficiency point sharply up or down though output stays the same; if output rises or falls without a change in organization, efficiency again may break hard either way. A "law of multiples," making "a special form of indivisibility," not of inputs, but of production's processes, means systematic imbalance, a key to technically strategic positions.³⁹²

³⁹¹ Roberto Scazzieri, *Efficienza produttiva e livelli di attività: Un contributo di teoria economica* (Bologna: Il Mulino, 1981), quote 15; idem, "Scale and Efficiency in Models of Production," in *Advances*, 19-42; Besides Quadrio Curzio, Bacharach, Hicks, Pasinetti, and Georgescu, he also thanks David Soskice and the Leontieffian W.F. Gosling. His logic: J. O. Urmson, "On Grading," *Mind*, new ser., LIX, 234 (April 1950), 145-169; J. L. Austin, *How To Do Things with Words: The William James Lectures* (Cambridge: Harvard University, 1962); R. Harré and P.F. Secord, *The Explanation of Social Behaviour* (Oxford: Basil Blackwell, 1972), 125-204.

³⁹² Scazzieri, *Efficienza*, 15-28, 60-89, 97-100, quotes 12, 19, 62, 69, 71, 72, 81, 89; idem, "Scale and Efficiency," 25-28, 36-40, quote 26. On the "multiple" that makes a process indivisible, a crucial point Scazzieri draws from Babbage and Marx, cf. Nicholas Georgescu-Roegen, "Fixed Coefficients of Production and the Marginal Productivity Theory," *Review of Economic Studies*, III, 1 (April 1935), 41 n3; idem, "Process in Farming," 516-518; idem, *Entropy Law*, 238 n43; and Scazzieri, *Efficienza*, 66-74. It bears notice that the "law of multiples" Scazzieri and Landesmann find in Babbage comes from a "truism" in 18th-century chemistry that John Dalton conceptualized in his new "atomic theory," whence Thomas

Back at Bologna in 1980, in a still red, but now tense, deeply wounded, grieving city, Scazzieri taught introductory “economic growth” and “micro-economic theory.” It may have been this theory that led him into always strategically charged Operations Research.³⁹³ But for the next several years he spent much time in Milan, at La Cattolica, where Pasinetti had returned, his own old mentor had moved, and Baranzini too soon arrived. With them he concentrated mainly on meta-economic questions, taking particular pains to master new turns in the history of science (Lakatos), to understand better what economics was, the subject and the discipline. As he co-framed his concerns then, they were to distinguish alternative “lines of research,” starting from two fundamentally different conceptions of “the economy,” as macro-exchange or macro-production, and consequently forming rival traditions of economic knowledge, theory, analysis, and explanation, to distinguish them in order to help “bridge the gap between them.”³⁹⁴ In

Thomson expressed “the Daltonian theory of definite proportions,” and Whewell later derived “Dalton’s ideas concerning multiple proportions.” William Whewell, *History of the Inductive Sciences, from the earliest to the present times*, 3 vol. (London: John W. Parker, 1837), III, 145-153; John Theodore Merz, *A History of European Thought in the Nineteenth Century*, 4 vols. (Edinburgh: William Blackwood & Sons, 1896), I, 382-458; Kiyohisa Fujii, “The Berthollet-Proust Controversy and Dalton’s Chemical Atomic Theory, 1800-1820,” *British Journal for the History of Science*, XIX, 2 (July 1986), 178. Babbage may well have got the law from Dalton: Elizabeth Green Musselman, “Local Colour: John Dalton and the Politics of Colour Blindness,” *History of Science*, XXXVIII, 4 (December 2000), 412-413. Cf. not only Georgescu-Roegen, “Fixed Coefficients,” 41 n3, but also George B. Dantzig, “Programming of Interdependent Activities, II. Mathematical Model,” *Econometrica*, XVII, 3/4 (July 1949), 201-202.

³⁹³ The Bologna Central Station Massacre happened on August 2, 1980: www.stragi.it. Scazzieri, “Actions, Processes,” 104-106; idem, “The Production Process: General Characteristics and Taxonomy,” *Rivista internazionale di scienze economiche e commerciali*, XXX, 7 (July 1983), 597-610. Most evident here of the OR literature he cites (*ibid.*, 598 n1): Adam Abruzzi, “The Production Process: Operating Characteristics,” *Management Science*, XI, 6 (April 1965), B98-118; Maurice D. Kilbridge and Leon Wester, “A Review of Analytical Systems of Line Balancing,” *Operations Research*, X, 5 (September 1962), 626-638; and Mahendra S. Bakshi and Sant Ram Arora, “The Sequencing Problem,” *Management Science*, XVI, 4 (December 1969), B247-263. Cf. among others not cited Maurice Kilbridge and Leon Wester, “The Balance Delay Problem,” *ibid.*, VIII, 1 (October 1961), 69-84; idem and idem, “An Economic Model for the Division of Labor,” *ibid.*, XII, 6 (February 1966), B255-270.

³⁹⁴ Alberto Quadrio Curzio and Roberto Scazzieri, “Sui momenti costitutivi dell’economia politica,” *Giornale degli economisti e annali di economia*, new ser., XLIII, 1-2 (January 1984), 37-73; Mauro Baranzini and Roberto Scazzieri, “Knowledge in Economics: A Framework,” in idem et idem, eds., *Foundations of Economics: Structures of Inquiry and Economic Theory* (Oxford: Basil Blackwell, 1986), 1-87, quotes 1 n1, 78; Alberto Quadrio Curzio and Roberto Scazzieri, “The Exchange-Production Duality and the Dynamics of Economic Knowledge,” *ibid.*, 377-407; Luigi L. Pasinetti and Roberto Scazzieri,

other words he was after comprehension, not conjunctures, combinations or connections. Nothing here pointed to strategic analysis.

However, on leave at Cambridge in 1985, he found Landesmann then at the DAE. Reviving their Oxford discussions of production, they framed a new project on “structural theory,” its “microfoundations.” It was remarkably ambitious, to recombine Georgescu’s “elementary processes,” Babbage’s “multiples,” Goodwin’s and Pasinetti’s (different) multisectoral dynamics, OR, the history of technology, old literature on capacity and utilization, and a new concept, “composite technologies,” to theorize an economy’s various technical indivisibilities shifting through time.³⁹⁵ It was also remarkably strategic in its implications. On its premises some parts of the productive system could not change (“structural invariance”), while others could, but each in its own (maybe shifting) time, a market day, short run, long run, here synchronously, there not, fast-changing parts waiting on slowly changing parts, so that the system’s various “time structures” would tell how rigid/dynamic it was (and, implicitly, how soon it might grind to a halt). As Landesmann then turned to practical studies on European “structural

“Capital Theory: Paradoxes,” in John Eatwell et al., eds., *The New Palgrave: A Dictionary of Economics*, 4 vols. (London: Macmillan, 1987), I, 363-368; Luigi L. Pasinetti and Roberto Scazzieri, “Structural Economic Dynamics,” *ibid.*, IV, 525-528; Roberto Scazzieri, “Economic Theory as Rational Reconstruction,” *Ricerche economiche*, XLII, 1-2 (January 1989), 40-55; Roberto Scazzieri, “Vertical Integration in Economic Theory,” *Journal of Post Keynesian Economics*, XIII, 1 (Fall 1990), 20-46; idem, “Elementi per una teoria dell’ordine economico,” in Carlo Galli, ed., *Logiche e crisi della modernità* (Bologna: Il Mulino, 1991), 269-288. “Meta-economics” was not his term.

³⁹⁵ Scazzieri, “Actions, Processes,” 106-107; Landesmann, “Conceptions of Technology,” 282-287; Nathan Rosenberg, *Perspectives on Technology* (Cambridge: Cambridge University, 1976); idem, *Inside the Black Box: Technology and Economics* (Cambridge: Cambridge University, 1982); E.A.G. Robinson, *The Structure of Competitive Industry* (London: Nisbet & Co., 1931); P. Sargant Florence, *The Logic of Industrial Organisation* (London: K. Paul, Trench, Trubner & Co. 1933); Edith Penrose, *The Theory of the Growth of the Firm* (Oxford: Basil Blackwell, 1959); Robin L. Marris, *The Economics of Capital Utilisation* (Cambridge: Cambridge University, 1964); Gordon C. Winston, *The Timing of Economic Activity: Firms, Households and Markets in Time-Specific Analysis* (Cambridge: Cambridge University, 1982); Alberto Quadrio Curzio, “Technological Scarcity: An Essay on Production and Structural Change,” in *Foundations of Economics*, 318, 327-334. Cf. G.C. Harcourt, ed., *The Microfoundations of Macroeconomics: Proceedings of a Conference Held by the International Economic Association at S’Agaro, Spain* [1975] (London: Macmillan, 1977), 260, 263, 373-375, 395-396; Hicks, *Causality*, vii-xi.

change,” first for the U.K.’s Economic and Social Research Council, after 1989 for the European Commission, Scazzieri reconsidered theoretically his “lines of research,” different analytical approaches, now not so much alternatives as complementary, to justify thinking of production both “horizontally,” in “circular,” technically inter-industrial, intra-temporal terms, and “vertically,” in “unidirectional,” technically intra-industrial, inter-temporal terms. He read old literature on the business cycle, and found sets of eccentric, out-of-sync, and arrhythmic circular vectors. He absorbed Hicks’s ways with theory, studied his “traverses,” and Adolph Lowe’s “technical structure...inalterable in the short period,” sequences of “short-run...discontinuous states,” and “varying rates of change” in capital formation. Meanwhile, again under Bacharach at Oxford, he took a D.Phil. in Economics for his dissertation, “Tasks, Processes, and Technical Practices: A Contribution to the Theory of Scale in Production.” Increasingly he focused on the structure of material connections between irreversible stages in productive circuits, temporal as well as industrial complementarities, “multiples” in speed and scale from stage to stage, technical bottlenecks and disequilibria. With Landesmann he organized a new journal, *Structural Change and Economic Dynamics*, for exploration of “continuity and structural breaks,” to sharpen research on interdependence and sequence in economic analysis.³⁹⁶ I do not believe it could have occurred to Landesmann or Scazzieri that their

³⁹⁶ Scazzieri, “Actions, Processes,” 85-86, 104, 107-108. Some evidently new reading or re-reading then: N. Ziber, “Teoriia tsennosti i kapitala Rikardo, s nekotorymi iz pozdneishikh dopolnenii i raz’iasnenii,” *Universitetskiiia izvestiia* (Kiev), XI, 1-2 (January-February, 1871) and 4-11 (April-November, 1871); Tugan-Baranowsky, *Studien zur Theorie*; Fritz Burchhardt, “Die Schemata des stationären Kreislaufs bei Böhm-Bawerk und Marx, I” *Weltwirtschaftliches Archiv*, XXXIV, 2 (October 1931), 525-564; idem, “Die Schemata..., II,” *ibid.*, XXXV, 1 (January 1932), 116-176; Ragnar Frisch, “Propagation Problems and Impulse Problems in Dynamic Economics,” in Johan Akerman et al., *Economic Essays in Honour of Gustav Cassel, October 20th, 1933* (London: G. Allen & Unwin, 1933), 171-205; Joseph A. Schumpeter, ed., *Der Stand und die nächste Zukunft der Konjunkturforschung: Festschrift für Arthur Spiethoff* (München: Duncker & Humblot, 1933); Hicks, *Capital and Growth*, 58-75, 183-197; idem, *Capital and Time*, 1-13, 41-46, 79-148; Adolph Lowe, *Economics and Sociology: A Plea for Co-operation in the Social*

work would indicate how to analyze an economy for industrially or technically strategic strikes. They did not even notice Lowe on machine tools, “strategic sectors,” and “strategic position.”³⁹⁷ But their concentration on microfoundations and problematic linkages in production brought high light on the questions critical for strategic analysis. The dual logics of structural change served prospects not only of expansion, but also of contraction. Their intersection suggested how to find the stoppages that would cause the most extensive and fastest shutdowns. A model would show the simplest micro-disruption of greatest macro-obstruction, for strategies of disactivation.³⁹⁸

The year after Gary Becker won his Nobel, Scazzieri delivered his theory of production. His dissertation revised, it had no production functions, tried no tricks, made no predictions. It was abstract, but the argument was virtualistic, historical, much more

Sciences (London: G. Allen & Unwin, 1935); idem, “Structural Analysis of Real Capital Formation,” in Moses Abramowitz, ed., *Capital Formation and Economic Growth* (Princeton: Princeton University, 1955), 581-634, quotes 585; Adolph Lowe, *On Economic Knowledge: Toward a Science of Political Economics* (New York: Harper & Row, 1965); idem, *The Path of Economic Growth* (Cambridge: Cambridge University, 1976); Stefano Zamagni, “Ricardo and Hayek Effects in a Fixwage Model of Traverse,” *Oxford Economic Papers*, new ser., XXXVI, Supp. (November 1984), 135-151.

Among the results: Roberto Scazzieri, “Ziber on Ricardo,” *Contributions to Political Economy*, VI, 1 (March 1987), 25-44; idem, “Classical Traverse Analysis,” *Dynamis-Quaderni IDSE*, No. 3 (1990), 3-49; Michael Landesmann and Roberto Scazzieri, “Specification of Structure and Economic Dynamics,” in Mauro Baranzini and Roberto Scazzieri, eds., *The Economic Theory of Structure and Change* (Cambridge: Cambridge University, 1990), 95-121; idem and idem, “Economic Structure: Analytical Perspectives,” *ibid.*, 227-333, quotes 229 ff, 282 ff; Roberto Scazzieri, “Flussi, fondi e dinamica economica: Riflessioni sul contributo di Marco Fanno,” in Marialuisa Manfredini Gasparetto, ed., *Marco Fanno, l'uomo e l'economista* (Padua: Dott. Antonio Milani, 1992), 57-80; Michael A. Landesmann and Roberto Scazzieri, “Commodity Flows and Productive Subsystems: An Essay in the Analysis of Structural Change,” in Mauro Baranzini and G.C. Harcourt, eds., *The Dynamics of the Wealth of Nations: Growth, Distribution, and Structural Change, Essays in Honour of Luigi Pasinetti* (Basingstoke: Macmillan, 1993), 209-245; “A New Journal from Oxford University Press [advertisement],” *Oxford Economic Papers*, new ser., XLI, 2 (April 1989), back matter. Cf. Michael Landesmann and István Székely, eds., *Industrial Restructuring and Trade Reorientation in Eastern Europe* (Cambridge: Cambridge University, 1995).

³⁹⁷ Adolph Lowe, “A Structural Model of Production,” *Social Research*, XIX, 2 (June 1952), 138-139; idem, “Structural Analysis,” 591; idem, *On Economic Knowledge*, 269-270. Cf. the adoption of his “strategic” by Harald Hagemann, “The Structural Theory of Economic Growth,” in Baranzini and Scazzieri, *Economic Theory*, 144, 149-150, 157, though Hagemann seems to confuse “machine tools” and “machines.”

³⁹⁸ Cf. Jean Tirole, *The Theory of Industrial Organization* (Cambridge: Massachusetts Institute of Technology, 1988), the formation from which of any similar model would take a 10kW laser and a 150-ton power press.

logic than algebra, mainly inductive, inferential, generative. It was also hard to follow, too much elegant variation, hypotaxis, and enthymemism. But duly parsed, it gave an explanatory guide to the hidden abode's material systems. Mostly the ideas were again from Smith, Gioja, Babbage, Marx, and Georgescu-Roegen. As before, as in the classics, production is not a transaction, but a structure of transformations. And the argument still featured the earlier combinations, the conception of the structure as the organization of funds for work, a technical complex of elementary processes, each delivering its products, starting again as soon as it could, efficiency a matter of funds in use. But now here were also (shades of Kant with Sade) the "neo-Austrian" Hicks and Operations Research. It was the ingenious way Scazzieri engaged his original sources with Hicks and with OR that completed his argument, distinguished his theory, and made it particularly conducive to thinking production strategically. Hicks on "economic theory and economic history," his liberal antinomy of "free will and determinism," "*ex ante* and *ex post*," Scazzieri read dialectically as "economic rationality and irreversible processes," and turned into "human action as a historical process." Operations Research, he built into his theory, so that the organization of work is now "a network of tasks," the order of processes now "precedence," their timing now "sequencing," and the distinction between the "social" and "the technical division of labor" is crucial. This was not simply new vocabulary. In his "task-process theory of production" economic action by choice is a special case, the odd case. The general case, the rule, is action within limits, in the general situation of "asymmetries" and "persistent structures." Whereas accounts of inputs and outputs serve only to analyze variations in their quantities or prices, accounts of networks and sequences serve to analyze not only these changes, but also shifts in the

time that funds for production are actually effective, in production. A new measure, “process scale,” would indicate “the number of simultaneous operations” in a process, any reduction in which, through “technical interrelatedness,” could shortly throw many other funds in use into idle. Like Clausewitz and Delbrück, Scazzieri went beyond the nice curves, to theorize the action in a broken world, in difficulties, friction, “structural constraints and bottlenecks.”³⁹⁹

Scazzieri himself did not go into conflict, its conduct or course. Despite his respect for the “historical and institutional” he showed no interest whatever in struggles between classes, among businesses, or any other kind. He did mention “the employer” and “employees” having different levels of “withdrawal power,” and mentioned “contestable markets” too, but only once, in passing, quoting from other studies of “the firm.”⁴⁰⁰ Himself, he did not even allude to struggle considerable from a strategic angle. He used *stratos*-cognates a few times, but only in a vaguely game-theory sense.⁴⁰¹ Though his primary subject was production, his main focus its technically inherent imbalances, they were not his principal concern. His “task-process theory” came first, but only *de modo et ordine intelligendi*, a necessary priority. His objective was a compelling resolution of his original problem of returns to scale, to refute marginal analysis and

³⁹⁹ Hicks, *A Theory*, 3-6; idem, *Causality*, 1-11, quotes 9, 10. Roberto Scazzieri, “Economic Theory and Economic History: Perspectives on Hicksian Themes,” in Hagemann and Homouda, *op. cit.*, 225-240, quotes 225, 238; Scazzieri, “Actions, Processes,” 84- 100, 104, quote 100; idem, *A Theory of Production: Tasks, Processes, and Technical Practices* (Oxford: Clarendon, 1993), vii-viii, 4-6, 8-17, 19-21, 24, 27-30, 34-49, 54-55, 62-64, 83-94, 98-101, 106, 110-112, 125, 155-156, 187, 190-195, 206, 210-211, 220, 239, 242, 257, 263, 268-273, quotes vii, viii, 11, 13, 29, 81, 86ff, 92ff, 99-100, 115ff, 174 n11, 247. Cf. Roger R. Betancourt, “Review,” *Journal of Economic Literature*, XXXIII, 2 (June 1995), 837-838; Christopher J. Hammond, “Review,” *Economic Journal*, CIV, No. 425 (July 1994), 952-953; Sabine O’Hara, “Book review,” *Structural Change and Economic Dynamics*, VIII, 3 (August 1997), 371-375.

⁴⁰⁰ Scazzieri, *Theory*, 1-3, 8-9, 234 n17, 259-264, 269, quotes 266-267.

⁴⁰¹ “Strategic,” “strategy,” or “strategies,” I counted six times: *ibid.*, 163 (twice), 170, 209, 240, 241. He kept this sense, but not the word, in discussing Chandler on “throughput”: *ibid.*, 221-223.

expose “spurious scale-efficiency relations,” to explain the nature of the real relationship between technical feasibility, practice, choice, and surplus.⁴⁰²

But the OR in his theory made it practically a strategic treatise. The idea of “a network of tasks” had been circulating for years in military research, where task meant “mission.”⁴⁰³ To argue “networks,” “precedence,” “sequences” in production, required concepts of “linkage,” “master plans,” “operating logic,” “loads,” “schedules,” “work cycles,” “interruptions,” “control,” all technically strategic terms.⁴⁰⁴ Almost urgently strategic was an OR phrase Scazzieri quoted, “elementary connecting operations between the elementary process operations.”⁴⁰⁵ The same source proposed technically “significant autonomy” in production’s “interruption-significant sectors,” which recalls an old mistaken notion of Dunlop’s concept of strategic, but is almost exactly Dunlop’s point.⁴⁰⁶

⁴⁰² *Ibid.*, 17-23, 81-84, 175-201, quotes 81, 188.

⁴⁰³ E.g., Howard Eisner, “A Generalized Network Approach to the Planning and Scheduling of a Research Project,” *Operations Research*, X, 1 (January 1962), 115-125; R. J. Solomonoff, “Some Recent Work in Artificial Intelligence,” *Proceedings of the IEEE*, LIV, 12 (December 1966), 1687, 1689-1691; Jacob Marschak, “Economics of Inquiring, Communicating, Deciding,” *American Economic Review*, LVIII, 2 (May 1968), 1, 16, 17; Arthur I. Siegel and J. Jay Wolf, *Man-Machine Simulation Models: Psychosocial and Performance Interaction* (New York: John Wiley & Sons, 1969); A. Alan B. Pritsker et al., *SAINT: Systems Analysis of Integrated Network of Tasks* (Wright-Patterson Air Force Base: Air Force Systems Command, 1974).

⁴⁰⁴ Scazzieri, “Production Process,” 597-603, 606, 608-609; *idem*, *Theory*, 11, 40, 83 n1, 89, 101, 275. The concepts: Abruzzi, *op. cit.*, B98-99, B101-102, B105-106, B108-114, B117-118; Kilbridge and Wester, “A Review,” 627-633, 635-638; *idem* and *idem*, “An Economic Model,” B256-257; Bakshi and Arora, *op. cit.*, B247-262 *passim*.

⁴⁰⁵ Scazzieri, *Theory*, 89; Abruzzi, *op. cit.*, B101.

⁴⁰⁶ Abruzzi, *op. cit.*, B105-106, B108-109, B112-114, B117-118. Cf. Benson Soffer, “A Theory of Trade Union Development: The Role of the ‘Autonomous Workman,’” *Labor History*, I, 2 (Spring 1960), 141 n1, 148; Irwin L. Hernstadt and Benson Soffer, “Recent Labor disputes over ‘Restrictive’ Practices and ‘Inflationary’ Wage Increases,” *Journal of Business*, XXXIV, 4 (October 1961), 462 n16, 466 n20; and John T. Dunlop, “Chapter 26: The Changing Status of Labor,” in Harold F. Williamson, ed., *The Growth of the American Economy: An Introduction to the Economic History of the United States* (New York: Prentice-Hall, 1944), 608-611, 614, 618-620, 621; *idem*, “The Development of Labor Organization: A Theoretical Framework,” in Richard A. Lester and Joseph Shister, eds., *Insights into Labor Issues* (New York: Macmillan, 1948), 179-185; *idem*, *Industrial Relations Systems* (New York: Henry Holt, 1958), 50-52. I cannot find any association between Abruzzi and Soffer or Dunlop. But Abruzzi’s mentor (William Gomberg, director of “management-engineering” at the International Ladies Garment Workers Union, 1941-1956) and Dunlop certainly knew each other: Adam Abruzzi, *Work Measurement: New Principles and Procedures* (New York: Columbia University, 1952), viii, 14-15, 19, 28, 35, 122, 126, 213-214, 223;

It would have taken Scazzieri only one more mental step in OR's networks to get the concept of industrially or technically powerful positions at work. He did not make the move. Nevertheless his arguments on the limits of feasibility, the inevitable "indivisibility" of productive forces, the inevitable asymmetries in the "structure" of processes, their "interrelatedness" and "interdependence," their *Zusammenhang*, together lead directly into materially strategic analysis. And conclusive on the matter, even though not an argument, only a suggestion, the scale-efficiency correlation is "essentially a static concept," so a framework good for thinking fixed centers of gravity, which change, but in steps, at corners, and into new fixed centers.⁴⁰⁷ Of all the contemporary theories of production I have read, Scazzieri's explains it best, and is the best for studying (in principle) how (where) best to stop it. In effect it is the theory for Dunlop's concept of technically strategic positions.

Others in the Oxbridge-Continental circuits, using much the same sources, were hard at the same subject then too, but with a different focus, perspective, and concerns. They also understood production structurally, but more tuned to Maastricht they tended like Landesmann to look beyond bottlenecks, to concentrate on questions of organization's changes, transition, structural dynamics, planning coordination to raise productivity. They looked explicitly over the long run, to theorize not states of things, but successive solutions, how old limits and correlations give way to conditions of new, more

William Gomberg, "Special Study Committees," Neil W. Chamberlain and John T. Dunlop, eds., *Frontiers of Collective Bargaining* (New York: Harper & Row, 1967), 235-251.

⁴⁰⁷ Scazzieri, *Theory*, vii, 13, 20-21, 28-30, 41-46, 63-73, 102-161, 187, 190-191, 200-201, 206-208, 252, 269-272, quotes 28, 66, 73, 201, 270. Cf. Antulio J. Echevarria, II, "Clausewitz's Center of Gravity: It's Not What We Thought," *Naval War College Review*, LVI, 1 (Winter 2003), 108-123; Georg Henrik von Wright, *Norm and Action: A Logical Enquiry* (New York: The Humanities Press, 1963), 17-34, 64-66.

productive development.⁴⁰⁸ Most interesting for strategic analysis were the “scheme” and “methodology” of another Italian of this generation, Mario Morroni. He luminously explained technical divisions of labor, complementarities, returns to scale, indivisibilities, organization and processes, tasks, and time in production. But he did less theory than excellent clarification. His standard of efficiency was costs per output, not rates of net surplus. And rather than dwell on kinks and corners, or prove the production function’s defects, he just observed them, more concerned as he was to explain “operational” and “strategic flexibility.”⁴⁰⁹

Those who also read Georgescu-Roegen and Hicks then, but not Babbage or Marx on the “multiple,” soon gained much broader recognition. Under Schumpeterian banners, they studied disequilibria for dynamics, made “evolutionary” and “institutional economics” professionally respectable, and raised a new generation of “heterodox” economists. But none of them focused where such dissidents might even accidentally find leads for conceptualizing materially strategic position.⁴¹⁰

⁴⁰⁸ E.g., Bernard Belloc, “Traverse Analysis in a Neo-Austrian Framework,” in Michael Landesmann and Roberto Scazzieri, eds., *Production and Economic Dynamics* (Cambridge: Cambridge University, 1996), 33-80; Salvatore Baldone, “Vertical Integration, the Temporal Structure of Production Processes and Transition between Techniques,” *ibid.*, 81-104; Christian Gehrke and Harald Hagemann, “Efficient Traverses and Bottlenecks: A Structural Approach,” *ibid.*, 140-166; Heinz D. Kurz and Neri Salvadori, *Theory of Production: A Long-Period Analysis* (Cambridge: Cambridge University, 1995); Harald Hagemann and Michael Landesmann, “Lowe and Structural Theories of the Business Cycle,” in Harald Hagemann and Heinz D. Kurz, eds., *Political Economics in Retrospect: Essays in Memory of Adolph Lowe* (Cheltenham: Edward Elgar, 1998), 95-130.

⁴⁰⁹ Mario Morroni, “Note sull’applicazione della matrice degli elementi della produzione all’analisi del processo produttivo e degli effetti del cambiamento tecnico in alcune imprese dell’industria tessile,” *Quaderni del Dipartimento di Scienze Economiche, Istituto Universitario di Bergamo*, No. 10, (1988); idem, *Production Process and Technical Change* (Cambridge: Cambridge University, 1992), 17-19, 25 n7, 26, 33-34, 43, 46 n12, 99, 142, 145, 150, 166, 168-172, 178, 187, 190. On “efficiency” here, cf. Scazzieri, *Theory*, 101; and Morroni’s mentor, Piero Tani, *Analisi microeconomica della produzione* (Rome: Nuova Italia Scientifica, 1986), 55-126, 273-334.

⁴¹⁰ E.g., Ulrich Witt, *Individualistische Grundlagen der evolutorischen Ökonomik* (Tübingen: J.C.B. Mohr [Paul Siebeck], 1987); Geoffrey M. Hodgson, *Economics and Institutions: A Manifesto for a Modern Institutional Economics* (Philadelphia: University of Pennsylvania, 1988); Giovanni Dosi and Richard R. Nelson, “An Introduction to Evolutionary Theories in Economics,” *Journal of Evolutionary Economics*, IV, 3 (September 1994), 153-172; <http://www.hetecon.com>. Cf. Karl-Heinz Brodbeck’s course: “Theorie der

So far in this story about production the most notable absence is French economists. The Oxbridge-Continental circuits then included very few, none developed anything like a Scazzierian theory of production, and neither did French economists in other circuits. They had rich sources for it, theories on accelerators, *filières* (business-cycle networks, supply chains), fields of forces, conjunctures and “*position stratégique*.”⁴¹¹ And they had impressive practical examples, continual national public-sector strikes, industrially and politically strategic action.⁴¹² But because the French state weighed so heavily in the French economy, its economic decisions centered in Paris, and the grandest *écoles* did too, economists especially intent on strategic questions kept thinking of them positively, dynamically, for better national accounting, planning, industrial policy, managing state-owned companies.⁴¹³ Not for them to analyze supply chains for yet more effective strikes.

Arbeit,” Munich, 1979, <http://www.khbrodbeck.homepage.t-online.de/literat.htm>; idem, *Produktion, Arbeitsteilung und technischer Wandel* (Düsseldorf: Peter Mannhold, 1981); and idem, *Die fragwürdigen der Ökonomie: eine philosophische Kritik der modernen Wirtschaftswissenschaften* (Darmstadt: Wissenschaftliche Buchgesellschaft, 1998).

⁴¹¹ On the accelerator: Aftalion, *op. cit.*, 58-81. On the original *filières*, quite forgotten: A. de Lavergne, “Commodity Exchanges in France,” *Annals of the American Academy of Political and Social Science*, CLV, 1 (May 1931), 219-221. The first *filière* theorist, then almost forgotten: Bernard Chait, *Le mouvement cyclique ou le mouvement non cyclique et l’interdépendence des marchés* (Brussels: R. Louis, 1938). The other theories, taught to multitudes: François Perroux, “Esquisse d’une théorie de l’économie dominante,” *Économie appliquée*, I, 2/3 (April/September 1948), 243-300; idem, “Economic Space: Theory and Applications,” *Quarterly Journal of Economics*, LXIV, 1 (February 1950), 89-104; André Marchal, “Les principaux courants de la pensée économique suédoise contemporaine,” *Revue d’économie politique*, LVII, 1 (January 1947), 65-111; idem, “Conjoncture économique,” *ibid.*, LVIII, 2 (March 1948), 301-305; idem, “Réflexions sur une théorie du développement du syndicalisme ouvrier,” *Revue économique*, II, 1 (February 1951), 45-61, quote 52, 53; and their student Raymond Barre, *La période dans l’analyse économique: une approche à l’étude du temps* (Paris: Société d’Éditions d’Enseignement Supérieur, 1950); idem, *Économie politique*, 2 vols. (Paris: Presses Universitaires de France, 1956).

⁴¹² Bureau NC1 and Roselyne Merlier, “Les conflits en 2001: une légère baisse,” *Premières Synthèses*, DARES, No. 34.1 (August 2003), 1-7.

⁴¹³ E.g., Michel Aglietta and Raymond Courbis, “Un outil du Plan: le modèle FIFI,” *Économie et statistique*, No. 1 (May 1969), 45-65; Claude Berthomieu, *La gestion des entreprises nationalisées: Critique de l’analyse marginaliste* (Paris: Presses Universitaires de France, 1970); Fanny Vielajus and Jean-Pierre Lugnier, “Recherche de structure dans le système productif: mise en relief des filières de production,” *Collections de l’INSEE*, Division Étude des Entreprises, No. 191, April, 1974; Joëlle Toledano, “À propos des filières industrielles,” *Revue d’économie industrielle*, No. 6 (Winter 1978), 149-158; Alexis Jacquemin and Michel Rainelli, “Filières de la nation et filières de l’entreprise,” *Revue*

Scazzieri's theory made no school. His Anglo-Continental fellows went their ways. He himself, when not recapping his theory, has gone back into the history and linguistics of economic thought.⁴¹⁴ And as Chicago, Harvard, MIT, and Stanford blew their Econ into blatant *Schwindlerspiel*, nothing else has emerged in theory very conducive to materially strategic analysis of production.

But way below theory, down in the basement, in the engine room, this kind of analysis has long been every day's work. There the practical neo-Walrasians and neo-Austrians, professors of OR, "production research," "industrial engineering," and "industrial economics," teach the directly useful economics of production. There students learn energetics, logistics, operations, robotics, processes, maintenance, coordination, and where strategic points in strategic connections are, which the most serious may study deep in the *European Journal of Operational Research*, the Institute for Operations Research and Management Sciences journals, the *International Journal of Production Economics*, and the *Journal on Chain and Network Science*. Maybe the best place anywhere now for materially strategic studies is the Department of Industrial Engineering

économique, XXXV, 2 (March 1984), 379-392; Yves Morvan et al., *L'analyse de filière* (Paris: Economica, 1985); Michel Bellet et al., "Noyaux, filières et complexes industriels dans le système productif," *ibid.*, XLI, 3 (May 1990), 481-500. Cf. a brief Baranzini-Scazzieri contact with *filières*: Jean Magnan de Bornier, "Vertical Integration, Growth and Sequential Change," in Baranzini and Scazzieri, *Economic Theory*, 127.

⁴¹⁴ E.g., Michael Landesmann and Roberto Scazzieri, "The Production Process: Description and Analysis," in idem et idem, eds., *Production and Economic Dynamics* (Cambridge: Cambridge University, 1996), 191-228; Roberto Scazzieri, "Economic Beliefs, Economic Theory and Rational Reconstruction," in Rema Rossini Favretti et al., eds., *Incommensurability and Translation: Kuhnian Perspectives on Scientific Communication and Translation* (Cheltenham: Edward Elgar, 1999), 289-306; Roberto Scazzieri, "A Smithian Theory of Choice," *Adam Smith Review*, I (2006), 21-47; idem and Stefano Zamagni, "Between Theory and History: On the Identity of Hicks's Economics," in Roberto Scazzieri et al., eds., *Money, Markets and Capital: Hicksian Economics for the Twenty-First Century* (Cambridge: Cambridge University, 2009), 1-37.

at Tsinghua University, Beijing, under Dean Gavriel Salvendy.⁴¹⁵ Much more than in theory, in Econ or economics, labor historians can learn essential lessons in engineering handbooks, old and new. So can labor organizers.

Chapter V. Power and Production: Different Dimensions in (Most) Bourgeois
Social Science, 1839-2001

I cannot find a basis for Dunlop's strategic argument in the classics of bourgeois sociology. Comte, the Aquinas of modern social science, taking "the true social point of view," held the division of labor to be "the most essential condition of our social life," the

⁴¹⁵ Gavriel Salvendy, ed., *Handbook of Industrial Engineering: Technology and Operations Management* (New York: John Wiley & Sons, 2001); <https://engineering.purdue.edu/~salvendy/resume2005.html>; Katherine H. Neme, ed., *American Men & Women of Science: A Biographical Directory of Today's Leaders in Physical, Biological and Related Sciences*, 25th ed., 8 vols. (Detroit: Gale, 2009), VI, 471.

reason for “social solidarity,...and the elementary cause of the extension and growing complication of the social organism,” i.e., human evolution, progress. He granted that *journellement*, every day, “this regular and continuous convergence” (the division of labor) suffered “shocks and incongruities,” so that one “function” might be “more or less indispensable” than another, which allows the question of strategic advantage.⁴¹⁶ And he admitted that “even today [1839]...exceptional individuals...of the old human type,” men of “military spirit,” could resist “industrial discipline.” But he did not imagine “more indispensable functions” controlled by such men, or therefore the force they might thereby raise against “modern slavery,...the slavery organized in the very bosom of industry, of the worker to the capitalist,...equally degrading for both.” If conflict of this kind happened, it would be only *temporel*, in the Roman Catholic sense, he noted, temporal, secular, transitory. Not being *spirituel*, it had no formal, foundational place.⁴¹⁷ “Th[e] invariable conciliation of the separation of labor with the cooperation of effort,” Comte taught, “...constitutes, indeed, the fundamental character of human operations....”⁴¹⁸

Spencer affirmed, “A society is an organism,” and “progressive differentiation of structures is accompanied by progressive differentiation of functions...” Moreover, the consequent “division of labour...in the society, as in the animal, makes it a living

⁴¹⁶ Auguste Comte, *Cours de Philosophie Positive*, 3rd ed., 6 vols. (Paris: J.B. Baillière et fils, 1869), IV, 417-418, 425-426.

⁴¹⁷ *Ibid.*, IV, 504, 506-509.

⁴¹⁸ *Ibid.*, IV, 418. Cf. *ibid.*, VI, 265-272, 361-365, 511-512, 553-569. Comte’s concern that “the separation of social functions..., which alone has permitted the development and extension of general society, threatens, from another aspect, to decompose it into a multitude of *corporations incohérentes*, disconnected bodies,” e.g., corporations, “interest groups,” unions, was different, and quite formal. He allayed it with *gouvernement*, “the social purpose” of which was “to prevent this fatal disposition to dispersion,” which service revealed “the first positive and rational base of the elementary and abstract theory of government.” *Ibid.*, IV, 428-430.

whole.”⁴¹⁹ And this “transformation of the homogeneous into the heterogeneous...everywhere characterizes evolution,” industrial progress, social progress.⁴²⁰ Stricter than Comte, Spencer insisted that if an organization’s “parts can carry on mutually-dependent actions, then in proportion as organization is high there must go a dependence of each part on the rest so great that separation is fatal....”⁴²¹ In a society’s “sustaining system” (production) he observed the iron industry’s dependence on mining, and in distribution he emphasized the critical dependence of the “sustaining” and the “regulating” systems on transport and communications.⁴²² But all these functions being organic, e.g., distribution “entirely alike...the vascular system,” it would be formally (precisely) insane to think of them strategically. The blood threaten the stomach? Contention, “conflicts,” “antagonisms,” “competitions,” “wars,” “the struggle for existence” could occur only between organisms, not within them.⁴²³ Nevertheless Spencer too granted temporal disjunctions.⁴²⁴ Both in an old, “militant” society, organized largely for external offense and defense, its internal cooperation compulsory, coercive, and in a modern (1876-96), “industrial” society, organized largely for its members’ individual private pursuits, its internal cooperation voluntary, contractual, there would “arise...diversities of interests.”⁴²⁵ Some “diversities” would issue in “constant quarrels,” characteristically in modern society between “limited-liability companies” and

⁴¹⁹ Herbert Spencer, *The Principles of Sociology*, 3rd ed., authorized, 3 vols. (New York: D. Appleton and Company, 1897), I, 437, 438, 440-441. He later claimed that his organic argument was analogical. Cf. *ibid.*, I, 576-588.

⁴²⁰ *Ibid.*, I, 465, III, 327, 331, 404-411.

⁴²¹ *Ibid.*, I, 473. On “high organization,” which “suberves individual welfare,” *ibid.*, I, 587-588.

⁴²² *Ibid.*, I, 440-441, 476-477, 484-485, 497-498, 524-526, 533-536, 581-583.

⁴²³ *Ibid.*, I, 508, II, 615.

⁴²⁴ *Ibid.*, I, 93-96, 223, 552-575, II, 242-243, 568-569, 590-592, 603, 605, 618, 632, 640-641, 643, 648, III, 331, 599-607, 609.

⁴²⁵ On the differences between “militant” and “industrial,” *ibid.*, II, 244-253, 568-642, III, 356-359, 478-512, 553-574. On “diversities,” *ibid.*, III, 535.

“trade unions.” Because “[s]o long as the worker remains a wage-earner,....[h]e is temporarily in the position of a slave,” his cooperation coerced, unions were “militant,” coercive. Indeed (although without a hint of strategy) unions used violence to enforce “their regulations.” Each union’s transitory gains taxed others’ members; all were a burden on “employers and the public.”⁴²⁶ Even so, functionally, in a modern, still “semi-militant, semi-industrial state,” they brought their members benefits making them fitter for survival and “higher forms of social organization.” And formally “[t]hey seem natural to the passing phase of social evolution....”⁴²⁷ In the future, in freely contracted cooperatives, absent war or socialism, “ultimate man” would “fulfil his own nature by all others doing the like.”⁴²⁸

Durkheim concentrated on the division of labor “in order to make science of morality,” to his mind “the daily bread without which societies cannot live.”⁴²⁹ Following Comte, more functionalist than Spencer, taking labor’s divisions for “a phenomenon of general biology,” he held their “economic services” in modern (1893), “superior societies” to be “of little matter” compared to their “moral effect,” viz., solidarity. This, he posited (contradictorily), was “perhaps the very source of morality.”⁴³⁰ As he argued, “the growth and condensation of [modern] societies” had made “the struggle for existence...more intense,” but also “*necessitated*...the progressive division of labor,” which was the struggle’s “sweetened, softened denouement..., occupations...separated and specialized to infinity,” ever more individualism, ever more solidarity, not (as per

⁴²⁶ *Ibid.*, III, 523-525, 533-536, 539-551, 572-573, 587.

⁴²⁷ *Ibid.*, III, 551-552.

⁴²⁸ *Ibid.*, III, 553-607, 611.

⁴²⁹ Émile Durkheim, *De la division du travail social: Étude sur l'organisation des sociétés supérieures* (Paris: Félix Alcan, 1893), i.

⁴³⁰ *Ibid.*, 3-4, 10, 49-50, 52, 57, 62-64.

Spencer) contractual, but organic, indeed altruistic.⁴³¹ It was impossible, he granted, “for social life to be without conflicts,” which solidarity could not “suppress,” but only “moderate.” And modern societies especially suffered “the [anti-functional] pathology” of “abnormal, ... anomic divisions,” the most “striking” of them “[t]he antagonism of labor and capital.” Ever “more lively,” it had reached a “state of permanent hostility...in the industrial world,” where “in big industry...this rending discord is at an acute stage.”⁴³² The conflict, “class wars” (his words), came from “external inequalities, ... rich and poor at birth,” which caused “constraints” (“indirect violence,” practically extortion, a “usurious” or “leonine contract”), which caused a “forced division of labor,” which, not corresponding to “the distribution of natural talents,” prevented “harmony between individual natures and social functions...[and] falsifies the moral conditions of exchange.” But Durkheim had no idea of functions industrial workers could use, or stop using, to constrain capital to their purposes. The only “internal inequalities” he imagined among workers were “natural,” in their “capacities” and “aptitudes,” i.e., “their unequal merit,” which “will always make...unequal situations in society...”⁴³³ His moral science indicated the goal of modern morality: “The task of the most advanced societies is...a work of justice.” This work would be “in attenuating...external inequalities,” leaving only the “natural inequalities,” so that “the harmony between each individual’s constitution and condition is realized of its own accord.”⁴³⁴

Simmel, anti-Comtean, neo-Kantian, epistemologically limited society to “the *Wechselwirkung* [continuous correlation, incessant exchange, correspondence,

⁴³¹ *Ibid.*, ix, 1, 140-141, 160-161, 187-188, 213-251, 290, 294, 299.

⁴³² *Ibid.*, 44, 397-399, 409, 415-418.

⁴³³ *Ibid.*, 419-423, 430-432.

⁴³⁴ *Ibid.*, 422-423, 434, 459-460.

interaction, or interplay, alternating reciprocation, mutually reflective and resonant interworking]...of its parts...not only human persons,...but also entire groups,...in reciprocal, dynamic relations.”⁴³⁵ But its precondition, the “differentiation” allowing such relations, he held to result from the division of labor increasing its “conservation of force [~/=energy],” giving it an “evolutionary advantage,” powering its survival. As a society so survives, through the expansion of some groups, the dissolution of others, and “the crossing of social circles” (participation in several circles at once), individuals more freely develop themselves.⁴³⁶ In modern times (the 18th and 19th centuries) society is increasingly *Vergesellschaftung*, individually activated association, which “continually knots and loosens and knots together anew, an everlasting flow and pulsation, linking individuals even where it does not come to actual organization.” *Vergesellschaftung*, Simmel argued, is at once “the form...in which individuals on the ground of [their diverse] interests...grow together into unity and within which these interests are

⁴³⁵ Georg Simmel, “Über sociale Differenzierung: Sociologische und psychologische Untersuchungen [1890],” in his *Gesamtausgabe*, 16 vols. (Frankfurt am Main: Suhrkamp, 1989), II, 129-131. Cf. “Sociologie: Untersuchen über die Formen der Vergesellschaftung [1908],” *ibid.*, XI, 15-21, 43-44; “Grundfragen der Sociologie: Individuum und Gesellschaft [1917],” *ibid.*, XVI, 68-71, 103-104. On *Wechselwirkung*, current since Kant in philosophy, resounding in Simmel’s time in physics and physiology: Jacob Grimm and Wilhelm Grimm, *Deutsches Wörterbuch*, 16 vols. in 32 (Leipzig: S. Hirzel, 1854-1971), XIII, 2777-2778; Hermann von Helmholtz, *Über die Wechselwirkung der Naturkräfte und die darauf bezüglichen neuesten Ermittlungen der Physik: Ein populär-wissenschaftlicher Vortrag gehalten am 7 februar 1854* (Königsberg: Gräfe & Unzer, 1854); John T. Merz, *A History of European Thought in the Nineteenth Century* [1904-12], 4 vols. (New York: Dover, 1965), III, 399, 564. On Simmel and Helmholtz, Klaus C. Köhnke, *Der junge Simmel: in Theoriebeziehungen und sozialen Bewegungen* (Frankfurt am Main: Suhrkamp, 1996), 56-73. On *Wechselwirkung* as simply “interaction,” Herman L. F. Helmholtz, “On the Interaction of Natural Forces,” tr. John Tyndall, in Edward L. Youmans, ed., *The Correlation and Conservation of Forces: A Series of Expositions* (New York: D. Appleton and Co., 1865), 211-247; and Kurt H. Wolff, ed., tr., *The Sociology of Georg Simmel* (New York: The Free Press, 1950), xliv.

⁴³⁶ Simmel, “Über sociale Differenzierung,” 154-155, 169-171, 190-191, 237, 259, 264-265, in general Chapter VI, “Die Differenzierung und das Prinzip der Kraftersparnis,” 258-295; “Zur Philosophie der Arbeit [1899],” V, 430-431; “Sociologie,” 63-64, 270-272, 489, 492-495, in general Chapter VI, “Die Kreuzung der sozialer Kreise,” 456-511; “Grundfragen,” 128-131, 139-140, 144-149. On “conservation of force” then, Michael Faraday, “The Conservation of Force [1857],” in Youmans, *op. cit.*, 359-383; Ernst Mach, *Die Geschichte und die Wurzel des Satzes von der Erhaltung der Arbeit* (Prague: J. G. Calve, 1872); and Merz, *op. cit.*, III, 397-402, 564-583. On “Die Kreuzung,” in an almost inert translation, see Georg Simmel, *Conflict: The Web of Group-Affiliations*, tr. Kurt H. Wolff and Reinhard Bendix (New York: The Free Press, 1955), 125-195.

realized,” and the form against which individuals struggle to preserve their own subjectivity.⁴³⁷ Associations now (ca. 1900) happen continually, but never simply; they are always complex and tense, not merely involving but requiring hierarchy and antagonism, many of them, abstractly, a pure form of domination or strife. They cannot start without “gradation of superiority and subordination, if only on technical grounds.” They cannot last unless they preserve themselves. And they cannot attain “actual organization” voluntarily; given “human nature,” they need “force, compulsion, coercion.”⁴³⁸ In “modern giant businesses” in particular Simmel adduced “the difference in strategic position” between workers and their employers. He found “especially interesting...the solidarity of wage laborers.” And he considered cases where “the superior is technically dependent on the subordinate.” But in his sociology coercion carried the force only of personal will or law, the strategic difference between workers and employers obtained only in the labor market (“the former unconditionally at the mercy of the latter”), labor’s solidarity was only psychological, and technical dependence happened only in bureaucracies--where it “damages the organization’s solidity.”⁴³⁹

⁴³⁷ Simmel, “Differenzierung,” 130; “Die Grossstädte und das Geistesleben [1903],” *Gesamtausgabe*, VII, 116, 129-131; “Sociologie,” 33, 284, 433, 464, 478-479, 485; “Grundfragen,” 104. On the reciprocal (not dialectical) “relation of the individual to the group” in “special associations,” idem, “Philosophie des Geldes [1900],” *Gesamtausgabe*, VI, 462-472, in general Chapter IV, “Die individuelle Freiheit,” 375-481. On the translation of *Vergesellschaftung* approved by Durkheim, G. Simmel, “Comment les formes sociales se maintiennent,” *L’année sociologique*, I (1896-97), 71-109. See also Donald N. Levine, “The Structure of Simmel’s Social Thought,” in Kurt H. Wolff, ed., *Georg Simmel, 1858-1918: A Collection of Essays, with Translations and a Bibliography* (Columbus: Ohio State University, 1959), 17; idem, “Some Key Problems in Simmel’s Work,” in Lewis A. Coser, ed., *Georg Simmel* (Englewood Cliffs: Prentice-Hall, 1965), 101. Cf. Wolff’s neologism, “sociation,” *The Sociology*, lxiii; and Simmel, *Conflict*, 13.

⁴³⁸ Idem, “Differenzierung,” 283-284; “Die Selbsterhaltung der sozialen Gruppe: Sociologische Studien [1898],” *Gesamtausgabe*, V, 316-318, 326, 330-331, 333; “Soziologie,” 51-58, 160-162, 277-280, 476-477, 558-559, 591-592, 598-599, 603; “Grundfragen,” 122-128, 141. On superiority, subordination, and inequality, “Grundfragen,” 82-83, 129-131. That “all complex practices,” involving heterogeneous standpoints, peculiarities of individual elements, personal, local, objective, are “antipathetic to democracy,” “Soziologie,” 123n1. On coercion, *ibid.*, 161-162, 277-280.

⁴³⁹ Simmel, “Grundfragen,” 248-249; “Soziologie,” 161, 268-270, 277. His reference to “strategic position” probably came from the Webbs, either *Industrial Democracy* or *Theorie und Praxis*.

Pareto, “the bourgeois Karl Marx,” thought society comprehensible only “in its ensemble,” as a system of movements and conditions in equilibrium, so allowing study of “all the equations of equilibrium together.”⁴⁴⁰ In a social system, as in the solar system, or “a mechanical system,” or “a political economy,” or “a living organism,” equilibrium means that its parts are in “mutual dependence,” or “a necessary correspondence,” or “interdependence.”⁴⁴¹ Although “social evolution” happens, slowly, through “a dynamic equilibrium,” it is still (again ca. 1900) conceivable only as “a series of static equilibria.”⁴⁴² Pareto did not make much of the division of labor, but following Spencer he did agree that it brought more “mutual dependence.”⁴⁴³ Engineer, scholar of force, railroad executive, logician of agency, rationalization, heterogeneity, and inequality, erudite on violence, cunning, and elites in conflict, student of unions, strikes, and syndicalism (a friend of Sorel’s), he came closest to the concept of strategically positioned labor.⁴⁴⁴ His explanations of interest, coercion, and protection (“cycles of

⁴⁴⁰ G. H. Bousquet, *Vilfredo Pareto: sa vie et son oeuvre* (Paris: Payot, 1928), 23n (quoting *Avanti!*’s homage to Pareto on his death in 1923); Vilfredo Pareto, “Cours d’économie politique [1896-97],” in his *Oeuvres complètes*, 30 vols. (Genève: Librairie Droz, 1964-??), I (two in one), i, 13, 18, 70-71; idem, “Les systèmes socialistes [1902-03],” *ibid.*, V (two in one), i, 379-380, ii, 90-91, 287-292; idem, “Manuel d’économie politique [1909],” *ibid.*, VII, 153-156, 182-207, 241-243.

⁴⁴¹ “Cours,” ii, 5-28; “Les systèmes,” i, 81-82; “Manuel,” 146-150, 234-235, 404-405, 687; and idem, *Trattato di sociologia generale*, 2 vols. (Firenze: G. Barbèra, 1916), I, 41, 54-57, II, 274-277, 479-503, 684-686. Pareto’s principal American editor notes, “‘Interdependence’ is a technical term.... The same concept is expressed...by the words ‘correlation,’ ‘interrelation.’” Vilfredo Pareto, *The Mind and Society*, 4 vols., ed. Arthur Livingston, tr. Andrew Bongiorno and Arthur Livingston, with...James Harvey Rogers (New York: Harcourt, Brace and Company, 1935), I, 51n.

⁴⁴² “Cours,” ii, 9-10; “Manuel,” 147-148, 192-199, 232-233, 337-338.

⁴⁴³ “Cours,” i, 420n, ii, 51-53, 179-192; “Les systèmes,” i, 394-396; “Manuel,” 285-287. Nothing on the division of labor appears in the *Trattato*.

⁴⁴⁴ Generally, “Manuel,” Chapter II, “Introduction à la science sociale,” 40-144. On “force” and other terms from mechanics in explicitly sociological use, *Trattato*, I, 54-57. On “logical” and “non-logical” actions, *ibid.*, I, 63-66, 74-79. On “logico-experiential” and “non-logical, non-experiential” rationalizations, *ibid.*, I, 432-440, II, 519-535. (Considering Pareto’s fundamental, continual *recours a l’expérience*, which in French and Italian, *l’esperienza*, issues in *expérimenter*, *expérimental*, *sperimentare*, *sperimentale*, in “Les systèmes,” i, 103-107, ii, 319; “Manuel,” 27-28; *Trattato*, I, 3-13, ff. *passim*, I think “experiential” carries more of his meaning than the standard English translation, “experimental.”) On heterogeneity and inequality, *ibid.*, I, 142-143, 629-633, II, 467-478. On *la forza*, *la violenza*, *l’astuzia*, *la frode*, *la*

interdependence”) gave the necessary logic and attitude.⁴⁴⁵ Even so, often hovering right over the strategic point, Pareto never got to it. He imagined mutual dependence resulting only from “automatic internal forces” (markets) or “coercive external forces” (government), recategorized class from production to power, charged monopolies and unions to luck, law, and politics (“non-logical action”), saw “very great importance” in workers in “big industry” leaving old skills and positions to become general technicians, and concluded that social conflict, quintessentially “class struggle,” was all instinctive, and “almost all arguments” about it only *derivazioni*, wishful thinking.⁴⁴⁶

Weber also had the necessary logic. Reasoning from *Gemeinschaftshandeln* (later *soziales Handeln*), “social action,” or “social business,” that individuals depended on each other for meaning and purpose, he defined society as persons acting in subjective, expectant regard to others, thus together forming *Sinnzusammenhänge*, significant, intelligible complexes. An ideal society is an *Ordnung*, he specified, when its actors orient their social business according to “assignable ‘maxims,’” and the order is “valid” when the actors see their orientation as obligatory. In fact, he argued, an order is most stable when it has “the prestige...of legitimacy,” by virtue of tradition, faith, and legality.⁴⁴⁷ Although ideally its “economic activity” covers its demands for “useful

corruzione, and “Class I” and “Class II” elites in conflict, *ibid.*, II, 549-575. On unions and syndicalism, *ibid.*, II, 79, 248-256, 295n, 550-553, 563-564, 678-680. On Sorel, *ibid.*, II, 368, 569-570n.

⁴⁴⁵ *Ibid.*, I, 65-66, 247-248, II, 11-14, 46-47, 59, 367, 460-462, 519-520, 575-596, 659-681, 738-739, 741-744.

⁴⁴⁶ “Cours,” ii, 52-71, 79-81, 89-90, 97-101, 127-128, 132-161, 182, 187-199, 245-275, 379-380; “Les systemes,” i, 34-62, 117-121, ii, 328-329, 385-456; “Manuel,” 129-144, 166-167; *Trattato*, I, 300n, 426-427, 519-520, 534-539, 639, and Chapter XIII, “L’equilibrio sociale nella storia,” 730-887.

⁴⁴⁷ Max Weber, “Über einige Kategorien der verstehenden Soziologie [1913],” in *idem*, *Gesammelte Aufsätze zur Wissenschaftslehre* (Tübingen: J.C.B. Mohr [Paul Siebeck], 1922), 417-440; *idem*, *Wirtschaft und Gesellschaft: III Abteilung, Grundriss der Sozialökonomie* (Tübingen: J.C.B. Mohr [Paul Siebeck], 1922), 1-6, 11-20. Cf. *idem*, *The Theory of Social and Economic Organization*, tr. A.M. Henderson and Talcott Parsons (New York: Free Press, 1947), 88-96, 124-132; and *idem*, *Economy and Society*, ed., Guenther Roth and Claus Wittich, tr. Ephraim Fischhoff et al., 2 vols. (Berkeley: University of California, 1978), I, 4-12, 31-38.

production” peacefully in free markets, profitably on capital accounts calculated in money, real social orders have featured “domination” in their markets, e.g., “the big capitalist firm,” “capitalist monopolies,” “‘imperialist’ capitalism.” Indeed “our modern economy under our modern conditions [ca. 1914] surely needs...the state’s legal coercion,” so that “the most important and most modern economies show a structure of domination.”⁴⁴⁸ Workers too, Weber recognized, have held impressive economic positions. In German industry in 1918-19, as he witnessed, they appropriated jobs and means of production, in this “struggle” forcefully limiting the division of labor, raising wages (“today the central point” of the “class struggle”), turning profits into household wherewithal, defying the law, the state itself, for a new “material rationality.”⁴⁴⁹ But he could not explain the strength of their struggle. He understood the difference between power and domination. He knew technical, social, and dispositive divisions of labor, and an argument that the modern proletariat’s power came from its “necessity in the production process.” He himself had designed research on German industrial workers, and written an empirical study of them.⁴⁵⁰ But because he did not see power

⁴⁴⁸ Weber, *Wirtschaft und Gesellschaft*, 31-34, 45, 86-88, 94-97, 181-193, 364-367, 379-380, 383-385, 603-604, 624-625.

⁴⁴⁹ *Ibid.*, 24, 32, 44-48, 52-53, 58-62, 72, 78-79, 367, 634.

⁴⁵⁰ On the division of labor, *ibid.*, 62-73. Weber is not clear on the difference between the second and third kinds of division, the latter being that between profit-making and budgetary concerns, on which see *ibid.*, 45-48, 52-53. He did not name this division, only categorized it as a question of *Verwendung*, “use.” I take “dispositive” from his *disponierend* and *Disposition*, *ibid.*, 62, 120. On a class’s *Notwendigkeit im Produktionsprozess* and its *Machtstellung und Chancen*, Weber to Michels, November 7, 1907, quoted in Wolfgang J. Mommsen, *Max Weber und die deutsche Politik, 1890-1920* (Tübingen: J.C.B. Mohr [Paul Siebeck], 1959), 97 n2. For Weber’s industrial sociology, Max Weber, “Methodologische Einleitung für die Erhebungen des Vereins für Sozialpolitik über Auslese und Anpassung (Berufswahlen und Berufsschicksal) der Arbeiterschaft der geschlossenen Grossindustrie [1908],” in his *Gesammelte Aufsätze zur Soziologie und Sozialpolitik* (Tübingen: J.C.B. Mohr [Paul Siebeck], 1924), 1-60; idem, “Zur Psychophysik der industriellen Arbeit [1908-09],” *ibid.*, 61-255; and idem, “Zur Methodik sozial-psychologischer Enqueten und ihrer Bearbeitung,” *Archiv für Sozialwissenschaft und Sozialpolitik*, 29 (1909), 949-958. Cf. Gert Schmidt, “Max Weber and Modern Industrial Sociology: A Comment on Some Recent Anglo-Saxon Interpretations,” *Sociological Analysis and Theory*, VI, 1 (February 1976), 47-73; and Wolfgang Schluchter, “Psychophysics and Culture,” in Stephen Turner, ed., *The Cambridge Companion to Weber* (Cambridge: Cambridge University Press, 2000), 59-80.

sociologically, or see domination except in the market or in authority, because he did not distinguish means of production from generic “means of provision” (*Beschaffungsmittel*), or relations of production from marketable personal assets (*Lebenschancen*), he could not imagine workers technically able to coerce each other, or management, or the government. Modern bureaucracy’s “position of enormous power” he explained from its “economic indispensability,” precisely (after Simmel) its “technical” expertise, “essential,” he noted, for modern transport and communications. But the most Weber granted workers was that the labor market might favor those organized in “especially ‘vital’ job” (and “the purely physically strongest”); he absolutely rejected proletarian “indispensability.”⁴⁵¹ His industrial sociology would explore not workers’ struggles, but their psychologies, not their strategies, but their souls and spirits. Considering the great revolutionary proletarian movements then, Weber focused on personality, charisma and conspiracy. Only once he allowed a “very difficult even if...not quite impossible” case, in Russia, of “general fraternization and association,” which “anyway do not hold significance beyond that which workers through (normal) strikes can and want to attain,” which he did not explain.⁴⁵²

⁴⁵¹ On power and domination, Weber, *Wirtschaft und Gesellschaft*, 28-29, 60, 122-124, 603-641; idem, *Economy and Society*, I, 60, n23 (Roth). On his distinction between “economic” and “technical,” *Wirtschaft und Gesellschaft*, 32-33. On “means of provision,” *ibid.*, 36; idem, *Economy and Society*, I, 206, note 7 (Wittich). On class, Weber, *Wirtschaft und Gesellschaft*, 631-635. On proletarian vs. bureaucratic “indispensability,” *ibid.*, 113, 119, 128-130, 165, 671-675, 677-678.

⁴⁵² Weber, *Wirtschaft und Gesellschaft*, 77, 140, 146-148, 161-163, 172, 175-176, 669-670, 758-759; Weber to Michels, February 9, 1908, quoted in Mommsen, *op. cit.*, 122; Max Weber, “Innere Lage und Aussenpolitik [1918],” in idem, *Gesammelte politische Schriften*, 2nd rev. ed. (Tübingen: J.C.B. Mohr [Paul Siebeck], 1958), 280-281; idem, “Parlament und Regierung im neugeordneten Deutschland [1918],” *ibid.*, 354, 392-393; idem, “Politik als Beruf [1919],” *ibid.*, 540-541; idem, “Der Sozialismus [1918],” in *Soziologie und Sozialpolitik*, 512-518; Weber to Friedrich Naumann, n.d. (1918?), quoted in Theodor Heuss, *Friedrich Naumann: Der Mann, das Werk, die Zeit*, 2nd rev. ed. (Stuttgart/Tübingen: Rainer Wunderlich/Hermann Leins, 1949), 415. On “Russian conditions,” Weber, *Wirtschaft und Gesellschaft*, 155. On strategy of any kind, despite Delbrück, Weber was almost blank: *ibid.*, 10; and Jon Elster, “Rationality, Economy, and Society,” in Turner, *op. cit.*, 38-40.

Nor did the founding sociologists' intellectual offspring see industrial workers holding material power at work. The first to theorize on "trade unionism," the Webbs, in the 1890s, thought unions happened not because workers decided to use their "strategic position" in the labor market, but because they had a "faculty" that came from their race and class. Unionism in their view sprang from "an instinct" in "the Anglo-Saxon workman" for self-preservation, and its first, indeed universal expedient (in England), "the Device of the Common Rule," succeeded by "psychological effect" and "overpowering impulse." This Common Rule "promotes the action of both forces of evolutionary progress..., the Selection of the Fittest...and Functional Adaptation," ultimately to attain "the maximum aggregate development of individual intellect and individual character in the community as a whole..." Despite the National Union of Railwaymen, the Triple Alliance, the Shop Stewards' Movement, the Webbs in the 1920 reedition of their theory changed not a word about labor's "strategic position," all economic, nothing industrial or technical. For them Anglo-Saxon workers used their "strategic strength" in the labor market because of their emotion.⁴⁵³

After World War I the likeliest country for a bourgeois sociology of power in production to appear would have been Germany, because of its industrial proletariat, its intellectual history, its revolutionary and counter-revolutionary moments, and its rampant reactionary modernism. But for all the German fascination with "man and technology" then, liberals, conservatives, and fascists who studied industrial workers (e.g.,

⁴⁵³ Sidney Webb and Beatrice Webb, *Industrial Democracy: Edition of 1920, With New Introduction* (London: Longmans, Green and Co., 1920), 560-561, 693, 697-702, 715-718, 723, 833-834, 847-848. Note their gratitude in 1897 for "the co-operation, throughout the whole six years [of this project], of our colleague and friend, Mr. F. W. [Sir Francis] Galton," *ibid.*, xxix. Maybe it was under his influence that they saw "the African negro" having "no assignable minimum [standard of living], but a very low maximum," and "the Jew...unique in possessing neither a minimum nor a maximum....," *ibid.*, 697-698n. On the Common Rule, see Marshall, *Principles*, 9th ed., I, 704-709.

respectively, Emil Lederer, Hans Freyer, Fritz Giese) still concentrated on psychological and cultural questions.⁴⁵⁴

American, French, and British sociologists of industrial problems also looked then to the issues of morality, sensitivity, feeling, meaning. Considering Fordism's power and Taylor's influence, which virtually begged attention to technically situated conflicts, it would not have been surprising if any of them had taken an interest in an industry's strategic troubles. But none of them did. Whatever their political differences over the labor movement in their countries (nowhere so bitter as in Germany or Italy), they all divined labor's principal quality as spirituality. They disagreed on whether workers were properly objects or subjects of study, whether the object (or the subject) was properly an individual or a group, etc. But they all sought most to understand the worker's mind, workers' values.⁴⁵⁵ The main Fabian fan of Britain's pre-war industrial unionism, a student of its power in wartime munitions plants, repeated post-war that British unions ran on both "a vast mass of conservative tradition...a source at once of strength and of

⁴⁵⁴ Peter Henrichs, *Um die Seele des Arbeiters: Arbeitspsychologie, Industrie- und Betriebssoziologie in Deutschland, 1871-1945* (Köln: Pahl-Rugenstein, 1981); Jeffrey Herf, *Reactionary Modernism: Technology, Culture, and Politics in Weimar and the Third Reich* (Cambridge: Cambridge University Press, 1984); Jerry Z. Muller, *The Other God That Failed: Hans Freyer and the Deradicalization of German Conservatism* (Princeton: Princeton University Press, 1987). Likewise in Italy: Giulio Sapelli, *Organizzazione, lavoro e innovazione industriale nell'Italia tra le due guerre* (Turin: Rosenberg & Seller, 1978).

⁴⁵⁵ Cf., for example, Leon P. Alford, ed., *Management's Handbook* (New York: The Ronald Press, 1924); Ordway Tead, *Instincts in Industry: A Study of Working-Class Psychology* (Boston: Houghton Mifflin, 1918); Richard H. Lansburgh, *Industrial Management* (New York: John Wiley & Sons, 1923); Mary P. Follett, *Creative Experience* (New York: Longmans, Green and Co., 1924); Walter V.D. Bingham and Bruce V. Moore, *How to Interview* (New York: Harper & Bros., 1931); Walter V.D. Bingham, *Aptitudes and Aptitude Testing* (New York: Harper & Bros., 1937); Thomas N. Whitehead, *The Industrial Worker: A Statistical Study of Human Relations in a Group of Manual Workers*, 2 vols. (Cambridge: Harvard University, 1938); Henri Fayol, *Administration industrielle et générale* (Paris: Dunod, 1925); Maurice Halbwachs, *Les cadres sociaux de la mémoire* (Paris: Félix Alcan, 1925); Jean-Maurice Lahy, *La sélection psychophysiologique des travailleurs: conducteurs de tramways et d'autobus* (Paris: Dunod, 1927); Oliver Sheldon, *The Philosophy of Management* (London: Pittman, 1923); Charles S. Myers, *Mind and Work: The Psychological Factors in Industry and Commerce* (London: University of London, 1920); Georges Friedmann, *La crise du progrès: esquisse d'histoire des idées (1895-1935)* (Paris: Gallimard, 1936).

weakness” and “a growing mass of idealism and of theory.”⁴⁵⁶ The American theorist Hoxie had declared before the war that “the real unionism” came from “group psychology,” including “blind and spasmodic revolt.” Unionized workers “do not usually independently understand the theory of their own demands or of their constructive program. They *feel*.” After the war, despite the Seattle General Strike, the Winnipeg General Strike, the Boston Police Strike, and the Great Steel Strike, Hoxie’s posthumous representative held his “psychological analysis” still “true.” She suggested only “a new functional type” of union, “characterized by practical idealism.”⁴⁵⁷ An American sociologist soft on Anarchism then thought, “...the machine is the major cause” of the labor movement, but only because it made workers “insecure”: they organized unions “to harness the machine” and reestablish “security and stability.” Perlman, the most authoritative, firmly for the American Federation of Labor, concluded that “consciousness” started and drove “modern” trade unions, “the consciousness of job scarcity” that “basically determined...their economic attitudes,” or ““mentality,”” and so their active “solidarity.” For “certainty” in the “theory of the labor movement,” he advised, “the safest method is to go to the organizations of labor’s own making, shaped and managed by leaders arisen from labor’s own ranks, and to attempt to discover ‘what’s really on labor’s mind’ by using as material the ‘working rules,’ customs and

⁴⁵⁶ G.D.H. Cole, *The World of Labour: A Discussion of the Present and Future of Trade Unionism* (London: G. Bell and Sons, 1913), 413-425; idem, *An Introduction to Trade Unionism, Being a Short Study of the Present Position of Trade Unionism in Great Britain Prepared for the Trade Union Survey of the Labour Research Department* (London: George Allen and Unwin, 1918), 96, 108.

⁴⁵⁷ Robert F. Hoxie, *Trade Unionism in the United States* (New York: D. Appleton and Company, 1917), 55-60, 279, his emphasis. Cf. his Webbsian notion of “bargaining strength” and his suggestive but isolated and confusing comment about “control,” *ibid.*, 260-261, 275. Posthumously, idem, *Trade Unionism in the United States* (Supplement by Mollie Ray Carroll), 2nd ed. (New York, D. Appleton and Company, 1923), 412, 437. Carroll also reported the American Federation of Labor’s “strategic position...in the field of production” during the war, but this was evidently due not to members’ technical power on the job, but to the war: *ibid.*, 419. See also Carter L. Goodrich, *The Frontier of Control: A Study in British Workshop Politics* (New York: Harcourt, Brace, 1921), 7-11, 18-50, 180-181.

practices of these organizations.”⁴⁵⁸ At Harvard, Mayo worried worst over industrial workers’ “morale.” At Hawthorne his associates looking for “human factors” never imagined that these might include contests over technically strategic positions at work, did their research on small, “significantly homogeneous” groups, where they could not have found such positions, and concluded that “the technical organization of the plant” had to do with “the human organization” only through technical changes affecting workers’ “sentiments.”⁴⁵⁹

Of all bourgeois sociologists between the Wars, only Parsons used the notion of “strategic position.” Having studied philosophy and biology at Amherst, history with Tawney and anthropology with Malinowski at LSE in 1924-25, and economics with Salin at Heidelberg in 1925-26 (whence his D.Phil. in 1927, for “Der Kapitalismus bei Sombart und Max Weber”), having taught for four years in Harvard’s Economics Department, and then endured L. J. Henderson’s “seminar” on Pareto, he was drawing his grand plan for a social science of action. His first Pareto-informed sketch emphasized “coercive power,” its main “instruments” being “force, fraud, and strategic position.” But this last was still in the market, where the Webbs had found it, and Marshall had left it, “e.g. monopoly,” without technical (“‘physical’ or ‘material’”) location.⁴⁶⁰ Parsons’s next sketch, which he

⁴⁵⁸ Frank Tannenbaum, *The Labor Movement: Its Conservative Functions and Social Consequences* (New York: Putnam, 1921), 23-44; Perlman, *op. cit.*, x, 6-8, 237-253.

⁴⁵⁹ Elton Mayo, *The Human Problems of an Industrial Civilization* (New York: Macmillan, 1933), 99, 114-143; T.N. Whitehead, *The Industrial Worker: A Statistical Study of Human Relations in a Group of Manual Workers*, 2 vols. (Cambridge: Harvard University, 1938), I, 4-5, 14-27, 99-106, 253-258; Fritz J. Roethlisberger and William J. Dickson, *Management and the Worker: An Account of a Research Program Conducted by the Western Electric Company, Hawthorne Works, Chicago* (Cambridge: Harvard University Press, 1939), 18-24, 358-359, 379-408, 445-446, 459-510, 545-548, 552-568.

⁴⁶⁰ Talcott Parsons, “Some Reflections on ‘The Nature and Significance of Economics,’” *Quarterly Journal of Economics*, XLVIII, 3 (May 1934), 525-534. The history of Pareto’s sociology at Harvard deserves deep study. Once Harvard’s first great anthropomorphizer of ants brought it back from France, Pareto’s at Harvard seem to have adopted it to campaign against Marxism. A good start on this question is Barbara S. Heyl, “The Harvard ‘Pareto’ Circle,” *Journal of the History of the Behavioral Sciences*, IV, 4 (October 1968), 316-334. Essential background is in Steven M. and Elizabeth C. Horvath, *The Harvard Fatigue*

justified by appeal to the most authoritatively maintained of classical economics's theories, that of international trade, i.e., of tariffs, or protection, distinguished three "non-economic factors in social life": 1) force and fraud, 2) the state, and 3) "inequalities in...the competitive struggle," either between firms, because of, say, monopoly, so that "a strategic position in the bargaining process may be taken advantage of," or between firms and workers, because of "the inherent bargaining disadvantage of the laborer so long as he is isolated," a position, however "non-economic," still in a market.⁴⁶¹ Coached by Parsons, a colleague tried another sketch. "...three of the...most important non-economic elements of social life...are (1) technology; (2) the *power* element, *i.e.*, the pursuit and use...of coercive power...; and (3)...prevailing ethical attitudes." Technology on one side ("in immediate interplay with purely objective situations)," the ethical element on the other ("motives)," both "affected by all other elements," each nevertheless "determines...the interrelationships" of the power and economic elements. But

Laboratory: Its History and Contributions (Englewood Cliffs: Prentice Hall, 1973); Bard C. Cosman, "The Human Factor: The Harvard Fatigue Laboratory and the Transformation of Taylorism," Harvard University A. B. thesis, 1983; and George C. Homans, *Coming to My Senses: The Autobiography of a Sociologist* (New Brunswick: Transaction, 1984), especially Chapters 6-8. For a paper trail, W. Morton Wheeler, *Les Sociétés d'Insectes: Leur origine, Leur évolution* (Paris: Gaston Doin et Cie., 1926), 2, 373-398, 423; idem, *The Social Insects: Their Origin and Evolution* (New York: Harcourt, Brace and Company, 1928), 2, 303-321, 346; L. J. Henderson, "The Science of Human Conduct: An Estimate of Pareto and One of His Greatest Works," *The Independent: A Weekly Journal of Free Opinion* (Boston), December 10, 1927, 575-577; Bernard de Voto, "A Primer for Intellectuals," *Saturday Review of Literature*, April 22, 1933, 1-2; George C. Homans and Charles P. Curtis, Jr., *An Introduction to Pareto: His Sociology* (New York: Alfred A. Knopf, 1934), vii; L. J. Henderson, "Pareto's Science of Society," *Saturday Review of Literature*, May 25, 1935, 3-4, 10; Bernard de Voto, "The Importance of Pareto," *ibid.*, 11; Arthur Livingston, "Vilfredo Pareto: A Biographical Portrait," *ibid.*, 12; idem, "Editor's Note," *Mind and Society*, I, v; Lawrence J. Henderson, *Pareto's General Sociology: A Physiologist's Interpretation* (Cambridge: Harvard University Press, 1935); idem and Elton Mayo, "The Effects of Social Environment [...Read before the Harvard University Tercentenary Celebration, 1636-1936, symposium on "The Environment and its Effect on Man," Harvard School of Public Health, Boston...]," *Journal of Industrial Hygiene and Toxicology*, XVIII, 7 (September 1936), 401-416; Talcott Parsons, *The Structure of Social Action: A Study in Social Theory with Special Reference to a Group of Recent European Writers* (New York: McGraw-Hill, 1937), 178-300; Crane Brinton, *The Anatomy of Revolution* (New York: W.W. Norton, 1938); and so on.

⁴⁶¹ Talcott Parsons, "Introduction: On Certain Sociological Elements in Professor Taussig's Thought," *Explorations in Economics: Notes and Essays Contributed in Honor of F. W. Taussig* (New York: McGraw-Hill, 1936), 360-367, 372.

technology was concretely only for engineering efficiency. Nothing in production appeared in this sketch's principal forms of coercion: intimidation, deception, "non-economic monopoly," and politics.⁴⁶² Parsons's finished study of the "theory of social action" went no further. It distinguished yet again three "elements" of action, technological (for efficiency), economic (for wealth), and political (for coercive power), plus a "system" of "common values." One form of the political element, "bargaining power," which, following Pareto (not Marx), Parsons saw "at the center of [Marx's] attention," might actually yield no more than one of "the milder forms of coercion....the 'legal' exercise of a superior strategic position in the bargaining process ." Yet again, definitively, the exercise was political, and the position not in production, but in the market.⁴⁶³

This argument, pressed from sociology into economics, confirmed Dunlop's premise that strategy in economics need not imply social war (struggle to control the means of social production), but ordinarily apply only to economic battles (disputes over labor's price). And it prompted his eventual formulation of "four interrelated factors: technology, market structures..., community institutions of control, and ideas and beliefs."⁴⁶⁴ More significantly, carrying Usher's definitions of technology and strategy

⁴⁶² Overton H. Taylor, "Economic Theory, and Certain Non-Economic Elements in Social Life," *ibid.*, 381-388, his emphasis; idem, *Economics and Liberalism: Collected Papers* (Cambridge: Harvard University, 1955), 9-11.

⁴⁶³ Parsons, *The Structure*, 109-110, 234-240, 465-466, 654-658, 737-748, 766-775.

⁴⁶⁴ Cf. Dunlop, "The Movement of Real and Money Wage Rates," 422-433; idem and Higgins, "'Bargaining Power,'" 4-5, 9-18; Dunlop, "Wage Policies," 294-301; idem, "The Changing Status of Labor," 607-610, 621, 627-630; idem, "The Development," 174-175; idem, "Structural Changes in the American Labor Movement and Industrial Relations System," in L. R. Tripp, ed., *Proceedings of the Ninth Annual Meeting of the Industrial Relations Research Association, 1956* (Madison: The Association, 1957), 12-32; and idem, *Industrial Relations*, 4-7, 28-32. Cf. Harry D. Wolf, "Railroads," in Harry A. Millis, ed., *How Collective Bargaining Works* (New York: Twentieth Century Fund, 1942), 374-375; Robert J. Myers and Joseph W. Boch, "Men's Clothing," *ibid.*, 395; Frederick H. Harbison, "Steel," *ibid.*, 517-523; W. H. McPherson, "Automobiles," *ibid.*, 591-594, 602; Neil W. Chamberlain, *The Union Challenge to Management Control* (New York: Harper & Brothers, 1948), 109, 163; and Benjamin M. Selekman,

and Perlman's insistence on "the job," despite its expression in Parsonian terms, Dunlop's argument for "strategic position" in production as well as in the market did not spring back into sociology. One reason, as Dunlop himself suggested, was the fortification then of "community institutions of control." The Wagner Act, the National Defense Mediation Board, the Smith-Connally Act, the National War Labor Board, Truman's postwar seizure of railroads and mines, and the Taft-Hartley Act all made his concept of "strategic workers" seem less practical (at least in the United States). They were also evidence for his case, that industrial production was inherently dangerous to contracted order. But "community" loomed so strong then that sociologists took it for fundamental, the common ground even of their contentions.

During World War II the Harvard Human Relations crew had actually studied strategic shops in strategic industries. Yet at war's end Mayo ignored its research, and preached industrial work as simply "teamwork...sustained cooperation," always in "groups" where "technical skill" mattered much less than "social skill...[i.e.,] *effective communication*."⁴⁶⁵ And some mighty institutions then endorsed just such a view of the matter, giving studies from the happier angle a wondrous lift in the market for research. In the years right after the war the Penn, Princeton, Harvard, Chicago, Yale, Columbia, and MIT corporations revamped their old programs on "industrial relations," and state legislatures established new schools, institutes, or centers of "industrial relations" at Cornell, Illinois, Minnesota, UC-Berkeley and UCLA, Michigan, Wisconsin, and

"Varieties of Labor Relations," *Harvard Business Review*, XXVII, 2 (March 1949), 177, 181-182, 192-193, 196; Edward Peters, *Strategy and Tactics in Labor Negotiations* (New London: National Foremen's Institute, 1955), 13, 21-22, 41-44, 192-207.

⁴⁶⁵ John B. Fox and Jerome F. Scott, *Absenteeism: Management's Problem* (Boston: Harvard Business School, 1943); Elton Mayo et al., *Teamwork and Labor Turnover in the Aircraft Industry of Southern California* (Boston: Harvard Business School, 1944); and Elton Mayo, *The Social Problems of an Industrial Civilization* (Boston: Harvard Business School, 1945), 13-15, 54, 70-73, 83, 101-119, his emphasis.

Rutgers. The experts (including Dunlop) organized a new profession, the Industrial Relations Research Association, which commenced publishing the *Industrial and Labor Relations Review*. The main professionals (among them Dunlop) chartered the National Academy of Arbitrators.⁴⁶⁶ Old friends of theirs at the new ILO and ICFTU wanted an industrial sociology of cooperation and communication too, to strengthen “free trade unions” in the Cold War against Communism.⁴⁶⁷

In this consensualism “Industrial Sociology” became a bourgeois intellectual rage. The American Sociological Society opened a new Section so named, for studies, by one expert’s definition, of “experience in human association in the industrial community.” The Chicago School blessed “The Sociology of Work” industrial or not, every group’s work, entrepreneurial work too--why not? In London, Urwick recommended formal instruction in industrial psychology, social psychology, “the human factor in industrial relations,” Hawthorne, “[t]he abnormal worker....group morale,” and Jaques promoted research on industrial “group tensions and working-through.” In Paris, Friedmann urged a

⁴⁶⁶ Robert L. Aronson, ed., *Industrial and Labor Relations Research in Universities: A United States Summary, 1953-1954* (Ithaca: Cornell University, 1954); Bruce E. Kaufman, *The Origins and Evolution of the Field of Industrial Relations in the United States* (Ithaca: ILR, 1993), 45-50, 63-66, 69-73; Gladys W. Gruenberg et al., *The National Academy of Arbitrators: Fifty Years in the World of Work* (Washington: Bureau of National Affairs, 1998). On “the father of American arbitration”: Edward B. Shils, “George W. Taylor: Industrial Peacemaker,” *Monthly Labor Review*, December 1995, 29-34. All this ignores centers reorganized or founded then in Canada, e.g., at Queen’s, Laval, Montreal, McGill, and Toronto, not to mention those established in the same spirit elsewhere in later years.

⁴⁶⁷ Adolf Sturmthal, “The International Confederation of Free Trade Unions,” *Industrial and Labor Relations Review*, III, 3 (April 1950), 375-382; Thomas W. Braden, “I’m Glad the CIA is “Immoral,”” *Saturday Evening Post*, May 20, 1967, 10, 12, 14; David A. Morse, *Origin and Evolution of the I.L.O. and Its Role in the World Community* (Ithaca: Cornell University, 1969), 45-72; James R. Fuchs, “Oral History Interviews with David A. Morse,” July 25, July 30, August 3, 1977, Truman Presidential Museum and Library, www.trumanlibrary.org/oralhist/morse.htm, pp. 101-113, 122-172; John T. Dunlop and Irving Brown, *Labor and International Affairs: Two Views* [Third and Fourth Samuel D. Berger Memorial Lectures] (Washington: Georgetown University, 1984), 2-8, 18-32, 39; Jonathan Kwitny, *Endless Enemies: The Making of an Unfriendly World* (New York: Congdon & Weed, 1984), 25-27, 45, 339-349; Denis MacShane, *International Labour and the Origins of the Cold War* (Oxford: Clarendon, 1992), 56-57, 70-74, 80-143; John Kelly, “Social Democracy and Anti-Communism: Allan Flanders and British Industrial Relations in the Early Post-war Period,” in Alan Campbell et al., eds., *British Trade Unions and Industrial Politics*, 2 vols. (Aldershot: Ashgate, 1999), I, 192-222. Morse’s papers are at the Princeton University Library.

sociological “humanism of labor,” where “psychotechnicians” would assure workers of “maximum psycho-physiological ease....*un magnifique possible*.” In Hamburg, Schelsky advocated “industrial and business sociology” for its unique view into industrial businesses’ “fundamental” significance for modern society at large.⁴⁶⁸ A UC-Berkeley/Rand sociologist, believing he had cracked the CPUSA’s “operational code” for “modern industrial society,” offered “an advanced-training manual for anti-communist forces” especially in the labor movement.⁴⁶⁹ A slew of Mayoist studies appeared, of a telephone company, occupations, mobility, the labor market, automobile workers, Hawthorne again, again, strikes, professions, careers, unions, shoe factories, and so on, ever certain that *in societati veritas*.⁴⁷⁰ Almost as fast a slew of neo-Mayoist studies

⁴⁶⁸ Carl C. Taylor, “Official Reports and Proceedings: Section Chairmen for Forty-First Annual Meeting,” *American Sociological Review*, XI, 4 (August 1946), 445; and Mary Van Kleeck, “Towards an Industrial Sociology,” *ibid.*, XI, 5 (October 1946), 501. Everett C. Hughes, “The Sociological Study of Work: An Editorial Foreword,” *American Journal of Sociology*, LVII, 5 (March 1952), 423-426; Louis Kriesberg, “Industrial Sociology, 1945-55,” in Hans L. Zetterberg, ed., *Sociology in the United States of America: A Trend Report* (Paris: UNESCO, 1956), 71-77; Special Committee on Education for Management [Lyndall F. Urwick, Chairman], Ministry of Education, *Education for Management: Management Subjects in Technical and Commercial Colleges* (London: HMSO, 1947), 17, 22-23; and Elliott Jaques, *The Changing Culture of a Factory* (London: Tavistock, 1951), 36-38, 84-94, 121-122, 254-256, 306-312. Georges Friedmann, *Problèmes humains du machinisme industriel* (Paris: Gallimard, 1946), 235-236; *idem*, *Où va le travail humain?* (Paris: Gallimard, 1950), 335-336, 356-361 (his emphasis); Helmut Schelsky, “Industrie- und Betriebssoziologie,” in Arnold Gehlen and Helmut Schelsky, eds., *Soziologie: Ein Lehr- und Handbuch zur modernen Gesellschaftskunde* (Dusseldorf-Cologne: Eugen Diederichs, 1955), 159, 162-163, 170, 179, 194-195.

⁴⁶⁹ Philip Selznick, *The Organizational Weapon: A Study of Bolshevik Strategy and Tactics* (Santa Monica: Rand, 1952), 13, 16, 79-91, 101-109, 154-163, 171-213, 225-245, 318-319, 324-325.

⁴⁷⁰ E.g., among the most interesting and influential, Burleigh B. Gardner, *Human Relations in Industry* (Homewood: R. D. Irwin, 1945); Benjamin M. Selekman, *Labor Relations and Human Relations* (Boston: Harvard Graduate School of Business Administration, 1947); W. Lloyd Warner and J. O. Low, *The Social System of the Modern Factory--The Strike: A Social Analysis* (New Haven: Yale University, 1947); E. Wight Bakke, *Bonds of Organization: An Appraisal of Corporate Human Relations* (New York: Harper, 1950); George C. Homans, *The Human Group* (New York: Harcourt, Brace, 1950); Conrad M. Arensberg, “Behavior and Organization: Industrial Studies,” in John H. Rohrer and Muzafer Sherif, eds., *Social Psychology at the Crossroads* (New York: Harper, 1951), 324-352; Theodore Caplow, *The Sociology of Work* (New York: McGraw-Hill, 1954); Ely Chinoy, *Automobile Workers and the American Dream* (Garden City: Doubleday, 1955); Chris Argyris, *Personality and Organization: The Conflict between System and the Individual* (New York: Harper, 1957); Heinrich Popitz et al., *Technik und Industriearbeit: Soziologische Untersuchungen in der Hüttenindustrie* (Tübingen: J.C.B. Mohr [Paul Siebeck], 1957); Everett C. Hughes, *Men and Their Work* (Glencoe: Free Press, 1958). The latest deliberately in this vein may be Charles H. Savage, Jr., and George F.F. Lombard, *Sons of the Machine: Case Studies of Social Change in the Workplace* (Cambridge: Massachusetts Institute of Technology, 1986).

concentrated on one or another “industrial organization”’s external disturbances and internal heterogeneity, frictions, incongruency, changes, even unions, assuming nevertheless that the “organization” ought to cohere, in the new “systems theory” tend to “the steady state.” Only one caught Dunlop’s point on “strategic technological position,” literally, in his language, but lost it under layers of psychologizing about “participation.”⁴⁷¹ Anti-Mayo studies accepted continual industrial conflict as inevitable, indeed natural to democracy, praiseworthy if institutionalized in collective bargaining, anyway necessary to improve “social welfare.”⁴⁷² And a textbook, the first book ever

⁴⁷¹ E.g., among the most interesting and influential, William F. Whyte, *Human Relations in the Restaurant Industry* (New York: McGraw-Hill, 1948); idem, *Money and Motivation: An Analysis of Incentives in Industry* (New York: Harper, 1955); Charles R. Walker, *Steeltown: An Industrial Case History of the Conflict between Progress and Security* (New York: Harper, 1950); idem and Robert H. Guest, *The Man on the Assembly Line* (Cambridge: Harvard University, 1952); Charles R. Walker, *Toward the Automatic Factory* (New Haven: Yale University, 1957); Eric L. Trist and K. W. Bamforth, “Some Social and Psychological Consequences of the Longwall Method of Coal-Getting: An Examination of the Psychological Situation and Defences of a Work Group in relation to the Social Structure and Technological Content of the Work System,” *Human Relations*, IV, 1 (1951), 3-38; Donald Roy, “Quota Restriction and Goldbricking in a Machine Shop,” *American Journal of Sociology*, LVII, 5 (March 1952), 427-442; idem, “Efficiency and the Fix,” *ibid.*, LX, 3 (1954), 255-266; Alvin W. Gouldner, *Patterns of Industrial Bureaucracy* (New York: Free Press, 1954); idem, *Wildcat Strike: A Study in Worker-Management Relationships* (Yellow Springs: Antioch Press, 1954); William H. Scott et al., *Technical Change and Industrial Relations: A Study of the Relations between Technical Change and the Social Structure of a Large Steelworks* (Liverpool: Liverpool University, 1956); Eugene V. Schneider, *Industrial Sociology: The Social Relations of Industry and the Community* (New York: McGraw-Hill, 1957); J. D. Thompson and F. L. Bates, “Technology, Organization and Administration,” *Administrative Science Quarterly*, II (1957), 325-343; Arthur K. Rice, *Productivity and Social Organization: The Ahmedabad Experiment: Technical Innovation, Work Organization, and Management* (London: Tavistock, 1958). The exception was Leonard R. Sayles and George Strauss, *The Local Union: Its Place in the Industrial Plant* (New York: Harper, 1953), 207-209. Former students of Charles Myers at MIT’s Industrial Relations Section, then collaborating on Whyte’s industrial research at Cornell’s School of Industrial and Labor Relations, the authors do not cite Dunlop. The “strategic replacements” Gouldner discusses in both his books of this period were not to Dunlop’s point. “Mayoism” is not my coinage: Lupton, *op. cit.*, 188, 196.

⁴⁷² E. g., Wilbert E. Moore, *Industrial Relations and the Social Order* (New York: Macmillan, 1946); idem, *Industrialization and Labor: Social Aspects of Economic Development* (Ithaca: Cornell University, 1951); C. Wright Mills, “The Contribution of Sociology to Studies of Industrial Relations,” in *Proceedings of the First Annual Meeting, Industrial Relations Research Association, Year* (Champaign: Industrial Relations Research Association, 1948), 199-222; idem, *The New Men of Power: America’s Labor Leaders* (New York: Harcourt, Brace, 1948); Kenneth G.J.C. Knowles, *Strikes--A Study in Industrial Conflict, with Special Reference to British Experience between 1911 and 1947* (Oxford: Blackwell, 1952); Margaret K. Chandler, “Garment Manufacture,” in Milton Derber, ed., *Labor-Management Relations in Illini City*, 2 vols. (Champaign: University of Illinois, 1953-54), I, 379-538; Arthur Kornhauser, Robert Dubin, and Arthur M. Ross, eds., *Industrial Conflict* (New York: McGraw-Hill, 1954); Alain Touraine, *L’évolution du travail ouvrier aux usines Renault* (Paris: Centre National de la Recherche Scientifique, 1955); Reinhard

titled *Industrial Sociology*, introduced college students to “work relations.” There work was “the totality of technical and social behavior associated with a job,” socio-psychologically important for the “impact” of its “routines” on the “social atmosphere of the...plant,” on “extra-work adjustment,” and on “attitude” toward work “as it affects...outlook on life.” The first of a job’s “major aspects” was “technical operations.” But this was “the chief interest of the engineer and the apprentice, not of the social scientist,” because “purely technical” behavior had no “motives.” A garment-shop cutter’s “sociotechnical behavior,” for example, would involve only “interpersonal...contacts,” or “interaction,” no power, except maybe “to teach his job to a new worker.” Two nods of recognition went to “strategic industry” and “strategic power” in the market. But regardless of technical power in “functional organization” and in “work flow and segmentation,” missing every opportunity for technical analysis in an entire chapter on “the social organization of power” in “the local work plant,” especially in a passage on “strategy and tactics of grievance bargaining” (including “intimidation”), and wasting references to “job in a social sense” as “work position,...the basic structural unit of a...plant,” the authors never indicated that any job could have strategic significance. The power they admitted in the plant’s formal and informal organizations, “an unpalatable flavor to those reared in democratic ideology,” hung safely in balance between “Management and Labor,” in “a rough equality,” no “significant difference...between them,” so that “true collective bargaining” occurred. The source of

Bendix, *Work and Authority in Industry: Ideologies of Management in the Course of Industrialization* (New York: Wiley, 1956); Seymour M. Lipset, Martin A. Trow, and James S. Coleman, *Union Democracy: The Internal Politics of the International Typographical Union* (Glencoe: Free Press, 1956); Ralf Dahrendorf, *Soziale Klassen und Klassenkonflikt in der industriellen Gesellschaft* (Stuttgart: F. Enke, 1957); Robert Dubin, *Working: Union-Management Relations* (Englewood Cliffs: Prentice-Hall, 1958); idem, *The World of Work: Industrial Society and Human Relations* (Englewood Cliffs: Prentice-Hall, 1958); David Lockwood, *The Blackcoated Worker: A Study in Class Consciousness* (London: Allen and Unwin, 1958).

a union's strength was a democratic mystery, the degree of its strength measurable only *post hoc*, by wages, hours, and working conditions.⁴⁷³

The best chance for Dunlop's argument to lock into industrial sociology happened in 1958. He presented his case as he thought best, Parsons-wise, in *Industrial Relations Systems*. The sociologist who had earlier caught his point published a brilliant study of some 300 "work groups" in 30 industrial plants in Michigan, arguing that "the technology of the plant...molds the types of work groups that evolve within the plant," and defining one type as "strategic." He specified that these groups were strategic not for their position, or any other attribute, only for their behavior. But one factor in explaining their behavior he called "[e]ssentialness of their function," or "degree of indispensability....ease of replacement....criticalness of skill....essentialness of location"; and he cited a student of Dunlop's on "technically strategic position." That same year a British scholar issued a first report on her brilliant study of 100 factories in South Essex, arguing not only technological effects on formal and informal organizations of work, but also "situational" rationality among workers as well as managers. Most corroborative was another brilliant study of 13 "so-called automated plants" in the U.S. East and Midwest, demonstrating automation's "integration of the physical plant," inflexibility, eventual reduction of required skills, "fundamentally dangerous" vulnerability to failures of supply, and maintenance as "a vital matter."⁴⁷⁴

⁴⁷³ Delbert C. Miller and William H. Form, *Industrial Sociology: An Introduction to the Sociology of Work Relations* (New York: Harper & Brothers, 1951), 110-125, 144-161, 173-224, 237-262, 277-279, 308-341, 408-411, 426-454, 482-483, 802-803, 836-846, 855-857, 863-864, 867-868. Their "cloth cutter" works in a "mill" (*ibid.*, 278), where no cutter of the kind they describe would work. Cf. Dunlop, "The Development," 181-182. For bibliography, Harold Wilensky, *Industrial Relations: A Guide to Reading and Research* (Chicago: University of Chicago, 1956).

⁴⁷⁴ Leonard R. Sayles, *Behavior of Industrial Work Groups: Prediction and Control* (New York: John Wiley, 1958), 4, 19-34, 39-40, 43, 61-64, 68-70, 93, 129, 162-167; he cited Martin Segal, "Factors in Wage Adjustments to Technological Changes," *Industrial and Labor Relations Review*, VIII, 2 (January 1955),

But the connection failed, maybe because sociology in general was flying apart then. Heirs of Durkheim, Simmel, Pareto, and Weber still at industrial questions ignored the concept of workers strategizing over technical power.⁴⁷⁵ In the new “organization theory” the derivative “strategic groups” received notice, and from this derivative came another, “strategic analysis.”⁴⁷⁶ There too a few arguments reminiscent of Dunlop’s emerged for any and all instrumental organization.⁴⁷⁷ And from the derivatives and reinventions, inklings of “strategic analysis” long survived (in “contingency theory,” then

225. Joan Woodward, *Management and Technology* (London: HMSO, 1958), 22, 25-30, 38-39; James R. Bright, *Automation and Management* (Boston: Harvard Business School, 1958), 7-9, 12, 59, 137-138, 144, 149-169, 176-186, 197, 225-234. See also George Strauss, “Unions in the Building Trades,” *The University of Buffalo Studies*, XXIV, 2 (June 1958), 113-116.

⁴⁷⁵ E.g., among the most influential, Daniel Bell, *The End of Ideology* (New York: Free Press, 1960); Georges Friedmann and Pierre Naville, eds., *Traité de sociologie du travail*, 2 vols. (Paris: Armand Colin, 1961); Raymond Aron, *Dix-huit leçons sur la société industrielle* (Paris: Gallimard, 1962); Robert Blauner, *Alienation and Freedom: The Factory Worker and His Industry* (Chicago: University of Chicago, 1964). Industrial sociology’s major loss then, in that he did study workers, but not especially industrial workers, and these not at work, was Pierre Bourdieu, “Étude sociologique,” in Alain Darbel et al., *Travail et travailleurs en Algérie* (Paris: Mouton, 1963), 257-389, 451-562. For social theory’s most brilliant oversights on work and technology, see Jürgen Habermas, *Technik und Wissenschaft als “Ideologie”* (Frankfurt: Suhrkamp, 1968).

⁴⁷⁶ E.g., William F. Whyte, *Men at Work* (Homewood: Dorsey, 1961), 303-304, 311, 314-315, 322-323, 544; Peter M. Blau and W. Richard Scott, *Formal Organizations: A Comparative Approach* (San Francisco: Chandler, 1962), 109-110, 175-176, 241-242; Nicklas Luhmann, *Funktionen und Folgen formaler Organisation* (Berlin: Duncker & Humblot, 1962), 245-251, 327-328. Cf. Delbert C. Miller and William H. Form, *Industrial Sociology: The Sociology of Work Organizations*, 2nd ed. (New York: Harper & Row, 1964), especially xi-xiii, 5-21, 230-231, 383-385; idem, *Industrial Sociology: Work in Organizational Life*, 3rd ed. (New York: Harper & Row, 1980), 365, 499-500; Arnold S. Tannenbaum, “Unions,” in James G. March, ed., *Handbook of Organizations* (Chicago: Rand McNally, 1965), 733-734; Odile Bénoit-Guilbot, “The Sociology of Work,” in *International Encyclopedia of the Social Sciences* (1968), 235. For the second derivative, Michel Crozier, *Le phénomène bureaucratique: Essai sur les tendances bureaucratiques des systèmes d’organisation modernes et sur leurs relations en France avec le système social et culturel* (Paris: Seuil, 1963), 197 n1n3, 203-228, 265-266, 330-334. On its American sources, idem, *Usines et syndicats d’Amérique* (Paris: Éditions Ouvrières, 1951), 66-72, 120-143; and Leonard R. Sayles, “Discussant’s Comments for [Lawrence B. Cohen’s] ‘Decision-Making in Local Unions,’” *Proceedings of the Eighth Annual Meeting, Industrial Relations Research Association* (1955), 313-317.

⁴⁷⁷ Floyd C. Mann and L. Richard Hoffman, *Automation and the Worker: A Study of Social Change in Power Plants* (New York: Henry Holt, 1960), 42-58, 85-89; David Mechanic, “Sources of Power of Lower Participants in Complex Organizations,” *Administrative Science Quarterly*, VII, 3 (December 1962), 349-364; James D. Thompson, *Organizations in Action: Social Science Bases of Administrative Theory* (New York: McGraw-Hill, 1967), 106-131; John Child, “Organizational Structure, Environment and Performance: The Role of Strategic Choice,” *Sociology*, VI, 1 (January 1972), 1-22.

in “critical studies” or “radical theory,” lately in “de-centered subjectivity”).⁴⁷⁸ But the idea of a system with independent circuit breakers--so not a system--could not thrive on the premises of coherence and consistency.⁴⁷⁹ Former industrial sociologists going into “personnel management” kept track of “strategic groups” for a while, but eventually let

⁴⁷⁸ E.g., David J. Hickson, “A Convergence in Organization Theory,” *Administrative Science Quarterly*, XI, 3 (September 1966), 224-237; idem et al., “Operations Technology and Organization Structure: An Empirical Reappraisal,” *ibid.*, XIV, 3 (September 1969), 378-397; idem et al., “A Strategic Contingencies’ Theory of Intraorganizational Power,” *ibid.*, XVI, 2 (June 1971), 216-229; Fred H. Goldner, “The Division of Labor: Process and Power,” in Mayer N. Zald, ed., *Power in Organizations* (Nashville: Vanderbilt University, 1970), 97-143; Charles Perrow, *Organizational Analysis: A Sociological View* (Belmont: Wadsworth, 1970), 80-89; Christopher R. Hinings et al., “Structural Conditions of Intraorganizational Power,” *Administrative Science Quarterly*, XIX, 1 (March 1974), 22-44; Giuseppe Bonazzi, *Lineamenti critici di sociologia dell’organizzazione* (Torino: Giappichelli, 1974), 251-255; idem, *In una fabbrica di motori: Organizzazione del lavoro, potere padronale e lotte operaie* (Milano: Feltrinelli, 1975), 104-105, 108, 134-140, 258-259; Eric Batstone et al., *Shop Stewards in Action: The Organization of Workplace Conflict and Accommodation* (Oxford: Blackwell, 1977), 4, 168-177; idem et al., *The Social Organization of Strikes* (Oxford: Blackwell, 1978), 1-2, 16-17, 20, 28-44; Stewart Clegg, *Power, Rule, and Domination: A Critical and Empirical Understanding of Power in Sociological Theory and Organizational Life* (London: Routledge & Kegan Paul, 1975), 43-53, 125-129; Gibson Burrell and Gareth Morgan, *Sociological Paradigms and Organisational Analysis: Elements of the Sociology of Corporate Life* (London: Heinemann, 1979), 33-34, 358-359, 368-373; Graeme Salaman, *Work Organizations: Resistance and Control* (London: Longman, 1979), 144-146, 163-168; Stephen Hill, *Competition and Control at Work: The New Industrial Sociology* (Cambridge: Massachusetts Institute of Technology, 1981), 79, 143-145, 150, 154; Michael I. Reed, *Redirections in Organizational Analysis* (London: Tavistock, 1985), 39-43, 159-171; Joanne Miller, “Jobs and Work,” in Neil J. Smelser, ed., *The Handbook of Sociology* (Newbury Park: Sage, 1988), 327, 339-340; Norbert Altmann et al., eds., *Technology and Work in German Industry* (London: Routledge, 1992), 20-21, 252-255, 383-399; John Hassard, *Sociology and Organization Theory: Positivism, Paradigms and Postmodernity* (Cambridge: Cambridge University, 1993), 130-131, 135-137; Mike Noon and Paul Blyton, *The Realities of Work* (London: Macmillan, 1997), 140-166; Antonio Strati, *Theory and Method in Organization Studies: Paradigms and Choices* (London: Sage, 2000), 17-18, 36, 89.

⁴⁷⁹ Among major studies in “organization theory” interesting for strategy but regardless of Dunlop’s argument are Wilhelm Baldamus, *Efficiency and Effort: An Analysis of Industrial Administration* (London: Tavistock, 1961); Tom Burns and George M. Stalker, *The Management of Innovation* (London: Tavistock, 1961); Amitai Etzioni, *A Comparative Analysis of Complex Organizations: On Power, Involvement, and Their Correlates* (New York: Free Press, 1961); Tom Lupton, *On the Shop Floor: Two Studies of Workshop Organization and Output* (Oxford: Pergamon, 1963); Arthur N. Turner and Paul R. Lawrence, *Industrial Jobs and the Worker: An Investigation of Response to Task Attributes* (Boston: Harvard Business School, 1965); Daniel Katz and Robert L. Kahn, *The Social Psychology of Organizations* (New York: Wiley, 1966); Paul R. Lawrence and Jay W. Lorsch, *Organization and Environment: Managing Differentiation and Integration* (Boston: Harvard Business School, 1967); Karl E. Weick, *The Social Psychology of Organizing* (Reading: Addison-Wesley, 1969); Cyril Sofer, *Organizations in Theory and Practice* (New York: Basic Books, 1972); Lex Donaldson, *In Defence of Organization Theory: A Reply to the Critics* (Cambridge: Cambridge University, 1985); Tom Rankin, *New Forms of Work Organization: The Challenge for North American Unions* (Toronto: University of Toronto, 1990); Stephen J. Frenkel et al., *On the Front Line: Organization of Work in the Information Economy* (Ithaca: Cornell University Press, 1999); David Jaffee, *Organization Theory: Tension and Change* (Boston: McGraw-Hill, 2000).

them go.⁴⁸⁰ Others meanwhile developed an “economic sociology” where rarely even a ghost of such a group appeared.⁴⁸¹ Others studying industrial workers’ attitudes, status, mobility, movements, mental health, culture, and so on, often spying “strategies” in temperament, tendencies, or tactics, seldom showed a notion of strategic industries, and then only the faintest sense of technically strategic positions in them.⁴⁸² Yet others took

⁴⁸⁰ E.g., James W. Kuhn, *Bargaining in Grievance Settlement: The Power of Industrial Work Groups* (New York: Columbia University, 1961), 138-166, 184-199. Cf. Leonard R. Sayles and George Strauss, *Personnel: The Human Problems of Management* (Englewood Cliffs: Prentice-Hall, 1960), 61, 84, 92-95, 177, 346, 360-362; idem, *Human Behavior in Organizations* (Englewood Cliffs: Prentice-Hall, 1966), 104-105, 121-122, 221-222, 230-232; idem, *Managing Human Resources*, 2nd ed. (Englewood Cliffs: Prentice-Hall, 1981), 80-81; Kathy M. Ripin and Leonard R. Sayles, *Insider Strategies for Outsourcing Information Systems: Building Productive Partnerships, Avoiding Seductive Traps* (New York: Oxford University, 1999), 45-49.

⁴⁸¹ E.g., Neil J. Smelser, *The Sociology of Economic Life* (Englewood Cliffs: Prentice-Hall, 1963), 50, 52, 54, 71-72; Ivar E. Berg, *Industrial Sociology* (Englewood Cliffs: Prentice-Hall, 1979), 168-169; Dietrich Rueschemeyer, *Power and the Division of Labour* (Stanford: Stanford University, 1986), 75-79, 96, 100; Arne L. Kalleberg and Ivar Berg, *Work and Industry: Structures, Markets, and Processes* (New York: Plenum, 1987), 22, 25-26, 47-49, 139-140; Mark Granovetter and Charles Tilly, “Inequality and Labor Processes,” in *Handbook of Sociology*, 178, 181, 208; Chris Tilly and Charles Tilly, “Capitalist Work and Labor Markets,” in Neil J. Smelser and Richard Swedberg, eds., *The Handbook of Economic Sociology* (Princeton: Princeton University, 1994), 303-304.

⁴⁸² E.g., Seymour M. Lipset, *Political Man: The Social Bases of Politics* (Garden City: Doubleday, 1960); Torcuato di Tella, *Huachipato et Lota: Études sur la conscience ouvrière dans deux entreprises chiliennes* (Paris: Centre National de la Recherche Scientifique, 1966); Alain Touraine, *La conscience ouvrière* (Paris: Seuil, 1966); John H. Goldthorpe et al., *The Affluent Worker*, 3 vols. (Cambridge: Cambridge University, 1968); Hugh A. Clegg, *The System of Industrial Relations in Great Britain* (Oxford: Blackwell, 1970); Saul D. Alinsky, *Rules for Radicals: A Practical Primer for Realistic Radicals* (New York: Random House, 1971); Claude Durand, *Conscience ouvrière et action syndicale* (Paris: Mouton, 1971); Alan Fox, *A Sociology of Work in Industry* (London: Macmillan, 1971); Ronald P. Dore, *British Factory, Japanese Factory: The Origins of National Diversity in Industrial Relations* (Berkeley: University of California, 1973); Anthony Giddens, *The Class Structure of the Advanced Societies* (London: Hutchinson, 1973); Duncan Gallie, *In Search of the New Working Class: Automation and Social Integration within the Capitalist Enterprise* (Cambridge: Cambridge University, 1978); Perry E. Stewart, *San Francisco Scavengers: Dirty Work and the Pride of Ownership* (Berkeley: University of California, 1978); Jeffrey W. Riemer, *Hard Hats: The Work World of Construction Workers* (Beverly Hills: Sage, 1979); Colin Crouch, *Trade Unions: The Logic of Collective Action* (London: Fontana, 1982); Roger Penn, *Skilled Workers in the Class Structure* (Cambridge: Cambridge University, 1985); Michael Mann, *The Sources of Social Power*, 2 vols. (Cambridge: Cambridge University, 1986-93); Rosemary Harris, *Power and Powerlessness in Industry: An Analysis of the Social Relations of Production* (London: Tavistock, 1987); Terry L. Besser, *Team Toyota: Transplanting the Toyota Culture to the Camry Plant in Kentucky* (Albany, State University of New York); Rick Delbridge, *Life on the Line in Contemporary Manufacturing: The Workplace Experience of Lean Production and the “Japanese” Model* (Oxford: Oxford University, 1998). Among the rare, faint exceptions, Wilbert E. Moore, *The Impact of Industry* (Englewood Cliffs: Prentice-Hall, 1965), 48-50; Madeleine Guilbert, *Les fonctions des femmes dans l’industrie* (Paris: Mouton, 1966), 79-80, 89-94, 114, 134; John E. T. Eldridge, *Industrial Disputes: Essays in the Sociology of Industrial Relations* (London: Routledge and Kegan Paul, 1968), 19-21; Horst Kern and Michael Schumann, *Industriearbeit und Arbeiterbewusstsein: Eine empirische Untersuchung über den Einfluss der aktuellen technischen Entwicklung auf die industrielle Arbeit und das Arbeitsbewusstsein* (Frankfurt: Europäische Verlagsanstalt,

to “urban” or “ethnic” studies, now and then describing industrial workers in strategic jobs, but without conceptualizing the observation.⁴⁸³ A rare one who saw that workers in certain jobs had technical power over others at work around them, confused this power with that of “understandings” in a “situation.”⁴⁸⁴ By the mid-1960s some “organization theorists” were specializing in “social movement organizations,” particularly their “strategies.” But few saw industrial workers’ organizations in “movement” then, or later, and the strategies they imagined for them were moral or legal.⁴⁸⁵ The massive public protests of the 1960s in the United States and Europe gave material for “a new social movement theory,” abundant on “strategy.” But these theorists typically had only

1970), I, 279-285, II, 45-47, notes 5, 6, 15, 16, 20; Robert E. Cole, *Japanese Blue Collar: The Changing Tradition* (Berkeley: University of California, 1971), 152-154, 233-234; Jürgen Prott, *Industriearbeit bei betrieblichen Umstrukturierungen: Soziales Konsequenzen, Interessenvertretung und Bewusstseinsstrukturen* (Cologne: Bund-Verlag, 1975), 10-12, 49-52; Michael Abendroth et al., *Hafenarbeit: Eine industriesoziologische Untersuchung der Arbeit und Betriebsverhältnisse in den bremischen Häfen* (Frankfurt: Campus, 1979), 31-32, 107-108, 258-266; Andrew G. Walder, *Communist Neo-Traditionalism: Work and Authority in Chinese Industry* (Berkeley: University of California, 1986), 178-179, 239-240.

⁴⁸³ E.g., maybe the best, William Kornblum, *Blue Collar Community* (Chicago: University of Chicago, 1974), 36-67; and David Halle, *America’s Working Man: Work, Home, and Politicians among Blue-Collar Workers* (Chicago: University of Chicago, 1984), 119-125, 151-158. Cf. major urban studies with no strategic suggestion, Herbert Gans, *The Urban Villagers: Group and Class in the Life of Italian-Americans* (New York: Free Press, 1962); Gino Germani, *Política y sociedad en una época de transición: De la sociedad tradicional a la sociedad de masas* (Buenos Aires: Paidós, 1962); Nathan Glazer and Daniel P. Moynihan, *Beyond the Melting Pot: The Negroes, Puerto Ricans, Jews, Italians, and the Irish of New York City* (Cambridge: Massachusetts Institute of Technology, 1963); Gerald D. Suttles, *The Social Order of the Slum: Ethnicity and Territory in the Inner City* (Chicago: University of Chicago, 1968); Jorge Balán et al., *Men in a Developing Society: Geography and Social Mobility in Monterrey, Mexico* (Austin: University of Texas, 1973); Joe R. Feagin and Harlan Hahn, *Ghetto Revolts: The Politics of Violence in American Cities* (New York: Macmillan, 1973); Susan Eckstein, *The Poverty of Revolution: The State and the Urban Poor in Mexico* (Princeton: Princeton University, 1977); Elijah Anderson, *A Place on the Corner* (Chicago: University of Chicago, 1978); Stewart E. Perry, *San Francisco Scavengers: Dirty Work and the Pride of Ownership* (Berkeley: University of California, 1978). Not only sociologists missed the strategic point: see Harry H. Wellington and Ralph K. Winter, Jr., *The Unions and the Cities* (Washington: Brookings, 1971).

⁴⁸⁴ Bruce Kapferer, *Strategy and Transaction in an African Factory: African Workers and Indian Management in a Zambian Town* (Manchester: Manchester University, 1972), 31-65, 145-161, 208-214, 325-331. More than Peter Blau, his theoretical guides were William Thomas and Erving Goffman.

⁴⁸⁵ E.g., Ralph H. Turner, “Determinants of Social Movement Strategies,” in Tamotsu Shibutani, ed., *Human Nature and Collective Behavior: Papers in Honor of Herbert Blumer* (Englewood Cliffs: Prentice-Hall, 1970), 150-152, 158; Inge P. Bell, *CORE and the Strategy of Non-Violence* (New York: Random House, 1968), 66, 71-72; Harry Brill, *Why Organizers Fail: The Story of a Rent Strike* (Berkeley: University of California, 1971), 49-50; John Wilson, *Introduction to Social Movements* (New York: Basic Books, 1973), 44-47, 194-197, 213-216, 222, 228-229; Constantina Safilios-Rothschild, *Women and Social Policy* (Englewood Cliffs: Prentice-Hall, 1974), 154-155.

historical use for industrial workers, and anyway thought of strategic strength simply as numbers, and maybe emotion; a mirrmakers' strike mattered as much as a telegraphers' strike.⁴⁸⁶ Focused on the Italian *autunno caldo* of 1969, some old and young industrial sociologists discovered technically strategic workers in “new collective action” in a new industrial organization. A few were often right on target to remake Dunlop's argument, but did not.⁴⁸⁷ Having studied 123 strikes in France in 1971, an old and a young sociologist of labor together found various *stratégies de négociation*, a Dunlopian principle of technical power, and the technical “tactic” of most power, the *grève*-

⁴⁸⁶ E.g., Roberta Ash, *Social Movements in America* (Chicago: Markham, 1972), 119-127, 163-179, 204-211; Anthony Oberschall, *Social Conflict and Social Movements* (Englewood Cliffs: Prentice-Hall, 1973), 307, 312-320; Michael Useem, *Conscription, Protest, and Social Conflict: The Life and Death of a Draft Resistance Movement* (New York: Wiley, 1973), 10-11, 81-91, 136-137; William A. Gamson, *The Strategy of Social Protest* (Homewood: Dorsey, 1975), 1-4, 15-16, 64-66, 118-121; Harry C. Boyte, *The Backyard Revolution: Understanding the New Citizen Movement* (Philadelphia: Temple University, 1981), 34-36, 104-118; Jim Miller, “*Democracy is in the Streets*”: *From Port Huron to the Siege of Chicago* (New York: Simon and Schuster, 1987), 28-32, 79-91, 112-140, 170-177, 343-344; Mayer N. Zald and John D. McCarthy, eds., *Social Movements in an Organizational Society* (New Brunswick: Transaction, 1987), 7, 28-29, 204, 250-252; Doug McAdam, *Freedom Summer* (New York: Oxford University, 1988), 51, 120; Hanspeter Kriesi et al., *New Social Movements in Western Europe: A Comparative Analysis* (Minneapolis: University of Minnesota, 1995), 14-19, 75, 119, 128-129; Olivier Fillieule, *Stratégies de la rue: Les manifestations en France* (Paris: Fondation Nationale des Sciences Politiques, 1997), 60 n3, 146, 159, 168-171; Donatella della Porta and Mario Diani, *Social Movements: An Introduction* (Oxford: Blackwell, 1999), 186, 203-206, 214. For atypical analysis, “new movements” among workers, Alain Touraine et al., *Solidarité: Analyse d'un mouvement sociale, Pologne, 1980-1981* (Paris: Fayard, 1982), 86-103, 269-272; and Rick Fantasia, *Cultures of Solidarity: Consciousness, Action, and Contemporary American Workers* (Berkeley: University of California, 1988), 20-21, 45-59, 82-113, 133, 149-150, 160, 227-231, 244-245. The most historically learned and influential studies in this field were Charles Tilly, *From Mobilization to Revolution* (Reading: Addison-Wesley, 1978), on “resources,” 7-8, 54, 56, 58, 69, 75-76, 78-81, 84, 86-88, 90-91, 122-124, 142, 162-166, 229; idem, *The Contentious French* (Cambridge: Harvard University, 1986), on strikes, 319, 322-331, 340-341, 346-350, 358-362, 366-372, 376-379, 394-395. Tilly's idea of strategy derives from a theory of action in an uncontested constitution (matrix) of controls: James S. Coleman, *The Mathematics of Collective Action* (Chicago: Aldine, 1973), 66, 69-70, 78, 95, 129-130. Cf. Gerald Marwell and Pamela Oliver, *The Critical Mass in Collective Action: A Micro-Social Theory* (Cambridge: Cambridge University, 1993), toward a theory of strategic position, but in terms of “fungible resources,” e.g., raw time and money, nothing in production. For most clarity on NSMs socially and strategically, Dieter Rucht, *Modernisierung und neue soziale Bewegungen: Deutschland, Frankreich und USA im Vergleich* (Frankfurt: Campus, 1994), 88, 200-201, 214-221, 251-253, 269-275, 423-424, 434, 453, 512-513.

⁴⁸⁷ E. g., Alessandro Pizzorno, ed., *Lotte operaie e sindacato in Italia, 1968-1972*, 6 vols. (Bologna: Mulino, 1974-1978), I, 13-14, III, 161-166, IV, 157-158, 190, V, 16-17, 31-32, 47, 61, 113, 141-142, VI, 11-12, 22-23, 76-77, 175n19; Colin Crouch and Alessandro Pizzorno, eds., *The Resurgence of Class Conflict in Western Europe since 1968*, 2 vols. (London: Macmillan, 1978), I, 78-91, 228-229, 250, II, 141-144; Charles F. Sabel, *Work and Politics: The Division of Labor in Industry* (Cambridge: Cambridge University, 1982), 59-62, 73-75, 94-96, 169-179, 184-186; Roberto Franzosi, *The Puzzle of Strikes: Class and State Strategies in Postwar Italy* (Cambridge: Cambridge University, 1995), 346-348.

thrombose, or *grève-bouchon*, with its “corollary,” *le chômage technique*, but all to argue a different issue (*revendication*).⁴⁸⁸ Through the old discipline of political sociology a few young sociologists in the 1970s studied workers’ “strategic options” and “strategies,” modern technology, work’s social significance, and the difference between capital’s collective action and labor’s in “Western liberal democracies.” They assumed the options and the strategies were only in the labor market, ignored technology except in change (always “labour-saving”), argued work was no longer “the key sociological category,” and distinguished between business associations and unions by their members’ “willingness” and “interests,” not by their parts in production.⁴⁸⁹ Another very strategically concerned sociologist of industrial strikes claimed he could predict when workers would gain (“residuals” at least) from striking. Arguing from the history of one highly strategic industry in France, he never saw the strategic positions there, rediscovered the logic of them in other industries, but made nothing of it.⁴⁹⁰

The last good chance for a clear Dunlopian connection into bourgeois sociology passed in 1979 without anyone knowing it. The miss happened in a British sociologist’s explicitly Weberian critique of Marxist “class theory,” in an argument on “social closure as usurpation.” To show how social “usurpation” could happen, Frank Parkin turned right to “the struggle between capital and labour,” and emphatically quoted two British

⁴⁸⁸ Claude Durand and Pierre Dubois, *La grève: enquête sociologique* (Paris: Fondation Nationale des Sciences Politiques, 1975), 117-118, 208, 213, 221-224, 228, 238-243, 247, 258-259, 353, 364. The paper from which they seem to have drawn the Dunlopian principle, Giovanni Sartori, “Le pouvoir des syndicats ouvriers dan la société technocratique: une analyse prospective,” 1972, I have not found. Cf. Pierre Dubois, *Le sabotage dans l’industrie* (Paris: Calmann-Lévy, 1976), 12, 38-40, 45-51, 121-122, 134, 146-149, 226, where the issue is *le socialisme dans la liberté*.

⁴⁸⁹ Claus Offe [et al.], *Disorganized Capitalism: Contemporary Transformations of Work and Politics* [1973-84], tr. Karen Grislis et al. (Cambridge: MIT, 1985), 1-7, 14-20, 29-36, 39-51, 58, 61, 66, 129-150, 157-158, 161, 175-191.

⁴⁹⁰ Samuel Cohn, *When Strikes Make Sense--And Why: Lessons from Third Republic French Coal Miners* (New York: Plenum, 1993), 12-15, 28-40, 114-118, 122-123, 217, 224. His conception of strategy is not Dunlop’s, but from game theory.

authorities on industrial conflict. The first was a rather Paretovian political sociologist who did not know of Dunlop, but did know his argument in its main British version (the Donovan Report), and knew better than any other academic then how lobbies drove British political contention. The quotation from him featured “small specialized groups” in “organized labor” having “the potential” to “withhold certain services...critical to the survival of society,” having, in other words, “that socio-economic leverage which can paralyse society.” The second authority was the then most distinguished British professor of industrial relations, who had often praised Dunlop’s *Industrial Relations Systems* (“the most important study in the field since the Second World War”), generally misunderstood its argument, but subliminally caught its point in his public dread of strategic strikes. Industrial relations, he declared, were about “the distribution of affluence and the [normal] disruption that occurs in the process....” But “uninhibited collective bargaining” could cause modern society too much disruption. “Under conditions of advanced technology involving high capital-labour ratios, low levels of intermediate stocks, and ever more closely integrated production and distribution processes,” in his quoted words, strikes damaged not only “industry” but “the community” at large. Unions “prepared to exploit this critical strategic situation” could cause “social disaster.” Therefrom Parkin drew the very Dunlopian concept of workers’ “disruptive potential,” highest among “key groups at the very heart of the productive system,” a power that workers could deliberately use for legally forbidden gains of indefinite extension. “It is as though once capital is shown to be vulnerable at certain tender points, labour as a whole becomes more confident of its usurpatory potential.” But there he dropped the matter, and from where he left it, no other bourgeois sociologist picked it up.⁴⁹¹

⁴⁹¹ Frank Parkin, *Marxism and Class Theory: A Bourgeois Critique* (London: Tavistock, 1979), 44-45, 57,

The connection then happened, but at five removes, under another name, and heading elsewhere. From an argument of Dunlop's about a different matter, "the internal wage structure," two of his most influential students in labor economics had developed a theory of "the internal labor market" (later "segmented labor markets"). [Here do I need to go into: Northrup 1944, Eiteman 1945, Williamson 1975, Stiglitz 1975, Rubery 1978, Carter 1982, Brown and Nuwer 1987? If so, I could do it so, in order to lead to these guys:] [[[From this theory, without reading its source, much less reading him on "the technical context of the work place," some second-generation economic sociologists in "stratification research" adduced "structural inequality," or "the structure of positional inequality," and theorized it into a "new structuralism." Still ignorant of Dunlop on "the technical context," some "new structuralists" in 1980-81 inferred from his students' argument on "job specificity" an argument very close to his on "job content," and urged a focus on "the firm's internal job structure."⁴⁹² By chance another of them then received a Parkin-oriented (but Marxist) paper on "disruptive potential," which in due time two others and he, none of them knowing Dunlop on strategic position or Parkin on disruptive potential, represented as a new theory on "the *positional* sources of labor's power." But

76-82, 99-101. Cf. Samuel E. Finer, "The Unions and Power," *New Society*, February 6, 1975, 329-330; and Benjamin C. Roberts, "Affluence and Disruption," in William A. Robson, ed., *Man and the Social Sciences* (London: London School of Economics and Political Science, 1972), 247, 252, 263-269. "Disruptive potential," "susceptibility to disruption," "power to disrupt," "disruptive incidents," "disruptions," and "incident-resolution" (*Störpotential, Störanfälligkeit, Störmacht, Störfällen, Störungen, Störfallbehebung*) appeared in West German industrial sociology in the 1980s, but they were issues of emotion at work, not of strategic industrial or technical positions: Ludger Pries et al., *Entwicklungspfade von Industriearbeit: Chancen und Risiken betrieblicher Produktionsmodernisierung* (Opladen: Westdeutscher Verlag, 1990), 80, 147-148, 162-163, 211, 217-218.

⁴⁹² Dunlop, "The Task of Contemporary Wage Theory," 15-27; idem, *Industrial Relations* [1958], 33-61; Peter B. Doeringer and Michael J. Piore, *Internal Labor Markets and Manpower Analysis* (Lexington: Heath, 1971), 13-90; James N. Baron and William T. Bielby, "Bringing the Firms Back In: Stratification, Segmentation, and the Organization of Work," *American Sociological Review*, XLV, 5 (October 1980), 737-765; idem, "The Organization of Work in a Segmented Economy," *ibid.*, XLIX, 4 (August 1984), 454-473; Mark Granovetter, "Toward a Sociological Theory of Income Differences," in Ivar Berg, ed., *Sociological Perspectives on Labor Markets* (New York: Academic Press, 1981), 11-47.

they put disruption of markets (“upstream”) on the same account as disruption of production (“downstream”), held it to matter maybe more, and changed the significance of disruptive potential (explicitly against the Marxist author’s intent) from strategic to psychological, so that “positional power” meant “militancy.” Along their line, in a deeply grounded, technically detailed, otherwise acute analysis of industrial conflict in reengineered American automobile plants in the 1960s and ‘70s, a young American Weberian argued the issue was “wildcat militancy.” He even got workers’ industrially and technically strategic powers right, but assumed them to pose the same questions as solidarity, questions not of calculation, negotiation, alliance, coalition, secession, but of “motivation” and “mobilization.”⁴⁹³

The most sophisticated recent consideration of modern “worlds of work” is by the Tillys *père et fils*. Against “the neoclassical approach,” they claim “institutionalist, Marxist, and organizational” warrants for their “large....long view” into this cosmic question, and they report much interesting research and analysis, including Dunlop’s on internal wage structures.⁴⁹⁴ But they never get a grip on the title subject, “work.” Not Marxists actually, but Simmelists, they see work among “social interactions,” and continually pursue it in the general category of deals, as a “transaction” between “producer and recipient of use value,” not as collective action in production. Specifically

⁴⁹³ Michael Wallace, Larry J. Griffin, and Beth A. Rubin, “The Positional Power of American Labor, 1963-1977,” *American Sociological Review*, LIV, 2 (April 1989), 197-241; Michael Wallace, Kevin T. Leicht, and Don S. Grant, II, “Positional Power, Class, and Individual Earnings Inequality: Advancing New Structuralist Explanations,” *Sociological Quarterly*, XXXIV, 1 (Spring 1993), 85-109; Kevin T. Leicht, Michael Wallace, and Don S. Grant, II, “Union Presence, Class, and Individual Earnings Inequality,” *Work and Occupations*, XX, 4 (November 1993), 429-451; James R. Zetka, Jr., *Militancy, Market Dynamics, and Workplace Authority: The Struggle Over Labor Process Outcomes in the U.S. Automobile Industry, 1946-1973* (Albany: State University of New York, 1995), xviii-xix, 79-81, 83-89, 249-253, 261 n6, 262 nn10-11; and idem, “Union Homogenization and the Organizational Foundations of Plantwide Militancy in the U.S. Automobile Industry, 1959-1979,” *Social Forces*, LXXIII, 3 (March 1995), 789-810.

⁴⁹⁴ Chris Tilly and Charles Tilly, *Work under Capitalism* (Boulder: Westview, 1998), 4, 11, 13, 15, 200, 257.

in capitalist “production networks,” organized in “hierarchies, markets, industries, and coalitions,” they define “work transactions” as “work contracts” between workers and employers, the workers under contract to perform particular “roles...known as jobs,” the employers hierarchically authorized “to optimize...quality, efficiency, and power.”⁴⁹⁵

The Tillys therefore work hardest on labor markets, where they assume that demand receives a socially (or culturally) presorted supply, so that the only significant division of labor is gendered, racial, ethnic; they are very faint on technology.⁴⁹⁶ When they do run into their subject in a modern capitalist industrial firm, they see it happening in “labor markets.” Coercion they take only for “threats to inflict harm,” and these only by employers to make workers work. Strikes they represent as voluntary, culturally framed “strategic interaction.”⁴⁹⁷ Toward the end they actually repeat Dunlop’s point on strategic position, but only in passing, then lose it, evidently not recognizing what it means.⁴⁹⁸

Only in the “interdisciplinary” field of “industrial relations” did Dunlop’s formulation of “interrelated factors” (including “technology”) have major influence.⁴⁹⁹ Even there, however, his argument on industrially and technically based strategies went

⁴⁹⁵ Tilly and Tilly, *op. cit.*, 22, 71-73, 78-79, 96, 98, 233.

⁴⁹⁶ *Ibid.*, 38-39, 138-140, 148-160, 170-227.

⁴⁹⁷ *Ibid.*, 23-31-32, 74, 83, 87, 230-242. Their conception of strategy is not Dunlop’s, but directly from Erving Goffman, *Interaction Ritual: Essays on Face-to-Face Behavior* (Garden City: Anchor, 1967), and *Strategic Interaction* (Philadelphia: University of Pennsylvania, 1969).

⁴⁹⁸ Tilly and Tilly, *op. cit.*, 243, 246-248.

⁴⁹⁹ Bruce E. Kaufman, *The Origins & Evolution of the Field of Industrial Relations in the United States* (Ithaca: ILR, 1993), 95-135. In Britain, e.g., Allan D. Flanders, *The Fawley Productivity Agreements: A Case Study of Management and Collective Bargaining* (London: Faber and Faber, 1964), 127, 140-141, 200-204, 209, 235-236; Hugh A. Clegg, *The System of Industrial Relations in Great Britain* (Oxford: Blackwell, 1970), 8-40. Generally, Michael Poole, *Industrial Relations: Origins and Patterns of National Diversity* (London: Routledge & Kegan Paul, 1986); Roy J. Adams, ed., *Comparative Industrial Relations: Contemporary Research and Theory* (New York: HarperCollins, 1991); Ron Bean, *Comparative Industrial Relations: An Introduction to Cross-National Perspectives*, 2nd ed. (London: Routledge, 1994); Richard Hyman, “Industrial Relations in Europe: Theory and Practice,” *European Journal of Industrial Relations*, I, 1 (March 1995), 17-46; and Anthony Giles, “Industrial Relations at the Millennium: Beyond Employment?” *Labour/Le Travail*, 46 (Fall 2000), 36-67.

largely for naught.⁵⁰⁰ In teaching, writing, and actual labor negotiations and arbitration, Dunlop continued to press this argument whenever it seemed to him to fit the case.⁵⁰¹ But not many of the nearly 50 “Wertheim Publications in Industrial Relations” that he himself steered into print refer to his sorts of strategic considerations, and these references are almost all to labor markets; only one, decades old, not mentioning “strategy” or “strategic,” is to technically strategic power in agricultural production.⁵⁰² Among Dunlop’s successors in “public policy” at Harvard (the program for studying IR there), but a few insist that workers may apply (unspecified) “technological pressures.”⁵⁰³ [[Maybe I should have a PP here:]] Industrial Relations graduates in the labor movement, who must have studied Dunlop, did hardly better. [[Here I want to insert the stuff on “the inside game,” Jerry Tucker, 1981...]] Even after the PATCO (1981) and the Phelps-Dodge (1983) strikes I could find only one AFL-CIO document suggesting use of

⁵⁰⁰ E.g., an influential book, various references to “strategy,” but devoid of strategic industrial or technical analysis, James O. Morris, *Conflict within the AFL: A Study of Craft versus Industrial Unionism, 1901-1938* (Ithaca: Cornell University, 1958), 55-56, 74, 78, 81-82.

⁵⁰¹ E.g., John T. Dunlop, “The Function of the Strike,” in idem and Neil W. Chamberlain, eds., *Frontiers of Collective Bargaining* (New York: Harper & Row, 1967), 111-116; John T. Dunlop, *The Management of Labor Unions: Decision Making with Historical Constraints* (Lexington: Lexington Books, 1990), 26-51; idem, *Industrial Relations Systems*, rev. ed. (Boston: Harvard Business School, 1993), 6-11, 19-21;.

⁵⁰² Lloyd Ulman, *The Rise of the National Trade Union: The Development and Significance of Its Structure, Governing Institutions, and Economic Policies* (Cambridge: Harvard University, 1955), 442-459; Kenneth F. Walker, *Industrial Relations in Australia* (Cambridge: Harvard University, 1956), 345-353; Jan Pen, *The Wage Rate under Collective Bargaining* (Cambridge: Harvard University, 1959), 91-112, 127-149, 154-156; Fred C. Munson, *Labor Relations in the Lithographic Industry* (Cambridge: Harvard University, 1963), 2-4, 36-51, 73-75, 154-156, 171-177, 192, 224-225; Carl M. Stevens, *Strategy and Collective Bargaining Negotiation* (New York: McGraw-Hill, 1963), 1-6; David Brody, *The Butcher Workmen: A Study of Unionization* (Cambridge: Harvard University, 1964), 46, 61, 114, 146-147, 183, 200, 205-206, 210, 219, 231; Garth L. Mangum, *The Operating Engineers: The Economic History of a Trade Union* (Cambridge: Harvard University, 1964), 1-16, 43-44, 247-281; John L. Blackman, *Presidential Seizure in Labor Disputes* (Cambridge: Harvard University, 1967), 26-33; F. Ray Marshall, *Labor in the South* (Cambridge: Harvard University, 1967), 311-318; George H. Hildebrand and Garth L. Mangum, *Capital and Labor in American Copper, 1845-1990: Linkages between Product and Labor Markets* (Cambridge: Harvard University, 1992), 23-26, 126-130, 145, 204-243, 255-263, 283-290. The exception is Lloyd H. Fisher, *The Harvest Labor Market in California* (Cambridge: Harvard University, 1953), 2-3, 25-31, 38-40, 87-90. Another, evidently independent of Dunlop, is William A. Brown, *Piecework Bargaining* (London: Heinemann, 1973).

⁵⁰³ Most impressively David Weil, *Turning the Tide: Strategic Planning for Labor Unions* (New York: Lexington Books, 1994); and idem, “A Strategic Choice Framework for Union Decision-Making,” *WorkingUSA*, VIII, 3 (March 2005), 327-347. [But check pages where he says this.]

materially strategic (“key”) positions to “pressure the employer,” and then only to help the union’s “regular negotiating team” by “negotiations away from the table,” after consulting legal counsel, and for a better contract.⁵⁰⁴

[[What’s surprising is that with all the deregulation and privatization underway by Thatcher and late Carter, and the PATCO move to privatize CSRA and FLRA, there was no particular interest in union’s extra-political action. See Northrup and others. [[[So far as I can tell neither the PATCO (1981) nor the Phelps-Dodge (1983) strike yielded any strategic analysis of the industrial or technical reasons for their failures. [I.e., what would have been sufficient, industrially and technically, for them to win. Northrup’s article on PATCO’s direct action is masterly (note he’d been deputy director of the NWLB’s Detroit tool and die commission), but it doesn’t go into the industrial and technical plans, which he’s seen, by which PATCO lost support and the strike. And I can’t find anything as good on Phelps-Dodge. There was plenty for IR to consider on direct action in the 1980s. E.g., UAW Local 282’s inside strategy to “run the plant backwards,” at Moog Automotive in St. Louis in 1981, which eventually succeeded. And the word on it circulated. E.g., Boilermakers Local Division of Cement Workers at General Portland in Ft. Worth, in 1984, tried what they thought was the same game, protected concerted activity.

[The AFL-CIO’s turn in 1995 to the “New Voice,” i.e., hopefully, much more organizing, brought out many U.S. IR professionals offering unions advice on “organizing strategies.” But like sociologists still at “social movement unionism,” they still ignored any question of workers’ technical power at work; the power they studied

⁵⁰⁴ Industrial Union Department (AFL-CIO), *The Inside Game: Winning with Workplace Strategies* (Washington: Industrial Union Department (AFL-CIO), 1986), 6-8, 17, 19, 31, 36, 40, 77-83; underline in original.

was “community” and “solidarity,” essentially the (obsolescent) moral power to shame.⁵⁰⁵ “The Battle of Seattle” inspired U.S. labor’s main intellectuals to argue for “strategies” either from “political economy” (markets) or from “culture,” almost never, regardless of Dunlop, from industrial or technical positions.⁵⁰⁶ Stuck on the AFL-CIO’s nice, new, culture-friendly leadership, some hoped to unionize in the now strategic “information industry” by an “e-union strategy,” using its technology only for communication, making an “employee community,” and communicating its concerns to the public, not (also or instead) for direct interruption of a company’s operations to bring it to water.⁵⁰⁷ Many workers knew that for the last several years hackers and “net activists” worldwide had been seriously e-discussing, sometimes causing, major e-disruptions. Hacktivism was (so far) politically utopian (Hakim Bey, Marcos, Thoreau, I’d say Fourier) and strategically of two minds (liberation/resistance), but tactically and technically most interesting for actions that labor could well take.⁵⁰⁸ Yet in the AFL-

⁵⁰⁵ E.g., Kate Bronfenbrenner et al., eds., *Organizing to Win: New Research on Union Strategies* (Ithaca: ILR, 1998), 8-11, 114-116, 193-198, 255-258, 269-275, 288-294, 303-308; Rick Fantasia and Kim Voss, *Hard Work: Remaking the American Labor Movement* (Berkeley: University of California, 2004), 43-45, 106-159, 171-172.

⁵⁰⁶ For political economy, e.g., Wallace Katz, “Don’t Mourn: Globalize!” *New Labor Forum*, 6 (Spring 2000), 7-20. For culture, much more common, e.g., Bill Fletcher, Jr., and Richard Hurd, “Is Organizing Enough? Race, Gender, and Union Culture,” *ibid.*, 6 (Spring 2000), 59-69; Paul Buhle, “From the Arm and Hammer to ‘The Simpsons’: The Evolution of Working-Class Culture,” *ibid.*, 9 (Fall 2001), 9-22; Joe Uehlein, “An Overture into the Future: The Music of Social Justice,” *ibid.*, 9 (Fall 2001), 25-34; Nelson Lichtenstein, “A Race Between Cynicism and Hope: Labor and Academia,” *ibid.*, 10 (Spring 2002), 71-79.

⁵⁰⁷ Arthur B. Shostak, *CyberUnion: Empowering Labor Through Computer Technology* (Armonk: M.E. Sharpe, 1999); Linda Guyer, “Organizing in Cyberspace,” *New Labor Forum*, XII, 1 (Spring 2003), 33-42. Why, except for organized labor’s jurisdictional blinkers, does Guyer ignore the Delta pilots’ cyber-preparations (including code) for their threatened strike in April 2001? Cf. Chris Dodd, “Preparing for a Strike,” *Air Line Pilot*, March 2001, 24.

⁵⁰⁸ Critical Art Ensemble, *Electronic Disturbance* (Brooklyn: Autonomedia, 1994); idem, *Electronic Civil Disobedience and Other Unpopular Ideas* (Brooklyn: Autonomedia, 1996); Ricardo Dominguez, “Digital Zapatismo [1998],” www.thing.net/~rdom/ecd/DigZap.html; DJNZ and the action tool development group, “Client-side Distributed Denial-of-Service: Valid campaign tactic or terrorist act? The electrohippies collective occasional paper no. 1,” February 2000, www.fraw.org.uk/ehippies/papers/op1.html; oxblood ruffin, “The Cult of the Dead Cow’s response to: Client-side Distributed Denial-of-Service: Valid campaign tactic or terrorist act [2000],” *ibid.* Cf. “NYC Gas Pipeline Series,” August 7, August 24, August 27 (two), 2004, www.cryptome.org. For a short history of hacktivism and discussion of its politics and

CIO's special forum for "ideas, analysis, and debate" it drew only one brief, brave notice, this declaring that despite unions' fear of the consequences "coordinated cyber disruptions will still be possible...."⁵⁰⁹ There was no intellectual excuse for the main line's simple disregard of labor's technical power. By contrast, also regardless of Dunlop, but as he advised, journalists often connected cultural, political, mercantile, and technical "factors" to explain industrial conflict.⁵¹⁰ So did the U.S. government's favorite agents for "peaceful resolution of international conflicts" (in other countries).⁵¹¹

The 9/11/01 doom had its day, and capital's material vulnerability seemed at once obvious--and entirely a question of destruction, foreign terrorism, Homeland Security. Yet some IR professionals, mainly in California, already on the subject for the International Longshore and Warehouse Union preparatory to negotiations (critical for the union) with the Pacific Maritime Association, stayed at it in labor's terms. As the ILWU-PMA talks began in May 2002, a former director of ILWU's organizing department, well aware of the "patriotic zeal" prevailing then, bravely argued in the AFL-

ethics: Tim Jordan and Paul A. Taylor, *Hactivism and Cyberwars: Rebels with a Cause?* (London: Routledge, 2004), 67-172.

⁵⁰⁹ Frances Fox Piven and Richard Cloward, "New Strategies: Disrupting Cyberspace: A New Frontier for Labor Activism," *New Labor Forum*, 8 (Spring 2001), 91-94.

⁵¹⁰ "Cheminots, électriciens, postiers, étudiants, lycéens, chômeurs... Ils se trouvent contre Juppé," *L'Humanité*, December 1, 1995, 1, 3-10; "Manifestations de plus en plus larges hiers dans toute la France, Deux millions," *ibid.*, December 13, 1995, 1-4, 6-14; "National Labor Crisis Expected to be Prolonged," *Korea Herald*, January 11, 1997; "Public Sector Strike Has Minimal Effect," *ibid.*, January 15, 1997; Angel Bolaños et al., "Unos 2 mil policíes estrangulan a la ciudad por más de 16 horas, Bloqueo de puntos estratégicos de la metrópoli desde la mañana," *La Jornada*, January 29, 2000, 48; Mario Torres et al., "Exigen policías pago completo," *El Universal*, January 29, 2000; Roger Cohen, "Who Really Brought Down Milosevic?" *New York Times Magazine*, November 26, 2000, 43-47, 118, 148; Donald Ratajczak, "The Economic Outlook: Should Airline Workers Have the Right to Strike?" *B>Quest*, February 8, 2001, www.westga.edu/~bquest/2001/feb8; Nancy Cleland, "Port Negotiations a Battle for Control," *Los Angeles Times*, September 28, 2002, C1, C8; idem and Ronald D. White, "West Coast Ports Closed," *ibid.*, September 30, 2002, A1, A14.

⁵¹¹ U.S. Institute of Peace, "Whither the Bulldozer? Nonviolent Revolution and the Transition to Democracy in Serbia," August 6, 2001, Special Report No. 72, www.usip.org/pubs/specialreports/sr72. Here the old testament is Gene Sharp, *The Politics of Nonviolent Action*, 3 vols. (Boston: Porter Sargent, 1973); and the new, Robert Helvey, *On Strategic Nonviolent Conflict: Thinking About the Fundamentals* (Boston: Albert Einstein Institution, 2004).

CIO's special forum for "strategic strikes" with a "strategic focus" on "the most strategic sectors of the economy." Peter Olney did not know Dunlop's argument, but unwittingly he made there the most substantial contribution to it in almost 25 years (since Parkin's in 1979). Although he confused technically strategic positions and skill, he drove the industrially strategic concept into AFL-CIO discussion of strategy.⁵¹²

The PMA's shutdown of West Coast ports, the resulting threat to the whole U.S. economy, and a Taft-Hartley injunction against the lockout, in October 2002, proved Olney's strategic point. Even so, even though he kept pressing in AFL-CIO forums for industrially strategic organizing, his argument has remained a minor theme in the U.S. labor movement's continuing effort to debate "organizing strategies." Since a new opposition emerged in the AFL-CIO in 2003, to use the federation's elections in 2005 to rouse a much stronger commitment to organizing campaigns, the major theme has been "unity," as both means and end, both for and against the opposition. It resounds incessantly among the Industrial Relations intellectuals on both sides. Unity by fiat or deal, top-down coalition, concentration of treasuries, and redivision of memberships according to economic sector, unity by free rank-and-file votes for unions in the same sector to cooperate, maybe offer social services to the public, unity of shop stewards pulling harder in their unions and beyond, unity in a clearer statement of the labor movement's "enduring principles [of 120 or only 70 years ago?]," unity to elect Democrats to pass new, pro-labor laws, or some other unity, or some combination of all these unities, will somehow unionize the ununionized, strengthen union density and democracy, beat Wal-Mart, and recycle the movement back into its promised land, "the

⁵¹² Peter Olney, "The Arithmetic of Decline and Some Proposals for Renewal," *New Labor Forum* (Spring/Summer 2002), ???; Robert Jablon, "Longshoremen Battle Repeats History," *Cincinnati Enquirer*, October 7, 2002, ???

counterforce it once was.”⁵¹³ It is today July 4, 2005. Less than three weeks before the federation’s convention and elections the supposedly strategic debates of the last ten years have clarified neither the movement’s positions of strength nor its goal. Olney’s strategic argument on “logistics” and “chokepoints” is even more to the point now.⁵¹⁴ But it remains hard for the IR intellectuals to grasp, because steeped in sociology they no longer understand the literally, physically industrial division of labor. To them, “services” are an industry. Experts on community and solidarity, they can no longer tell an industry from a sector--or the past from the future.

Chapter VI. German Socialists Debate the “Mass Strike” and Its “Strategy,” 1895-1918

I have found a basis for the industrial and technical arguments among the first (post-Marx) generation of Marxists. It is not broad. Almost all Marxists then were as blind as bourgeois economists and sociologists to industrial workers’ in strategic positions at work. This is to be expected of the electorally and therefore numerically preoccupied, e.g., Wilhelm Liebknecht, Bebel, Lafargue, Guesde, the Adlers, Sombart, Zetkin, Bauer, Labriola, Plekhanov. It is surprising of others, famously interested in revolutionary tactics, e.g., Mehring, or “the general strike,” e.g., Pannekoek, Sorel, who

⁵¹³ Ruth Milkman, “A More Perfect Union,” *New York Times*, June 30, 2005, A25.

⁵¹⁴ Yoshie Furuhashi, “The Chokepoints of the Giant: Attacking Wal-Mart’s Supply Chain,” *Counterpunch*, December 20, 2004, www.counterpunch.org/yoshie12202004; John F. Frittelli, “Port and Maritime Security: Background and Issues for Congress,” *Congressional Research Service*, May 10, 2005, 3-5, 6, 8, 19-20.

were actually useless on details.⁵¹⁵ However, the Marxists who did conceive of the technical argument explained it clearly, and saw its significance.

The first context of their reasoning was Britain's "New Unionism" and the Second International's discussion of strikes as extra-parliamentary "means of political struggle" in the early 1890s. Most important was the discussion in the German Social-Democratic Party. From England Engels's trusted Eduard Bernstein publicly specified the conditions under which he would endorse "the political strike," which could "perhaps" do more than "the struggle on the barricades once did" to force a government to save or enact laws favoring the working class. Among his conditions he noted "good labor organization, strong enough to exercise determining influence on the unorganized workers"; he did not yet indicate the source of such strength or how to build such organization.⁵¹⁶ To introduce a new edition of Marx's *Class Struggles in France*, "General" Engels himself wrote an essay on Socialist strategy. Although he emphasized that "1848's way of fighting [i.e., on the barricades] is today in every respect obsolete," he denied that "civilian fighters" had lost all strategic value. "A future [workers'] struggle in the street can win...if [civilian] disadvantage in position [versus the military] is outweighed by other momenta. It will therefore happen more seldom at the beginning of a big revolution than in its further course, and must be undertaken with greater forces. But these will then probably prefer, as in...1870 in Paris, the open attack to the passive tactic of the barricades." He did not yet indicate how workers could build "greater forces." Even so, the very idea that they could, enough to disorganize the military,

⁵¹⁵ Franz Mehring, "Zur Kriegsgeschichte und Militarfrage," *Gesammelte Schriften*, VIII; Serge Bricanier, ed., *Pannekoek et los conseils ouvriers* (Paris: Études et documentations internationales, 1969); Georges Sorel, *Réflexions sur la violence*, 11th ed. (Paris: Librairie Marcel Rivière et Cie., 1950).

⁵¹⁶ Eduard Bernstein, "Der Strike als politisches Kampfmittel," *Die Neue Zeit*, XII/1, No. 22 (February 21, 1894), 694-695.

seemed so realistic to his comrades in Berlin that they feared it would provoke an anti-sedition law and insisted he cut that passage from his text; he did.⁵¹⁷

In 1896, still in the debate over “political struggle,” a Marxist first called public attention to some industrial labor’s special positions of strength in national production. He was a 28-year-old Russian in the SPD, Israel Lazarevitch Gelfand, aka Alexander Helphand, “Parvus.” From his doctoral dissertation, “The Technical Organization of Work: Cooperation and the Division of Labor” (Basel, 1891), Parvus knew the logic of national industrial structure. A professed “social-revolutionary” Socialist, he brilliantly met all Bernstein’s conditions (in theory), used Engels’s omission to give his own strategic analysis, and proposed that against repression in a future crisis the German working class induce national “passive resistance” by a massive political strike. His proposal appeared in a long series of articles in the SPD’s theoretical journal, *Die Neue Zeit*, under a title hard to ignore: “Coup d’État and Mass Political Strike.” The key was his idea of striking (politically or not), not a discrete or a general event, but an organized, disciplined, guided accumulation of events, a deliberately loaded ramification of losses inflicted on the enemy, as if in a sketch of ever more ciphers in a succession of input-output tables. Simply and concretely he explained that strikes in certain branches of

⁵¹⁷ Friedrich Engels, “Einleitung [to Karl Marx, ‘Klassenkämpfe in Frankreich 1848 bis 1850’ (1895)],” in Marx and Engels, *Werke*, XXII, 513, 522. This gives Engels’s original text, with the parts he later cut marked in carets. Cf. Karl Marx and Frederick Engels, *Selected Works*, 2 vols. (Moscow: Foreign Languages Publishing, 1958), I, 118-138. Liebknecht published an unauthorized and misleading extract in *Vorwärts: Berliner Volksblatt*, March 30, 1895, 1-2, to which Engels privately objected. As Engels cut the original, see Friedrich Engels, “Einleitung zum Neudruck von Marx’ ‘Klassenkämpfe in Frankreich 1848-1850’,” *Die Neue Zeit*, XIII/2, 27 (March 27, 1895), 5-10; XIII/2, 28 (April 3, 1895), 36-43; and idem, “Einleitung,” in Karl Marx, *Die Klassenkämpfe in Frankreich, 1848 bis 1850: Abdruck aus der ‘Neuen Rheinischen Zeitung,’ politisch-ökonomische Revue, Hamburg 1850* (Berlin: Vorwärts, 1895), 8-23. The strain between Engels and the Berliners is in Engels to Kautsky, March 25, 1895, in Benedikt Kautsky, ed., *Friedrich Engels’ Briefwechsel mit Karl Kautsky* (Vienna: Wilhelm Braumüller & Sohn, 1955), 426; Kautsky to Engels, March 25, 1895, *ibid.*, 428; Engels to Kautsky, April 1, 1895, *ibid.*, 429-430; Engels to Laura Lafargue, March 28, 1895, in Émile Bottigelli, ed., *Friedrich Engels, Paul et Laura Lafargue: Correspondence*, 3 vols. (Paris: Éditions Sociales, 1956-1959), III, 398; Engels to Paul Lafargue, April 3, 1895, *ibid.*, III, 404.

production had extraordinarily extensive consequences. “It is different matter if miners strike, or, for example, tailors, for the miners implicate the entire iron and machine industry, and thereby as well all big industry.” Most effective would be a railroad strike: “If the great means of transportation are put out of operation, then not only the whole mechanism of social production stops, but the political mechanism too.”⁵¹⁸ In brief, the industrially most strategic strike meant “disorganization” (his word) of the German bourgeoisie and the Reich’s security. After giant strikes in England in 1897, France in 1898, Belgium in 1902, Holland in 1903, Russia in 1902, 1903, 1904, Italy in 1904, and the Russian Revolution of 1905, through his own studies of world markets, colonial policies, and commercial crises, and through his strategic analysis of the Russian Revolution, Parvus eventually took the argument to a general conclusion. The modern concentration of capital, which meant industrial integration in internationally competitive conditions, which meant “wars, revolutions, and insurrections,” was also, he explained, a “technical development” that entailed “the organization of the proletariat..., forcibly propels the worker into union alliances and the centralization of unions.” In any modern country a “mass strike” would be almost revolutionary, not so much because of the masses as because of the shutdown of transportation: “Without railroad service there is no centralized state.” And so “sensitive” had the concentration of capital made world

⁵¹⁸ Alexander Helphand, *Technische Organisation der Arbeit* (“Cooperation und Arbeitsteilung”): *Eine kritische Studie* (Phil. Diss.), I have not yet seen. For his full strategic analysis, Parvus, “Staatsstreik und politischer Massenstreik,” *Die Neue Zeit*, XIV/2, 33 (May 6, 1896), 199-206; XIV/2, 35 (May 20, 1896), 261-266; XIV/2, 36 (May 27, 1896), 304-311; XIV/2, 38 (June 10, 1896), 356-364; XIV/2, 39 (June 17, 1896), 389-395; the quoted passages, 362-364, 390; “disorganization,” 205, 264, 310-311, 359-360, 362-364, 389-391, 394. His single “strategic” observation is military, about the barricades; his only “strategists” are “retired generals who... behave like strategists of the coup d’état, home-made Moltkes against the internal enemy”: *ibid.*, 307, 393. On Helphand, Z. A. B. Zeman and W. B. Scharlau, *The Merchant of Revolution: The Life of Alexander Israel Helphand (Parvus), 1867-1924* (London: Oxford University, 1965); and Pietro Zveteremich, *Il grande Parvus* (Milan: Garzanti, 1988). His mentor at Basel had been Karl Bücher, the first historian of “the labor process and the division of labor,” on whose *Die Entstehung der Volkswirtschaft: Sechs Vorträge* (Tübingen: H. Laupp, 1893), Weber, Commons, and Lenin all variously relied.

markets that a strike interrupting “the railroad and news service...in a great industrial country can...paralyze world production.”⁵¹⁹

The Belgian and Dutch strikes of 1902-03, for democratic (male) suffrage, particularly sharpened debate on “the mass political strike.” The arguments came continually to a head in *Die Neue Zeit*, where Belgian, Dutch, Austrian, and Polish as well as German Socialists (not all Marxists) disputed the significance of such strikes for workers, the proletariat, and socialism. Within a couple of years a raft of articles had appeared on the question. As theory or description some conveyed notions of an idea like Parvus’s, of workers’ industrial power. Most concrete was a description of the Dutch strike, which started in Amsterdam among warehousemen, longshoremen, dockmen, railroad yard crews, switchmen, and shop machinists. But no argument had any explicit industrial analysis like Parvus’s.⁵²⁰

The controversy drew *Die Neue Zeit*’s editor, Karl Kautsky, by then “the Pope of Marxism,” into the debate to try (as usual) to center it. Since 1891 Kautsky had recognized capitalist vulnerability in the modern division of labor and expansive systems of circulation.⁵²¹ Through Socialism’s economic, cultural, political, and ideological

⁵¹⁹ Parvus, *Der Klassenkampf des Proletariats* [1908-10] (Berlin: Vorwärts, 1911), 11-24, 36-38, 44, 57-61, 135-149.

⁵²⁰ Hermann Gorter, “Der Massenstreik der Eisenbahner in Holland,” *Die Neue Zeit*, XXI/1, 21 (February 18, 1903), 652-656. Cf. Émile Vandervelde, “Nochmals das belgische Experiment,” *ibid.*, XX/2, 6 (May 7, 1902), 166-169; Franz Mehring, “Was nun?” *ibid.*, XXI/1, 15 (January 7, 1903), 449-453; Henriette Roland Holst, “Der Kampf und die Niederlage der Arbeiter in Holland,” *ibid.*, XXI/2, 30 (April 22, 1903), 100-105; *ibid.*, XXI/2, 31 (April 29, 1903), 141-149; Rudolf Hilferding, “Zur Frage des Generalstreiks,” *ibid.*, XXII/1, 5 (n.d., October 28?, 1903), 134-142; W.H. Vliegen, “Der Generalstreik als politisches Kampfmittel,” *ibid.*, XXII/1, 7 (n.d., November 11?, 1903), 192-199; Gustav Eckstein, “Was bedeutet der Generalstreik?” *ibid.*, XXII/1, 12 (December 16, 1903), 357-363; U. Flüchtig, “Zur Frage des Generalstreiks,” *ibid.*, XXII/1, 14 (December 31, 1903), 445-448; Michael Lusnia, “Unbewaffnete Revolution?” *ibid.*, XXII/1, 18 (n.d., January 27?, 1904), 559-567.

⁵²¹ Karl Kautsky, “Der Entwurf des neuen Parteiprogramm. II,” *ibid.*, IX/2 (August 31, 1891), 752, 757; idem, *Das Erfurter Programm in seinem grundsätzlichen Theil* (Stuttgart: J. B. W. Dietz, 1892), 63-65, 98-99, 210-211. Here (at 210-211) he notes some branches of production, “for the most part” in metallurgical industries, that “cannot do without” workers with “special strength or skill or knowledge” beyond “the

struggles to date he had been scrupulously refining his ideas of proletarian power. (Heavy on his mind were the Socialist International's rejection of "the general strike" and the German General Commission of Trade Unions' refusal even to discuss the question "yet.") Lately he had reemphasized "that weapon...from which the proletariat above all draws its strength, organization," and called attention to "the means of pressure and struggle exclusively the proletariat's...the organized denial of work, the strike." The more capitalism developed, "the more gigantic dimensions strikes take," which could "bring about a national calamity, a political event." But he had not yet explained how strikes grew.⁵²² Now in 1904, citing Parvus for having given the explanation "first and in a no doubt more brilliant way," he took Parvus's argument to build his own case on the mass political strike. He spelled out the market essential for an "economic strike" to succeed, and noted "technical bases" for success too, e.g., leaving sugar beets to rot in sugar mills. But for his purposes he emphasized the mass strike's mounting strain on the proletariat: "All the economic factors that favor the worker's success [in an "economic" strike] will stand for less in a mass strike, all the less the more general it is..." When workers run out of food, if they start fighting for it, "the revolution of folded arms will leave the grounds of the economic strike and enter those of insurrection." He went back (as best he could) to Parvus's industrial structure: "The more commodity production develops, the more everyone produces not what he uses, but what he does not use, to sell it, so greater grows the quantity of objects of consumption that must go through

competition of unskilled workers or...women and children." Nowhere do the words "strategic advantage" appear, as in Karl Kautsky, *The Class Struggle (Erfurt Program)*, tr. William E. Bohn (Chicago: Clark H. Kerr, 1910), 181. This translation "compressed" the original by one third. Bohn was then a member of the U.S. Socialist Labor Party; a brother, former national secretary of the SLP, was associate editor of the *International Socialist Review* in Chicago. William E. Bohn, *I Remember America* (New York: Macmillan, 1962), 143-148, 209-239; William D. Haywood and Frank Bohn, *Industrial Socialism* (Chicago: Clark H. Kerr, 1911).

⁵²² Karl Kautsky, *Die soziale Revolution* (Berlin: "Vorwärts" [Ch. Glocke], 1902), 48-50.

transportation before they come into the hands of consumers. The division of labor among factories works in the same direction. The number grows of factories through which a product must pass from the form of raw material until it exists finished for use. So trade and transportation are the occupations that grow the most.” There he rediscovered the railroads, industrially and politically most strategic. “...whether the railroad business is private or state-owned, its undisturbed progress is ever more a life question for the modern state, railroad workers are therefore placed under an ever stricter discipline, while at the same time ever more military forces are trained to provide railroad service.” The trick, as per Parvus, was to use proletarian organization to disorganize the enemy. Although struggle on the barricades had ended long ago, for sound “military-technical reasons,” a political strike could now disorganize not only the economy, but national bourgeois security. It would depend first on “the railroaders, who are more interested than most other strata of workers in the achievement of a proletarian regime. But precisely they risk the most in a work stoppage that does not end in victory.... In most countries the railroaders will have to ponder well whether they should join a political strike, if it does not offer the prospect for winning a government dominated by the proletariat.” But he kept losing the industrial analysis in order to reach a balanced decision (viz., the time for the mass strike’s “successful application” had “not yet come”).⁵²³

His judgment could not quell the controversy. The Socialist International in Amsterdam later that year, yet again opposing the general strike, made its first concession

⁵²³ Karl Kautsky, “Allerhand Revolutionäres: III. Der politische Massenstreik,” *ibid.*, XXII/1, 22 (February 24, 1904), 685-695; *ibid.*, XXII/1, 23 (March 2, 1904), 732-740; quotations, 687-689, 693, 734, 737; Parvus, 694 n1. This citation is remarkable. *Die Neue Zeit*’s textual footnotes were rare; to Kautsky’s (frequent) articles, very rare. For all Kautsky’s military metaphors here, neither “strategic” nor any related word appears.

to advocates of the mass strike: “it is well possible that a strike that extends over a particular branch of industry or over a great number of factories can be in the extreme a means to accomplish an important social change or to resist reactionary assaults on workers’ rights....”⁵²⁴ But the German General Commission recommended that its affiliated unions “confront energetically” any propaganda for such strikes. On Kautsky’s recommendation the Amsterdam resolution’s author, Henriette Roland-Holst, wrote a book to promote “study and discussion of the mass political strike.” In its foreword in 1905 Kautsky likened the German unions to “a war office that not until war is declared is willing to begin to test its weapons, to exercise its troops, to drum strategy and tactics into its officers’ head.”⁵²⁵ The book was a superb introduction to the field then. Clear, calm, fair, a full review, theoretical and practical, vivid in examples, sure-worded in explication, the work of a poet, it examined four kinds of big strikes, “the generalized sympathy strike,” “the economic-social general strike,” “the economic strike of political importance,” and “the mass political strike,” included an appendix on strikes and Socialist parties--and had an index! It went especially into how strikes spread, by “feeling of class solidarity,” or each shop or plant on its own and for itself, or for safety in numbers, or for public pressure on the offending employer, or most broadly (again as per Parvus, here via Kautsky) because of capitalism’s very development, its ever more complex industrial organization and integration, so that “economic struggles” in iron and coal, at ports, most of all on railroads, had “unintended political effects,” economic, social, and military repercussions so vast that they disorganized the state. From there it

⁵²⁴ *Internationaler Sozialisten-Kongress zu Amsterdam: 14. bis 20. August 1904* (Berlin: Vorwärts, 1904), 24-25, 30-31.

⁵²⁵ Henriette Roland Holst [Van der Schalk], *Generalstreik und Sozialdemokratie* (Dresden: Kaden & Co., 1905), i, iv-v. Kautsky had long had a taste for military metaphors: e.g., “Der Entwurf,” 750, 755-756; “Allerhand Revolutionäres,” 736-737.

was “only one step...to the mass political strike.” The history, economics, and sociology of this kind of strike, across Europe and lately in Russia, Roland-Holst explained here at such length, in such detail, praising Parvus’s “excellent articles,” quoting a long passage from him, that she turned his argument almost into a manual for organizing industrially strategic strikes, whether unintentionally political or revolutionary.⁵²⁶ She never wrote “strategic” (or anything close) to describe them; she contrasted the state’s *Zwang*, coercion, to the striking proletariat’s “voluntary discipline.”⁵²⁷ But the General Commission of unions still would not allow the discussion among its affiliates. At its next convention (Jena, September 1905) the SPD accepted that to resist attacks on voting rights and freedom of association, it might call a “mass work stoppage.” The General Commission would not consider it. Roland-Holst’s book achieved a second edition, but used mainly in discussions of Socialist party programs, not by industrial organizers.

Bernstein in England had meanwhile observed English workers’ strikes, read the Webbs, and come to think workers generally through their “economic might” could win more from continual “reform” than from “revolution.” He had noticed the English engineering union acting “strategically,” but only in recasting its demands.⁵²⁸ Back in Germany in 1905, fighting “anarcho-socialism,” he dismissed Roland-Holst’s “casuistry” on mass strikes. They were reasonable, he argued (on the party line), only for quite

⁵²⁶ Roland Holst, *Generalstreik*, 9-11, 13-15, 27-29, 33-52, 57-184; quotations, 21, 52; Parvus, 154 n, 160-162.

⁵²⁷ *Ibid.*, 114-118.

⁵²⁸ Eduard Bernstein, “Der Riesen-Ausstand im englischen Kohlegewerbe: Sein Wesen, sein Streitobjekt und seine Begleiterscheinungen,” *Die Neue Zeit*, XII/1, 7 (November 8, 1893), 204-211; *ibid.*, XII/1, 8 (November 15, 1893), 229-235; *ibid.*, XII/1, 9 (November 22, 1893), 267-276; idem, “Der Strike als politisches Kampfmittel,” *ibid.*, XII/1, 22 (February 21, 1894); idem, “Eine neue Geschichte der Trade Union-Bewegung in England,” *ibid.*, XII/2, 35 (May 23, 1894), 268-275; idem, “Der Kampf im englischen Maschinenbaugewerbe,” *ibid.*, XVI/1, 15 (December 28, 1897), 454-460; *ibid.*, XVI/1, 21 (February 9, 1898), 644-653 (“haben...strategisch geschlagen,” 646 n2, his free translation of Barnes, *op. cit.*); and idem, *Die Voraussetzungen des Sozialismus und die Aufgaben der Sozialdemokratie* (Stuttgart: J.H.W. Dietz Nachf., 1899), 102.

particular, strictly limited political goals, in defense *in extremis*, never for revolution. But in much of his argument about strikes as such he tacitly agreed with her. Strikes were not (pace Parvus) “passive resistance”: to refrain from work was “a very definite act, a very energetic action. ...the true meaning of the political strike is obstruction.” Even ordinary strikes needed strategic planning; “today the strike has become as much a science as the conduct of war....” Since a political strike was against an elected government, it would not only take “hundreds of thousands” of striking workers marching in “nonviolent demonstration” in the streets of the capital and big industrial centers, but also have to “concern the broad public,” which “nowadays only a strike of those workers who are engaged in the... great traffic, supply, preparation, and delivery of daily food supplies can”--railroaders, teamsters, “butchers, bakers.” The point here was “not to overthrow the enemy, but by fatigue and so on move him to give in.”⁵²⁹ In 1906 he produced a “socio-psychological” survey of the field, *The Strike: Its Nature and Work*. On strikes in “contemporary economic life,” ignoring Parvus’s, Kautsky’s, and Roland-Holst’s industrial arguments, he precisely explained technically strategic jobs. If all the workers at a dozen little locksmith shops, cabinet shops, or bookbinderies struck, they would not total a hundred, but a few score men striking a strategic department of a big industrial firm, for example, the molders at the Maffei locomotive factory in Munich, or the foundrymen at Krupp’s Grusonwerke in Magdeburg-Buckau, would directly force many hundreds, indirectly thousands, of other workers there to quit work too. On “the strategy and tactics of the strike,” he remarked (again) that “the strike is war, and has like every war its rules of preparation and conduct.” But between references (again) to the English

⁵²⁹ Idem, *Der politische Massenstreik und die politische Lage der Sozialdemokratie in Deutschland* (Breslau: Volkswacht [O. Schütz], 1905), 6, 17, 20, 22, 29-30, 39-40.

engineering union and the Webbs he dwelt only on positions and maneuvers in the labor market. At the end, on “the political strike,” he recited his previous argument, but missed both the industrial and the political “strategy” there.⁵³⁰

Rosa Luxemburg like Parvus had studied internationally industrial articulations and the extraordinary power of strikes at industrially strategic positions. From her dissertation, on Poland’s industrialization (Zürich, 1898), she gained a fine sense of disjunctions in capitalist development. And like Parvus a revolutionary Socialist, she could tell perfectly well why a railroad strike in Switzerland in 1897 had been “splendidly successful,” while a general strike in support of railroad workers in France in 1898 had “pitifully miscarried.” The former threatened (among other “traffic disturbances”) to stop shipment of coal from Germany to Italy, whereas the latter was a nationally broadcast call for collective political action in all industries around a particular event.⁵³¹ Seeing in strikes the mark of workers’ class consciousness and their will to take political power, Luxemburg like Parvus and Bernstein found strikes’ expansion most significant. In 1906 this was the gripping quality of her instantly and widely disturbing tract *Mass Strike, Party, and Unions*. Her account there of Russia’s great series of strikes in 1902-03 goes from the strike at the Vladikavkaz branch railroad shops in Rostov-on-the-Don, the key to Russian communication with the Caucasus, all down the line southeast to Baku, back to Tiflis and Batum, westward to Ekaterinoslav, Nikolayev, and

⁵³⁰ Idem, *Der Streik: Sein Wesen und sein Wirken* (Frankfurt am Main: Rütten & Loening, 1906), 16-17, 49-65, 79, 109-117.

⁵³¹ Rosa Luxemburg, “Die industrielle Entwicklung Polens [Leipzig: Duncker & Humlot, 1898],” in idem, *Gesammelte Werke*, 5 vols. in 6 (Berlin: Dietz, 1972-75), I/1, 113-216. Her mentor at Zürich was Julius Wolf, by 1898 editor of *Zeitschrift für Sozialwissenschaft* in Berlin. Lenin ranked him with Düring. Pareto often published reviews in his periodical. On Luxemburg’s distinction between the Swiss and the French strikes, which she only implicitly explained, Rosa Luxemburg, “Und zum dritten Male das belgische Experiment,” *Die Neue Zeit*, XX/2, 7 (May 14, 1902), 203-210; *ibid.*, XX/2, 9 (May 28, 1902), 274-280; the quotations, 206.

Odessa, north to Kiev. Likewise she describes the Revolution of 1905 starting with the strike at the Putilov plant in St. Petersburg. Both accounts clearly imply industrial if not technical explanation as well. But (against Parvus) she refused to recognize it, emphasized “spontaneous uprising of the masses,” denounced “the technical side, the mechanism of the mass strike,” by which she meant any organization of it, and insisted that only a labor movement of “‘disorganized’ revolutionary action” could be “natural.”⁵³² As she collapsed the industrial into the political, she mistook strategic industrial action possibly of political importance as impulsive, inevitable, exclusively political action.

When the SPD’s conflict between its revolutionaries and the General Commission grew nastier in 1907, Kautsky kept trying ideologically to hold the factions together. In 1908-09, insisting that the proletariat should not shrink “even from extra-parliamentary means” to win all it could from parliament, he argued that struggles between the unions and big business were growing so “gigantic” that they “may convulse the whole society, the whole state, influence governments and parliaments....” Especially “in branches of industry that business associations dominate and that are of importance in all economic life,” strikes have “an ever more a political character.” Besides, “ever more often...in purely political struggles,...the weapon of the mass strike yields rich results.” That unions had “ever more political tasks....is the valid core of the Latin countries’

⁵³² Against Bernstein’s argument, e.g., Rosa Luxemburg, “Die englische Brille [1899],” *Gesammelte Werke*, I/1, 471-482, where she quotes the Webbs on “strategic position,” 479; idem, “Eine taktische Frage [1899],” *ibid.*, I/1, 483-486; idem, “Die ‘wirtschaftliche Macht [1899],” *ibid.*, I/1, 493-496. Her only other “strategic” observation at that time was geo-political: Luxemburg to Jogiches, January 9, 1899, in Rosa Luxemburg, *Gesammelte Briefe*, 6 vols. (Berlin: Dietz, 1982-93), I, 249. On Russia, Rosa Luxemburg, *Massenstreik, Partei und Gewerkschaften* (Hamburg: Erdmann Dubber, 1906), 12-18, 22, 35, 38-44, 46. “Strategic” was still a rare word in her vocabulary then, which she used only in a political or military connection: idem, “Eine Probe aufs Exempel [1905],” *Gesammelte Werke*, I/2, 532; idem, “In revolutionärer Stunde: Was weiter? [1906],” *ibid.*, II, 28.

syndicalism.”⁵³³ But he did not even hint at a strategic analysis, for industrial or political conflicts.

In 1910 Marxists had their best chance yet to conceive workers’ industrial power in explicitly strategic terms. Confronting Luxemburg in a then highly tense dispute over using “the mass strike” to win democratic suffrage in Prussia, Kautsky introduced “from military science” Delbrück’s distinction between “the strategy of overthrow” and “the strategy of exhaustion”; indeed, without citing his source, he copied Delbrück’s definitions verbatim for his readers. *Ermattung*, “exhausting” the enemy, wearing it out, he proclaimed, was the strategy Engels in his “political testament” (the “Introduction” to *Class Struggles in France*) had 15 years ago advised German Socialists to follow against “the ruling system.” If “overthrow” had once (back in the 1860s!) been the SPD’s “strategy,” “exhaustion” had long served better, and thereby the party was approaching “victory.” Luxemburg’s spontaneous “mass strikes,” he argued, were a dangerous reversion, for involving as they did improvised street demonstrations, maybe even a *Zwangstreik*, forcing businesses to shut down, threatening the Junkers, they would lead to “decisive” battles that the SPD might well lose. Between anarchist provocations and revisionist submission, he argued, “exhaustion” should remain the SPD’s strategy until obviously just the right time for the decisive blow, “to save our powder” for the last “big battle,” by which time mass action would be so obviously overwhelming that it might no

⁵³³ Karl Kautsky, “Maurenbrecher und das Budget,” *Die Neue Zeit*, XXVII/1, 2 (October 9, 1908), 45; idem, *Der Weg zur Macht: Politische Betrachtungen über das Hineinwachsen in die Revolution*, 2nd ed. (Berlin: Vorwärts, 1910), 87. The SPD executive committee forbade distribution of more than the first copies of the first edition of this pamphlet in December 1908, because of its “revolutionary” language, which the committee feared might cause judicial action against Kautsky and the party’s publishing company. After Kautsky made “minimal changes” in the text and added that the views therein were his alone, the pamphlet reappeared in March 1909. Against “the fathers,” i.e., the executive committee, Luxemburg privately cheered his “victory,” without comment on the pamphlet’s substance: Luxemburg to Clara Zetkin, “after March 21,” 1909, in *Gesammelte Briefe*, III, 12-13.

longer be necessary.⁵³⁴ But like Luxemburg he had collapsed the industrial entirely into the political. Throughout his thoroughly “strategic” argument Kautsky pointed to power only in the government, parties, and the masses. In response Luxemburg charged ahead, blasting the “strategy of exhaustion,” recalling successes, e.g., lately in Russia, in “the incessant alternation...of economic and political action,” urging against formally staged performances “battle after battle right now..., struggle all along the line.” She wrote not just polemically, but as if at home in specifically “strategic” terms, and at the end invoked against Kautsky’s “military science” the mighty Mommsen on “*Kriegsführung*,” against “procrastination,” for the offensive. And (as before) she often specified industrial districts and workers. But still most keen on “the mass movement” in all its “feelings of strength” and “joy in struggle,” she made no connection between “strategy” and using industrial (much less technical) positions to advance the political movement.⁵³⁵

Kautsky gave her back a strategically more interesting argument. “Mass strikes” had led to revolution in Russia in 1905 because the Russian government had already become “the world’s weakest government,” incapable of ruling its vast territory because of “deficient means of communication,” and stuck in a losing war (with Japan). Strikes in different places split the government’s forces, keeping the Czardom in constant turmoil

⁵³⁴ Karl Kautsky, “Was nun?” *Die Neue Zeit*, XXVIII/2, 28 (April 8, 1910), 33-40; and XXVIII/2, 29 (April 15, 1910), 68-80; the quotations, 37-39, 69, 77, 80. He may have thought of resorting to Delbrück just then because of Luxemburg’s off-hand reference to “the means and strategy of the wider struggle” in her article in the *Arbeiter-Zeitung*, Dortmund, March 14-15, 1910; Rosa Luxemburg, “Was weiter? [1910],” in *Gesammelte Werke*, II, 292. Her letters at the time hold no hint of why after four years of not writing the word she now wrote “strategy.” E.g., Luxemburg to Clara Zetkin, March 7, 1910, in *Gesammelte Briefe*, III, 119-121. On the origins of the debate, see also Luxemburg to Haenisch, “before March 14,” 1910; idem to Haenisch, “after March 15,” 1910; idem to Luise Kautsky, March 17, 1910; idem to Jogiches, “after March 17,” 1910; idem to Jogiches, “after March 22,” 1910; idem to Jogiches, “after March 25,” 1910; idem to Clara Zetkin, “probably April 9,” 1910, *ibid.*, III, 123-136. Kautsky may have started reading Delbrück’s *Geschichte* as early as 1900, when the first volume appeared, with the *Niederwerfung-/Ermattung* distinction. He must have had it in recent memory from Franz Mehring, “Eine Geschichte der Kriegskunst,” *Ergänzungsheft zur Neuen Zeit*, No. 4 (October 16, 1908), 11-13, 23, 31, 46.

⁵³⁵ Rosa Luxemburg, “Ermattung oder Kampf?” *ibid.*, XXVIII/2, 35 (May 27, 1910), 257-266; and XXVIII/2, 36 (June 3, 1910), 291-305; the quotations, 262-264, 292-297, 302-305.

for a year, until “the huge movement swelled up into a storm that hit the entire empire at the same time.” In contrast he described Prussia, with “the strongest government of the time,” boasting a large, peerlessly disciplined army and bureaucracy, backed by a class of exploiters, the Junkers, “of a force and brutality the likes of which are rare,” and supported by “great masses of peasants and petty bourgeois.” The Russian strikes could be (as he thought they were) “amorphous, primitive,” and successful, but strikes in Germany and Western Europe at large had better be “rational.” The question was not if the German workers could strike as Luxemburg urged, but whether in their right mind they should. It would be “much more difficult” in Germany than it had been in Russia “to bring about a...strike...that changed the whole urban landscape and thus made the deepest impression on the collective bourgeois world as well as on the most indifferent levels of the proletariat... In view of the iron discipline in the big national, municipal, and private monopolies and...the strict connection of the government and capital [all across Western Europe], it is unthinkable that among us in a strike to demonstrate against the government the metropolitan railways, the tramways, the gasworks would come to a standstill.” Because the tremendous centralization of capital and development of communications in Germany had also tremendously strengthened proletarian organization there, struggles between German business and labor were gaining momentum, but happening ever less often. “One does not conduct outpost skirmishes with heavy artillery.” He imagined for his readers how “the last, highest...decisive test of strength” between the proletariat and the state would go: “The [political] mass strike works by forcing the national executive authority into an extraordinary deployment of power and at the same time disabling as much as possible its means of power. This it

does through its very massiveness.” Only after the (Socialist-declared) strike spreads from big cities to “out-of-the-way factories” and farm workers “on the big estates,” do gas and electric plants shut down and metropolitan railways stop running. And only then are “the post office and railroads seized by strike fever; next shop workers strike, then younger shop clerks,” and so on. It was an operation both hard to win and unnecessary. Kautsky advised Luxemburg to read Delbrück: his own “strategy of exhaustion,” he claimed, was “the totality of the Social-Democratic proletariat’s praxis from the late [18-]sixties to date.” This was to use “everything that disorganizes our enemy and undermines its authority as well as its feelings of strength, equally everything that organizes the proletariat, lifts its views and its feelings of strength, improves the confidence of the popular masses in their organizations.” It included “not merely parliamentary politics,” but also “wage movements and street demonstrations.” It did not include the mass strike, “an elementary event, whose occurrence one does not bring about as one pleases, it being an event one may expect, but cannot determine.”⁵³⁶ Whatever chance he had initially given himself to bring (Parvus’s) industrially strategic points to bear in Delbrück’s “strategic” terms, he had blown.

Luxemburg tore into his argument, mainly into the contradiction between his “strategy of exhaustion” and his “theory” of mass action. Precisely because of “the high development” of capitalism in Russia, particularly in “modern means of communication,” the mass strikes there “achieved their deeply shaking, decisive effect.” Against Kautsky’s claim that mass strikes in the West were in decline, she listed 24 in the last 10 years, 14

⁵³⁶ Karl Kautsky, “Eine neue Strategie,” *ibid.*, XXVIII/2, 37 (June 10, 1910), 332-341; XXVIII/2, 38 (June 17, 1910), 364-374; and XXVIII/2, 39 (June 24, 1910), 412-421; the quotations, 366-370, 374, 412-413, 418-419, 421. Luxemburg had not yet read Delbrück’s “*Kriegsgeschichte*,” which she asked Clara Zetkin’s son then to send her: Luxemburg to Kostja [Konstantin] Zetkin, June 21, 1910, in *Gesammelte Briefe*, III, 179.

of them in mining, machining, railroads, postal systems. She mocked his illusion that strikers could not shut down a West European city: a general strike in Genoa in 1904 had left the city “three full days...without light, bread, or meat.” She explained her “‘strategy’” (sic, ironically, in quotes): “Not the childish Don Quixotery” Kautsky expected of her, “but making the most politically of the enemy’s defeats as well as our own victories, which anyway is not so much the discovery of some ‘new strategy’ as rather the ABC of any revolutionary, even any serious, fighting tactic....” She agreed with him that mass strikes could not happen on the party’s command, by plan. But neither were they “elementary,” natural, like a change in the weather, for the party merely to expect, or await. They came “from the masses and their progressive action.”⁵³⁷ Whatever chance Kautsky had given her to think “strategically” of strategic industrial strikes, she had blown.

Kautsky countered with rhetorical evasions, drifting to different questions, but finally returned to the industrial-military metaphor/junction. He came close to agreeing with Luxemburg, then passed her: “The political mass strike is a result of the proletariat’s lack of political rights. But on the other hand the political mass strike presupposes, like every mass strike, a certain high degree of economic development, transportation, capitalist concentration. The more capitalism develops, so the more massive individual strikes are, the more multitudinous mass strikes are, but also the fewer the number of strikes overall are. And the greater the dimensions of a strike, the more important economically the body of striking workers is for society as a whole, so the more the purely economic strike touches the state, insofar as it takes on a political character and

⁵³⁷ Rosa Luxemburg, “Die Theorie und die Praxis,” *ibid.*, XXVIII/2, 43 (July 22, 1910), 564-578, 626-642; the quotations, 576-577, 626-627, 632, 639-640. On Genoa, she quotes Oda Olberg, “Der italienische Generalstreik,” *ibid.*, XXIII/1, 1 (September 28, 1904), 18-24.

exercises pressure on the state in a socio-political sense.” Here he could have integrated Parvus and Delbrück (maybe even Bernstein’s technical insight) into a Marxist theory of strategic industrial action, or framed a Marxist strategy for industrial operations. But he did not. He concluded, “When the right moment for the mass strike has come, when it is a matter no longer of putting on the brakes, but rather of putting oneself at the head of the assault, that [moment] theory cannot define a priori, anymore than military science can tell the field commander a priori when in the battle the moment has come for decisive attack.” In the end he could not tell strategy from tactics in any field, much less conceptualize operations.⁵³⁸

She pursued his rhetorical maneuvers, correcting his corrections of her interpretations of Engels on the question of a republic in Germany, without a strategic concern or a word of “strategy.” And he closed the debate likewise, more quotations from Engels, nothing from Delbrück. He tried one last distinction to clarify his disagreement with her: “...I hold the combination of union action and political action under certain conditions to be useful, yes, inevitable, and I assume that these conditions occur more easily the stronger the proletariat and its organizations are. ...the combination of the struggle for political rights with the struggle for better working conditions in a joint action, I hold on the contrary to be wrong, and all the more so, the more developed political and union organization is. Comrade Luxemburg on the other hand thinks both [combinations]...are equally necessary and useful”; worse, she “simply identifies” them. In brief he would handle only one campaign at a time, stick to tactics, and forgo strategy,

⁵³⁸ Karl Kautsky, “Zwischen Baden und Luxemburg,” *ibid.*, XXVIII/2, 45 (August 5, 1910), 652-667; the quotation, 666.

whereas she would (as she herself had urged) rush into any class conflict anywhere anytime anyway possible. To his formulation of their difference she did not object.⁵³⁹

A sweet opportunity for Kautsky to give some sharp lessons in industrial strategy opened two years later. Dutch Socialism's most fervent advocate of the mass strike launched a polemic against Kautsky's "passive radicalism," theorizing a "spirit of organization" in the proletariat, a "moving soul," that would free it from parties and unions and move it ultimately to "annihilate" the bourgeoisie and "all its power."⁵⁴⁰ Fittingly, Pannekoek left not a hint even between the lines to suggest the realm in which the ghost would work its will, or the material means it would use for enforcement. Kautsky read in this gospel "the exact train of thought of the syndicalists," although without the "syndicates" (unions). He could have given Pannekoek a most theoretical and compelling materialist explanation of just how syndicalists (sometimes) used industrial positions to remarkable advantage, to explain then how *parteilos* they could not stick together as the spirit moved them. Instead, ignoring the proletarian stake in industrial strategy, he left the issue in political ideology.⁵⁴¹

Reviewing at book-length in February 1914 the SPD's long debate on the mass political strike, Kautsky recalled Parvus's original argument as "still worth reading." He quoted considerably from it, as he did from numerous others that had built the controversy. Mostly he quoted himself. He repeated his old, ominous indication of railroads' strategic importance, not just for a national economy but for national security,

⁵³⁹ Rosa Luxemburg, "Zur Richtigstellung," *ibid.*, XXVIII/2, 47 (August 19, 1910), 756-760. K. Kautsky, "Schlusswort," *ibid.*, XXVIII/2, 47 (August 19, 1910), 760-765; the quotation, 764-765.

⁵⁴⁰ Anton Pannekoek, "Massenaktion und Revolution," *ibid.*, XXX/2, 41 (July 12, 1912), 541-550; idem, "Marxistische Theorie und revolutionäre Taktik," *ibid.*, XXXI/1, 8 (November 22, 1912), 272-281; XXXI/1, 10 (December 6, 1912), 365-373.

⁵⁴¹ Karl Kautsky, "Der jüngste Radikalismus," *ibid.*, XXXI/1, 12 (December 20, 1912), 436-446; quotations, 441, 444.

why railroad workers were “under an ever stricter discipline,” and the thesis that strikes mattered insofar as they caused “disorganization.” He reiterated his polemics against unions and Socialists averse to strikes because of their political repercussions. Most remarkably, he quoted his plagiarism of Delbrück on “overthrow” and “exhaustion,” the latter the strategy he still thought Engels had bequeathed to Socialism. (He did not quote his advice to Luxemburg to read Delbrück.) At last he reflected on the SPD’s latest discussion of the mass political strike. At the 1913 party conference the executive committee and various dissidents proposed resolutions on the question. The differences were all on the conditions in which such a strike would make sense, the executive committee stipulating that conditions be “perfect,” Luxemburg that they be “as perfect as possible,” others that they be at least favorable. No one spoke of how to make the strike; Luxemburg and other dissidents premised only that the struggle’s “center of gravity [*Schwerpunkt*]” be “in the action of the masses.” Kautsky leaned in Luxemburg’s direction, but felt convinced they would first need “huge, powerful events that far beyond our party’s reach out there stir up the entire population and leave it in the wildest movement.”⁵⁴² This was the antithesis of Parvus, almost as spiritual as Pannekoek.

In 1918 Kautsky condemned the “anarcho-syndicalist demand” for workers’ control in Russian industry as destructive: “The factory cannot be in operation a single

⁵⁴² Idem, *Der politische Massenstreik: Ein Beitrag zur Geschichte der Massenstreikdiskussionen innerhalb der deutschen Sozialdemokratie* (Berlin: Vorwärts Paul Singer, 1914), 32-37, 67-103, 127-128, 211-213, 224-245, 255-281, 288-302; quotations, 32, 92-94, 228-232, 234, 292-294, 299. Besides his veiled references to Delbrück, Kautsky here writes “strategy” but one other time, and at that *Ermattungsstrategie*, and (I think) only to show his authority: *ibid.*, 301. Meanwhile Luxemburg still but rarely used the word, then off-hand, only politically or militarily, not for analysis, only for analogy: Rosa Luxemburg, “Unsere Aktion gegen die Militärvorlage [1913],” in *Gesammelte Werke*, III, 231; “Taktische Fragen [1913],” *ibid.*, III, 257; “Die Bilanz von Zabern [1914],” *ibid.*, III, 367. Other young SPDers then not only misread Parvus, but learned nothing from the Kautsky-Luxemburg debate, e.g., the Pole Karl Bergardovich Sobelsohn, aka Karl Radek, *Der deutsche Imperialismus und die Arbeiterklasse* (Bremen: Bürger-Zeitung, 1912), 70-76.

day without supplies from other operations.... Absent the raw-material producers, the mines, or the transportation system, then the factory too fails.”⁵⁴³ But he did not develop an industrial analysis of Russian (or other) developments, then or later.⁵⁴⁴

The first of the new European Communists I have found who wrote of Communist “strategy” was not Luxemburg, or Karl Liebknecht, or any other unforgettable figure. He was a German Socialist schoolteacher who despised German unions and the SPD. Once an SPD deputy, once a Spartakist, a founding member of the KPD, expelled therefrom like many other “true socialists” for “anarcho-syndicalism,” and with other truehearts (inspired by Pannekoek) founding the “federative,...councilist” KAPD, Otto Rühle believed that the proletariat truly acted for spontaneous, conscious, absolutely free reasons. For the “Frankfurt local group” of such communists in late 1919 he wrote a pamphlet giving the new party’s line, including “its strategy and tactics.”⁵⁴⁵ But neither in the KAPD nor in its new IWW-like General Workers’ Union did Rühle or any of his comrades in violation of their principles act strategically or write strategic criticism or plans, for political or industrial conflicts.

⁵⁴³ Idem, Kautsky, *Die Diktatur des Proletariats*, 2nd ed. (Vienna: Ignaz Brand & Co., 1918), 52-53.

⁵⁴⁴ Cf. idem, *Die proletarische Revolution und ihr Programm*, 2nd ed. (Berlin: J.W.F. Dietz Nachf., 1922), 73-94.

⁵⁴⁵ Otto Rühle, *Die Spaltung der K.P.D. (Spartakusbund)* (Grossenhain: Bezirks-Sekretariat Ostsachsens, 1919). I have not seen this pamphlet. The Otto-Rühle-Archiv, in Dresden, has not yet found it either: <http://rcswww.urz.tu-dresden.de/~stecklin/ruehle/kurz.html>. On the author, Horst Groschopp, “Rühle, Karl Heinrich Otto,” *Lexikon sozialistischer Literatur: Ihre Geschichte in Deutschland bis 1945* (Stuttgart: Metzler, 1994), 406-407; Paul Mattick, *Anti-Bolshevik Communism* (London: Merlin, 1978), 87-115.

Chapter VII. Russian and Soviet Marxists: Industrial Strategy, “Political Strategy,” 1905-1939

Before the Red October of 1917 almost no major Russian-oriented Russian Marxist (in exile or in Russia) publicly discussed industrial workers’ power at work. Plekhanov, although he had studied mining, I have not found ever writing concretely of anything industrial or technical. Having also attended military schools, he wrote often of

working-class or proletarian or Socialist “tactics,” but nearly always as a matter of timing, and always in partisan political conflicts.⁵⁴⁶ To my knowledge he put the word “strategy,” into print only once, and then consciously confused it with tactics.⁵⁴⁷ From his pen the words “strategists” (actually “arch-strategists”) and “strategic” also came into print, but each, I believe, again only once, and again about politics.⁵⁴⁸ For his theory of “industrial crises” Mikhail Tugan-Baranovskii foreshadowed a concept of strategic industries, and in his study of Russian industrialization he clearly implied which they were, railroads, mining, and metallurgy, but did not explore capitalist vulnerability to organized labor there.⁵⁴⁹ By the time he turned to the question of *Macht* between capitalists and workers, he thought less of Marx than he did of the Webbs, and did not address the question in production.⁵⁵⁰ Like Plekhanov, Martov wrote often of “tactics,” never in an industrial battle, always in partisan political terms; only once (to my

⁵⁴⁶ E.g., Georgii V. Plekhanov, “Sovremennye zadachi russkikh rabochikh (pis’mo k peterburgskim rabochim kruzhkam [1885],” *Sochineniia*, 26 vols. (24 published) (Vol. I, Geneva: Izdanie Biblioteki Nauchnogo Sotsializma, 1905; Vols. II-XXIV, Moscow: Gosudarstvennoe Izdatel’stvo, 1923-27), II, 367, 369, 371; idem, “Eshche raz o printsipakh i taktike russkikh sotsialistov [1890],” *ibid.*, III, 117-119; idem, “Anarkhizm i sotsializm [1894],” *ibid.*, IV, 212-213, 217-220, 236-237; idem, “Sila i nacilie (k voprosu o revoliutsionnoi taktike) [1895],” *ibid.*, IV, 249-250, 252; idem, “Eshche raz sotsializm i politicheskaiia bor’ba [1900?],” idem, *ibid.*, XII, 92, 98, 101; idem, “Vroz’ itti, vmeste bit’ [1905],” *ibid.*, XIII, 192, 194; idem, “K voprosu o zakhvate vlasti [1905],” *ibid.*, XIII, 203-204, 208-211; idem, “Nashe polozhenie [1905],” *ibid.*, XIII, 355; idem, “Eshche o nasem polozhenie [1905],” *ibid.*, XV, 13; idem, “O vyborakh v Dumu [1906],” *ibid.*, XV, 55, 56; idem, “Pis’ma o taktiki i bestaktnosti [1906],” *ibid.*, XV, 94, 98-99, 101, 112-113, 127-129, 138; “Zametki publitsista: novye pis’ma o taktike i bestaktnosti [1907],” XV, 191-192, 220, 256, 258, 267, 291, 316, 319; idem, “Otkrytoe pis’mo k soznatel’nym rabochim [1906],” *ibid.*, XV, 331-332; idem, “???,” *ibid.*, XV, 404-407; check also XVI, “Anarkhizm,” 149-196; idem, “Opportuniizm, raskol ili bor’ba za vliianie v partii? [1909],” *ibid.*, XIX, 10, 13, 19; idem, “Komediia oshibok [1910],” *ibid.*, XIX, 54-55, 58; idem, “Poslednee plenarnoe sobranie nashego Tsentral’nogo Komiteta [1910],” *ibid.*, XIX, 99-101, 107-109, 111; idem, “Avgust Bebel’ [1910],” *ibid.*, XIX, 122; idem, “Vsem sestram po ser’gam [1911],” *ibid.*, XIX, 348, 356, 358; idem, “Interv’iu s sotrudnikom gazety ‘Iug’ [1913],” *ibid.*, XIX, 555-556; idem, “Pis’ma k soznatel’nym rabochim, [1914],” *ibid.*, XIX, 537.

⁵⁴⁷ Idem, “O taktike vobshche, o taktike nikolaevskogo generala Reada v chastnosti i o taktike B. Krichevskogo v osobennosti [1901],” *ibid.*, XII, 126.

⁵⁴⁸ Idem, “Pis’ma o taktike [1906],” *ibid.*, XV, 127, 130, where the “arch-strategists” are the Bolsheviks; and idem, “Dve linii revoliutsii,” *Prizyv*, October 17, 1915, 4, “a huge strategic mistake” in partisan politics.

⁵⁴⁹ Mikhail I. Tugan-Baranovskii, *Promyshlennye krizisy: ocherk iz sotsial’noi istorii Anglii*, 2nd ed. (St. Petersburg: O.N. Popovoi, 1900), 156-175; idem, *Russkaia fabrika v proshlom i nastoiashchem: istoriko-ekonomicheskoe issliedovanie* (St. Petersburg: L. F. Pantelieeva, 1898), 311, 321-322, 329-335.

⁵⁵⁰ Idem, *Soziale Theorie der Verteilung* (Berlin: Julius Springer, 1913), 21, 27-34, 41-47, 82.

knowledge) did he write “strategy,” in German in 1910, lifting *Ermattungsstrategie* from Kautsky (Delbrück) to deny it had entered anyone’s head in Russia in 1905.⁵⁵¹ Close to Parvus, most like Luxemburg, Trotsky after 1905 wrote much about Russia’s industrially strategic places, positions, and workers, but too sweepingly, urgently, erratically, and indiscriminately even to imply an industrial or technical argument.⁵⁵² In 1910 he (before Martov) jumped into the wake of the Kautsky-Luxemburg exchange, regardless of strategy and immune to the word.⁵⁵³ Zinoviev wrote some articles about “tactics,” many about labor movements, but rarely about both in the same piece, and never (that I can find) of labor’s positions of strength or its strategy in production (or of any “strategy” in any field).⁵⁵⁴ Kamenev, son of a railroad engineer, himself having organized railroad strikes in 1903-05, wrote many articles about “tactics,” some about labor movements, but only once about “tactics” in labor movements, never of strategy there (or “strategy” elsewhere either).⁵⁵⁵ And neither about theory nor about practice did the scholarly Bukharin then think strategically or tactically, or have the words “strategy” or “strategic” or “tactics” or “tactical” printed.⁵⁵⁶

⁵⁵¹ E.g., L. Martov, “Sotsialdemokratiia, 1905-1907,” in L. Martov et al., *Obshchestvennoe dvizhenie v Rossii v nachalie xx-go veka*, 5 vols. (4 published, in 6) (St. Petersburg: Obshchestvennaia pol’za, 1909-14), III, 550-552, 564-565, 583, 588, 594, 600, 606; idem, “Die preussische Diskussion und die russische Erfahrung,” *Die Neue Zeit*, XXVIII/2, 51 (September 16, 1910), 913.

⁵⁵² Cf. Leon Trotsky, *1905* [1907, 1909], tr. Anya Bostock (New York: Vintage, 1971), 40, 42-44, 51, 73-74, 81-82; idem, “Nasha revoliutsia [1907],” *Sochineniia*, 21 vols. (12 published) (Moscow: Gosudarstvennoe Izdatel’stvo, 1920-27), II, Part 2, 5, 15-16, 21-22; idem, *Die russische Revolution 1905* [1909], 2nd ed. (Berlin: Vereinigung Internationaler Verlagsanstalten, 1923), 39-42, 46-47.

⁵⁵³ N. Trotsky, “Die Entwicklungstendenzen der russischen Sozialdemokratie,” *Die Neue Zeit*, XXVIII/2, 50 (September 9, 1910), 860-871.

⁵⁵⁴ On labor’s “tactics” all I could find are Grigorii Y. Zinov’ev, “‘Ekonomika’ i ‘politika’ [1912],” *Sochineniia*, 16 vols. in 17 (Moscow: Gosudarstvennoe Izdatel’stvo, 1923-26), III, 280, 282; idem, “Novye takticheskie debaty v germanskoi sotsial-demokratii [1913],” *ibid.*, IV, 261-264; idem, “Itogi i perspektivy [1914],” *ibid.*, IV, 511; idem, “Poslednii lokaut i teoriia ‘stachechnogo azarta [1914],” *ibid.*, IV, 540-541.

⁵⁵⁵ L. B. Kamenev, “Chastichnye trebovaniia i revoliutsionnaia bor’ba [1913],” in idem, *Mezhdum revoliutsiiami: sbornik statei* (Moscow: Novaia Moskva, 1923), 511.

⁵⁵⁶ Nikolai Bukharin, *Economic Theory of the Leisure Class* [sic, for *Politicheskaia ekonomiiia rant’e: Teoriia tsennosti i priblyi avstriiskoi shkoly*, or *Political Economy of Rentier Capital: The Austrian School’s Theory of Interest and Profit*, 1914] (New York: International Publishers, 1927), which he

Lenin, who best understood what he wanted, always thought strategically. But he rarely used “strategic” terms, then only about politics, or armed conflict. Not until his fourth publication, quoting a Narodnik enemy, did he write of a “main strategic point” in Russian peasant politics.⁵⁵⁷ From his own study of modern Russian economic history, maybe too from reading Parvus (as he did), he early gained a good idea which industries in his country mattered most, but he did not express a strategic conception of them, much less call them “strategic.”⁵⁵⁸ He and his closest comrade translated *Industrial Democracy* in 1898-99, but did not adopt the Webbs’ (Marshallian) language on “strategic position” or “strategic strength” in the labor market. He could well have analyzed Russia’s industrially strategic linkages in the great strikes of 1902-05. But if he did, he never wrote anything (yet published) about them, probably because of his concentration on the strikes’ political significance. Like Luxemburg, when he wrote of these strikes, e.g., at Rostov, he described them spreading simply by “solidarity,” as if through the masses’ ether, or by a proletarian telepathy.⁵⁵⁹ In 1905 he made his first use of the military terms, the first Russian Marxist to use them in earnest. But he used them literally, still in the classical, Clausewitzian sense, i.e., “strategic railways” and “naval and military strategy” in the Russo-Japanese War, the army’s “strategic task” against the crowds in St.

finished before he could have seen Böhm-Bawerk, “Macht oder ökonomisches Gesetz”; idem, *Imperialism and World Economy* [1915] (New York: International Publishers, 1929).

⁵⁵⁷ V.I. Lenin, “Ekonomicheskoe soderzhanie narodnichestva i kritika ego v knige g. Struve (otrazhenie marksizma v burzhuaiznoi literature [The Economic Content of Narodism and the Criticism of It in Mr. Struve’s Book (1895)],” *Polnoe sobranie sochinenii*, 5th ed., 55 vols.+3 index (Moscow: Gosudarstvennoe Izdatel’stvo Politicheskoi Literatury, 1958-70), I, 379.

⁵⁵⁸ Idem, “Chto takoe ‘Druz’ia Naroda’ i kak oni voiuut protiv sotsial-demokratov? [What the ‘Friends of the People’ Are and How They Fight the Social-Democrats (1894)],” *ibid.*, I, 178; idem, “Razvitie kapitalizma v Rossii [The Development of Capitalism in Russia (1896-99)],” *ibid.*, III, 488-495, 507-508, 516-517, 553-555; idem, “Retenziia: Parvus, Mirovoi rynek i sel’ skokhoziaistvennyi krize... [Review: Parvus, The World Economy and the Agricultural Crisis... (1899)],” *ibid.*, IV, 60-62.

⁵⁵⁹ Idem, “Novye sobytia i starye voprosy [New Events and Old Questions (1902)],” *ibid.*, VII, 61-62; idem, “Revoliutsionnye dni [Revolutionary Days (1905)],” *ibid.*, IX, 220; idem, “Politicheskaia stachka i ulichnaia bor’ba v Moskve [The Political Strike and the Street Fighting in Moscow (1905)],” *ibid.*, XI, 346-348; idem, “Vserossiiskaia politicheskaia stachka [The All-Russia Political Strike (1905)],” *ibid.*, XII, 1-4.

Petersburg, or with just a slight shift for his party's "strategic move" or "strategy" regarding national elections.⁵⁶⁰ In this revolutionary moment he also first got the industrial point quite right, if only by reporting it. "They all," he wrote of the government in 1906, "point to the extreme importance of railroads in a general strike. The railroads stop, the strike has every chance to become general. You do not get a full stop of the railroads, and the strike almost certainly will not be general. But for railroaders it is especially hard to strike: punitive trains stand in full readiness; armed detachments of troops are deployed along the whole line, at the stations, sometimes even on separate trains. A strike under such conditions can mean--moreover in a majority of cases will inevitably mean--a direct and immediate clash with an armed force. The engineer, the telegrapher, the switchman, they will be put before a dilemma: be shot on the spot...or stay at work and break the strike. ...out of a [railroad] strike *inevitably*, and not slowly either, will grow an armed uprising. A railroad strike is an uprising...without a railroad strike, the railroad telegraph does not stop, carrying letters by railroad is not interrupted, and impossible, consequently, is a postal and telegraph strike of serious dimensions."⁵⁶¹ But he did not develop his discovery into an industrially powered revolutionary strategy.

The Kautsky-Luxemburg dispute in 1910 over proletarian "strategy" drew the word again from him (in exile in Paris). He did not think through its politics to analyze proletarian industrial strengths.⁵⁶² From his own review of Russian revolutionary

⁵⁶⁰ Idem, "Padenie Port-Artura [The Fall of Port Arthur (1905)]," *ibid.*, IX, 152-153, 155; idem, "Revoliutsionnye dni [Revolutionary Days (1905)]," *ibid.*, IX, 213; idem, "O boikote [The Boycott (1906)]," *ibid.*, XIII, 344; idem, "Protiv boikota [Against Boycott (1907)]," *ibid.*, XVI, 29.

⁵⁶¹ Idem, "Rospusk dumy i zadachi proletariata [The Dissolution of the Duma and the Tasks of the Proletariat (1906)]," *ibid.*, XIII, 316-317.

⁵⁶² Lenin entered the dispute only to refute Martov (and Trotsky), and only in quoting Kautsky, Luxemburg, and Martov (quoting Kautsky [Delbrück]) did he write the word. Idem, "Istoricheskaia smysl' vnutripartiinoi bor'by v Rossii [The Historical Meaning of the Inner-Party Struggle in Russia (1910)]," *ibid.*, XIX, 367. Cf. F. Karski, "Ein Missverständnis," *Die Neue Zeit*, XXIX/1, 4 (October 28, 1910), 101-

prospects he had already started this analysis, a strategic study (without mentioning “strategy”) of Russian strike statistics to determine which workers were Russia’s proletarian “vanguard,” and why. Counting incidence of strikes by industry and “branch,” he figured metalworkers were most prone to strike, ergo the vanguard, among whom “the most important” strikers were engineering, shipbuilding, and foundry workers. And given his sources, he gave a good explanation: “The general rule throughout these years [1895-1908] is that as the size of the establishments [the number of workers at a plant] increases, there is an increase in the percentage of establishments in which strikes occurred.” Metallurgical plants, like Putilov, were biggest, i.e., had most workers, and therefore suffered the most “repeated strikes,” because, he argued, such big congregations of workers made it easier to bring “new recruits into the movement.” And again like Luxemburg he argued that these strikes spread because of the vanguard’s “energy in... ‘stirring up’ the entire mass.”⁵⁶³ His explanation was, however, too willful. Recruitment and agitation were surely effective, but they were not all that happened, maybe not as important as strategic calculation between vanguard and mass. The material reason for so many strikes at big metallurgical plants anywhere in the world then was not their size, but (as Bernstein had shown in 1906) their technical division of labor; bigness indicated the technologically disjointed complex typical among them then, a coordination of labor easy to disrupt. And the material reason strikes at such places led to strikes at others (as Parvus had shown in 1896) was that without their products plants in other modern industries had to stop production. In exile Lenin occasionally returned to his

102; Lenin to Tyszka [Jogiches], March 28, 1910, in Lenin, *Polnoe sobranie*, XLVII, 242-243; Lenin to Marchlewski [Karski], October 7, 1910, *ibid.*, XLVII, 272-273; idem to Radek, October 9, 1910, *ibid.*, XLVII, 266-267; idem, “Dva mira [Two Worlds (1910)],” *ibid.*, XX, 18; idem to Kautsky, January 31, 1911, *ibid.*, LIV, 354-356.

⁵⁶³ Idem, “O statistike stachek v Rossii [Strike Statistics in Russia (1910)],” *ibid.*, XIX, 386-388, 397-400.

(largely correct) judgment on metalworkers as the vanguard.⁵⁶⁴ But he did not develop his argument technically or industrially. When he wrote (as he often did) “strategy,” “strategist,” “strategic,” “strategically,” his usage remained Clausewitzian, political or military.⁵⁶⁵

So far as I can tell, only Stalin among the Russians in those years addressed the technical and industrial questions of workers’ power at work, and spelled out an answer. Having learned from Tiflis Central Railway shopworkers how to organize, himself having organized strikes at Batum refineries and in the Baku oil fields, and directed “military-technical” operations in Baku in 1905, he explained strategic positions in 1906-07, slipping into functionalism, not writing “strategic,” but making the point. In “big capitalist production,....each and every worker of every shop is closely connected by work with the comrades in his own shop, but just as much so with the other shops. It is

⁵⁶⁴ Idem, “Stachki metallistov v 1912 godu [The Metalworkers’ Strikes in 1912 (1913)],” *ibid.*, XXIII, 391-392; idem, “Stachki v Rossii [Strikes in Russia (1913)],” *ibid.*, XXIV, 217-218; idem, “Sotsializm i voina: Otnoshenie RSDRP k voine [Socialism and War: The Attitude of the R.S.D.L.P. towards the War (1915)],” *ibid.*, XXV, 332; idem, “Doklad o revoliutsii 1905 goda [Lecture on the 1905 Revolution (1917)],” *ibid.*, XXX, 312-315.

⁵⁶⁵ Idem, “Izbiratel’naia kampaniia v IV дума i zadachi revoliutsionnoi sotsial-demokratii [The Fourth Duma Election Campaign and the Tasks of the Revolutionary Social-Democrats (1912)],” *ibid.*, XXI, 248; idem, “Nekotorye itogi predvybornoi mobilizatsii [Some Conclusions to be Drawn from the Pre-Election Mobilization (1912)],” *ibid.*, XXI, 313; idem, “O dvukh liniakh revoliutsii [On the Two Lines in the Revolution (1915)],” *ibid.*, XXVII, 76-78; idem, “Itogi diskussii o samoopredelenii [The Discussion of Self-Determination Summed Up (1916)],” *ibid.*, XXX, 23; idem, “Sotsialisticheskaia revoliutsiia i pravo natsii na samoopredelenie [The Socialist Revolution and the Right of Nations to Self-Determination (1916)],” *ibid.*, XXVII, 254; idem, “O karikature na marksizm i ob ‘imperialisticheskom ekonomizme [A Caricature of Marxism and Imperialist Economics (1916)],” *ibid.*, XXX, 102; idem, “Patsifizm burzhuazny i patsifizm sotsialisticheskii [Bourgeois Pacifism and Socialist Pacifism (1916)],” *ibid.*, XXX, 248 (quoting an Italian “reformist”); idem, “Voina i revoliutsiia [War and Revolution (May 14 [27] 1917)],” *ibid.*, XXXII, 80; idem, “Rech’ ob otnoshenii k vremennomu pravitel’stvu 4 (17) iuniiia [Speech on the Attitude towards the Provisional Government (June 4 (17) 1917)],” *ibid.*, XXXII, 275; idem, “Rech’ na zasiedanii petersburgskogo komiteta RSDRP(b) 11 (24) iuniiia 1917 g. po povodu otmeny demonstratsii [Speech...on the Cancellation of the Demonstration (June 11 [24] 1917)],” *ibid.*, XXXII, 330; idem, “Pis’mo k tovarishchami [Letter to Comrades (October 17 [30], 1917)],” *ibid.*, XXXIV, 406. Cf. “tsentram goroda, centers of the city,” in idem, “Marksizm i vosstanie,” *ibid.*, XXXIV, 247, and “strategic points of the city,” idem, “Marxism and Insurrection [September 13-14 (26-27) 1917],” in idem, *Collected Works*, 45 vols. + 2 index (Moscow: Progress Publishers, 1960-72), XXVI, 27. In exile in 1914-15 Lenin read Delbrück, but not on war or strategy, rather his *Regierung und Volkswille: Eine akademische Vorlesung* (Berlin: Georg Stilke, 1914), which he trashed: Lenin, *Polnoe sobranie*, XXVIII, 283, 553, 559-561.

enough to stop in any shop, and the workers of the entire factory are left without anything to do... And so it happens not only in individual factories, but also in entire branches of production and among them: it is enough for railroad workers to strike, and production finds itself in a difficult position; enough for the production of oil or coal to stop, and after a little while entire factories and plants close down.”⁵⁶⁶

Once the October insurrection began Lenin quickly dealt with workers’ power over production. In private he asked technically and industrially strategic questions of the Petrograd Military Revolutionary Committee, managed preparations for the seizure of Russia’s then most strategic place, Moscow junction, and once in command kept as tight a rein as he could on the railroad union.⁵⁶⁷ During “War Communism” (1918-21) conflicts between the proletariat’s dictatorship and its unions were terrific, above all in transportation, largely because the People’s Commissariat of Labor practically belonged to the industrially most strategic unions. In various public declarations Lenin made no bones about the vital importance of the railroad workers to the Russian economy and the Soviet government. “If the trains stop,” he told Moscow railroaders in February 1920, “that’s the ruin of the proletarian centers,” i.e., the end of the revolutionary vanguard,

⁵⁶⁶ On his early work in organization, Joseph Stalin, “Vooruzhënnoe vosstanie i nasha taktika [Armed Insurrection and Our Tactics (1905)],” *Sochineniia*, 16 (13 published) vols. (Moscow: Gosudarstvennoe Izdatel’stvo Politicheskoi Literatury, 1946-67), I, 133-137; idem, “Dve skhvatki (po povodu 9 ianvaria) [Two Clashes (1905)],” *ibid.*, I, 201-203; idem, “Sovremennyi moment i ob’edinitel’nyi s’ezd rabochei partii [The Present Situation and the Unity Congress of the Workers’ Party (1906)],” *ibid.*, I, 270. The quotation: idem, “Anarkhizm ili sotsializm [Anarchism or Socialism (1906-07)],” *ibid.*, I, 339-340.

⁵⁶⁷ Nikolai I. Podvoiskii, *God 1917 [1918-1933]* (Moscow: Gosudarstvennoe Izdatel’stvo, 1958), 100-102, 163-170; Petr F. Metelkov, *Zheleznodorozhniki v revoliutsii: fevral 1917 iiun 1918* (Leningrad: Lenizdat, 1970), 215-231; Vladimir I. Lenin, “Sovety postoronnego [Advice of An Onlooker (1917)],” *Polnoe sobranie*, XXXIV, 382-384; “Pis’mo k tovarishcham [Letter to Comrades (1917)],” *ibid.*, XXXIV, 409-410; idem, “Rech’ na chrezvychainom vs Rossiiskom s’ezde zheleznodorozhnykh rabochikh i masterovykh, 13 (26) dekabria 1917 g. [Speech at the Extraordinary Congress of Railwaymen, December 13 (26), 1917],” *ibid.*, XXXV, 167-168.

now supposed to lead production.⁵⁶⁸ He told a mine workers' congress a couple of months later, their work was "exceptionally important for the Soviet Republic. ...without the coal industry there would not be any modern industry.... Coal--this really is industry's bread; without this bread industry stands idle; without this bread railroad transportation is condemned to the most pitiful situation, and there is no way it can be restored; without this bread big industry in all countries falls apart...."⁵⁶⁹ In March 1921 he told a transport workers' congress, "...on the work of this part of the proletariat more immediately than on its other parts depends the fate of the revolution. We have to restore circulation between agriculture and industry, and to restore it a material support is necessary. What is the material support for the connection between industry and agriculture? It is transport by rail and water ways."⁵⁷⁰ But he did not yet represent the industrial struggle in "strategic" terms. When he wrote "strategy" and its relatives, he still meant them as Clausewitz had meant them.⁵⁷¹

⁵⁶⁸ E.g., idem, "Zakliuchitel'noe slovo po dokladu ob ocherednykh zadachakh sovetskoi vlasti [Report on the Immediate Tasks of the Soviet Government [1918]]," *ibid.*, XXXVI, 271; idem, "Otchët tsentral'nogo komiteta 18 marta [Report of the Central Committee...(March 18, 1919)]," *ibid.*, XXXVIII, 140; idem, "Rech' na konferentsii zheleznodorozhnikov moskovskogo yzla 5 fevralia 1920 g. [Speech at a Meeting of the Railwaymen of Moscow Junction [February 5, 1920]]," *ibid.*, XL, 111. Cf. idem, "Rech' pri zakrytii s'ezda 5 apreliia [Speech Closing the (Ninth) Congress (of the R.C.P.[B.]), April 5, 1920]," *ibid.*, XL, 284.

⁵⁶⁹ Idem, "Rech' na I Vserossiiskom uchreditel'nom s'ezde gornorabochikh [Speech at the First Founding All-Russian Congress of Mineworkers (April 1, 1920)]," *ibid.*, XL, 292.

⁵⁷⁰ Idem, "Rech' na Vserossiiskom s'ezde transportnykh rabochikh 17 marta 1921 g. [Speech at the All-Russia Congress of Transport Workers (March 27, 1921)]," *ibid.*, XLIII, 143.

⁵⁷¹ Idem, "Zakliuchitel'noe slovo po politicheskomy otchëtu tsentral'nogo komiteta 8 marta [Reply to the Debate on the Political Report of the Central Committee (March 8, 1918)]," *ibid.*, XXXVI, 29, 34; idem, "Vystupleniia protiv popravok Trotskogo k resoliutsii o voine i mire 8 marta [Speeches Against Trotsky's Amendments to the Resolution on War and Peace (March 8, 1918)]," *ibid.*, XXXVI, 37; idem, "Rech' o godovshchine revoliutsii 6 noiabre [Speech on the Anniversary of the Revolution (November 6, 1918)]," *ibid.*, XXXVII, 138; idem, "Doklad ob otnoshenii proletariata k melkoburzhuarznoi demokratii [Report on the Attitude of the Proletariat to Petty-Bourgeois Democrats (November 27, 1918)]," *ibid.*, XXXVII, 218; Lenin to Trotsky, January 3, 1919, *ibid.*, L, 235; Lenin to Trotsky, January 24, 1919, *ibid.*, L, 248; idem, "Zakliuchitel'noe slovo po dokladu Vserossiiskogo tsentral'nogo ispolnitel'nogo komiteta i soveta narodnykh kommissarov o vneshnei i vnutrennei politike 23 dekabria [Reply to the Debate on the Work of the Council of People's Commissars, December 23 (1920)]," *ibid.*, XLII, 173; idem, "Otchët o politicheskoi deiatel'nosti Tsk RKP(b) 8 marta [Report on the Political Work of the Central Committee of the R.C.P.(b.) (March 8, 1921)]," *ibid.*, XLIII, 11; idem, "Doklad o taktike RKP 5 iulia [Report on the Tactics of the

In 1920, for example, preparing the Second Comintern Congress, he missed a sweet opportunity to teach industrial “strategy” to the KAPD’s alleged “anarcho-syndicalists.” To their (or Rühle’s) pamphlet on the KAPD’s “strategy and tactics” for Germany’s revolution, which included leading workers out of their unions into “councils” and a “general union,” Lenin responded with *The Childhood Disease of Leftism...*, originally subtitled “Attempt at a Popular Conversation on Marxist Strategy and Tactics.”⁵⁷² From Russian Communist experience by then he could have given the KAPD compelling materialist lessons on how to reorganize workers in the use of “strategic” industrial positions for revolution, to explain then how only a principled and disciplined party could make the revolution stick. Instead, typically, he cut the subtitle, ignored industrial power, and kept entirely to “political strategy and tactics.”

Through the Soviet turn from production for war to production in peace, Lenin came to conceptualize two strategic integrations in production, one technical and political, the other of the economy and revolutionary security. Had he contemplated their connection, he might have thought up a general Marxist theory of the transition to

R.C.P. (July 15, 1921)],” *ibid.*, LXIV, 40; idem, “Pis’mo k nemetskim kommunistam [A Letter to the German Communists, August 14, 1921],” *ibid.*, XLIV, 89-90, 93, 95, 99; idem, “Rechi na soveshchanii chlenov nemetskoj, pol’skoj, chekhoslovatskoj, vengerskoj i ital’ianskoj delegatsii 11 iulija [Speeches at a Meeting of Members of the German, Polish, Czechoslovak, Hungarian and Italian Delegations (July 11, 1921)],” *ibid.*, XLIV, 59-60. Cf. “lavirovanie, tacking, veering,” in idem, “Pis’mo k amerikanskim rabochim,” *ibid.*, XXXVII, 56, and “stratagem,” in idem, “Letter to American Workers (August 20, 1918)],” *Collected Works*, XXVIII, 67.

⁵⁷² Idem, “Detskaia bolezn’ ‘levizny’ v kommunizme [The Childhood Disease of ‘Leftism’ in Communism],” *Polnoe sobranie*, XLI, 1-90, 480-482 (quotations, 7, 23). Cf. idem, “‘Left-Wing’ Communism--An Infantile Disorder,” *Collected Works*, XXX, 25, 40, 539; and there “*ulovki*, trick,” is “stratagem,” *ibid.*, XXX, 46. Cf. Lenin’s earlier, “strategy”-less explanation to an English comrade, idem to Pankhurst, August 28, 1919, *Polnoe sobranie*, XXXIX, 160-166; his criticism of Bukharin’s “Left Communist” opposition the year before, idem, “O ‘levom’ rebichestve i o melkoburzhuznostvi [Left-Wing’ Childishness and the Petty-Bourgeois Mentality [1918],” *ibid.*, XXXVI, 283-314; and Kautsky’s criticism of “rank worker-socialists,” who wanted “the immediate, complete overthrow of the existing order” and saw any other “form of class struggle” as “a betrayal of the cause of mankind,” their “train of thought” being “a childhood disease [*eine Kinderkrankheit*], which threatens every young proletarian-socialist movement that has not yet reached beyond utopianism”: Kautsky, *Das Erfurter Programm*, 237-238.

socialism. But it was his Communist practice that evoked the concepts, and directed their evolution. A crisis in the party opening at a national conference of unions in November 1920 demanded that he focus on the question of “unions’ tasks in production.” Trotsky, having recently imposed official control over the railroad union and others in transportation, had told the conference the government should put all unions under administrative orders for production, and urged the party’s central committee to support administrative appointment of unions’ executive officers. At a special party caucus in December Lenin against Trotsky gave his view of the post-war proletarian dictatorship and the “extraordinarily original” part unions had in it. A union now was “not a state organization, it is an educational, training, formative [vospitatel’naia] organization....” To explain, he described for the first time the “mechanism” at the dictatorship’s “very base,” “a complex system of several gearwheels” that ran on “several ‘drives’ from the avant-garde [the party] to the mass of the advanced class [the proletariat], and from it to the mass of working people [the peasantry].” Capitalism in Russia had left “an extraordinary complexity of drives” in class relations, and the party now had to “connect” with the unions to “win over” the working masses, “to adjust the complex drives...for realization of the proletariat’s dictatorship.”⁵⁷³ At the party’s next congress, in March

⁵⁷³ Idem, “O professional’nykh soiuзах, o tekushchem momente i ob oshibkakh t. Trotskogo. Rech’ na soedinennom zasedanii delegatov VIII s’ezda Sovetov, chlenov VTsSPS i MGSPS--chlenov RKP (b), 30 dekabria 1920 g. [The Trade Unions, the Present Situation, and Trotsky’s Mistakes..., December 30, 1920],” *Polnoe sobranie*, XLII, 202-226 (quotations, 203-207). Cf. idem, “Eshchë raz o profsoiuзах, o tekushchem momente i ob oshibkakh tt. Trotskogo i Bukharina [Once Again on the Trade Unions, the Current Situation, and the Mistakes of Trotsky and Bukharin (January 25, 1921)],” *ibid.*, XXLII, 296. For Lenin’s initial “*privodov*” (“drives,” or “drive wheels,” or “drive gears”) and later “*privodnyi remni*” (“drive belts”) the standard English translation of Lenin has “transmission belts” and “transmission system.” Actually “*privodnyi remni*” are “drive belts” or “transmission belts,” i.e., the same things. A drive belt transmits power from a drive wheel to a driven wheel. I write “drive” to try to express better what people who knew ordinary machines in 1920 meant, and to avoid the confusion of “transmission.” In mechanical ignorance many now believe a transmission belt is (what it is not) a conveyor belt, which confusion has distorted some interpretations of Lenin’s meaning here, and in fact would make a mess anywhere. For the difference between transmission and conveyance, cf. a fan belt and a supermarket

1921, he as much as admitted “a mistake” with the transport unions, and insisted the party (through unions) “restore mutual understanding and mutual trust” with the proletariat. He did not explain the mutuality, just declared it imperative. “We have to convince people whatever it may cost at the beginning,” he said, and only if that failed, “force them.”⁵⁷⁴ In October, coming out of the turn, explaining the New Economic Policy, he discussed the economy for the first time “strategically.” The great struggle now was between two powers, capitalism and the proletarian state, he said, and Communists had to think about it in military terms; his clearest “comparison” was the Japanese operation against Port Arthur in 1905. In economic reports and speeches then he referred to “strategic retreat,” “strategy” and “prepared positions,” “siege and sapping,” “revolutionary strategy” and the enemy’s “strategically correct” provocation, and to “a position we could grab--river, hill, marsh, this or that railroad station.”⁵⁷⁵ January next he finally made the connection: “As the very best factory, with an excellent motor and first-class machines, will stand idle if there is damage to the drive mechanism from the motor to the machines, so a catastrophe in our socialist construction is inevitable if something is out of line or working wrong in the drive mechanism from the Communist party to the masses--the unions.”⁵⁷⁶ Here he faced the general question (missing only “strategic”),

checkout counter, or “Belt drive” and “Conveyor,” in Sybil P. Parker, ed., *Encyclopedia of Science and Technology*, 8th ed., 20 vols. (New York: McGraw-Hill, 1997), II, 591-595, and IV, 438-442.

⁵⁷⁴ Vladimir I. Lenin, “Rech’ o professional’nykh soyuzakh, 14 marta [Speech on the Trade Unions, March 14, 1921],” *Polnoe sobranie*, XLIII, 52-56 (quotation, 54).

⁵⁷⁵ Idem, “Novaia ekonomicheskaiia politika i zadachi politprosvetov: Doklad na II Vserossiiskom s’ezde politprosvetov 17 oktiabria 1921 g. [The New Economic Policy and the Tasks of the Political Education Departments: Report to the Second All-Russia Congress of Political Education Departments, October 17, 1921],” *ibid.*, XLIV, 155-175 (quotations, 158, 159, 160, 165); idem, “Doklad o novoi ekonomicheskoi politike 29 oktiabria [Report on the New Economic Policy, October 29 (1921)],” *ibid.*, XLIV, 193-213 (quotations, 193, 194, 197, 202, 203, 207); idem, “Zakliuchitel’noe slovo 19 oktiabria [Closing Speech, October 29 (1921)],” *ibid.*, XLIV, 214-220 (quotation, 220).

⁵⁷⁶ Idem, “Proekt tezisov o roli i zadachakh profsoiuzov v usloviiakh novoi ekonomicheskoi politiki [Draft Theses on the Role and Tasks of Unions under the New Economic Policy (December 30, 1921-January 4, 1922)],” *ibid.*, XLIV, 341-353 (quotation, 349); Cf. idem, “Plany tezisov ‘o roli i zadachakh profsoiuzov v

how to design a socialist transmission, where technically to connect the political drive, how to maximize the tension to maximize the industrial energy transmitted, for collective labor power to work most productively and resolutely. But he lost the connection. He quit thinking of mechanisms, and rarely wrote of “strategy” anymore.⁵⁷⁷ Not for another year did he speak again about the NEP in strategic language, “retreat,” “go over to the offensive,” “all the commanding heights,” although without saying “strategic.”⁵⁷⁸ Even so, he had a drive in his macro-economic “dream” the last time he wrote the general’s word, in March 1923, “how I connect in my thoughts the general plan of our work, our policy, our tactics, our strategy, with the tasks of the reorganized Workers’ and Peasants’ Inspectorate.”⁵⁷⁹

Most of his Russian party comrades in power after 1917 came not nearly so close to the idea of industrially (or technically) strategic positions. Commissar of War Trotsky had of course continually to deal with unions, especially the railroad union. By January 1920 he was urging every effort to keep the railroads running. In March at the annual party congress, where he advocated outright labor’s “militarization,” he pressed hardest for the Communications commissariat’s special authority over transport workers, “the

usloviakh novoi ekonomicheskoi politiki [Plans of the Theses ‘On the Role and Tasks of Unions under the Conditions of the New Economic Policy,’ December 28-30, 1921],” *ibid.*, XLIV, 494-500; and “Rol’ i zadachi profsoiuzov v usloviakh novoi ekonomicheskoi politiki (Odinnadtsatyi s’ezd RKP(b), 27 marta-2 apreliia 1922) [The Role and Tasks of Unions under the New Economic Policy],” in Institut Marksa-Engel’sa-Lenina-Stalina pri TsK KPSS, *Kommunisticheskaia partiia Sovetskogo Soiuz v rezoliutsiakh i reshenniakh s’ezdov, konferentsii i plenumov TsK, 1898-1953*, 7th ed. (Moscow: Gosudarstvennoe Izdatel’stvo Politicheskoi Literatury, 1953), 603-612.

⁵⁷⁷ Lenin to Bukharin and Zinoviev, February 1, 1922, *Polnoe sobranie*, XLIV, 377. This was political, in preparing negotiations with the resurrected Second International and the new Vienna International.

⁵⁷⁸ Idem, “Piat’ let rossiiskoi revoliutsii i perspektivy mirovoi revoliutsii: Doklad na IV Kongresse Komintern 13 noiabria [Five Years of the Russian Revolution and the Prospects of the World Revolution (November 13, 1922)],” *ibid.*, XLV, 278-294 (quotations, 280, 281, 282, 283, 289).

⁵⁷⁹ Idem, “Luchshe men’she, da luchshe [Better Fewer, But Better (March 4, 1923)],” *ibid.*, XLV, 389-406 (quotations, 405, 406).

key to our entire position.”⁵⁸⁰ Appointed Communications commissar too, he received the requested authority. At a national congress of unions in April, demanding “compulsory labor” even in peacetime to make the transition to socialism, he remarked on “the need in the first place to get busy restoring transportation,” without which “our country will tear to shreds, and the working class dissolve into a peasantry.” As the second need he ranked “construction of transportation machinery.” In “that area...for us most important of all,” he declared most alarmingly, “the basic capital, the rolling-stock, the locomotives, is wearing out,” repairs could not make it last much longer, and imports were impossible. But he concluded most generally, calling for “the highest effort” of the whole working class.⁵⁸¹ His seizure of transport unions in September, as he proclaimed in November, again in December, suggested his program for labor at large, evidently a state administrative authority for each major industrial branch, each authority including state agents running the industry’s union.⁵⁸² But even on his own terms he slipped between action ad hoc and theory on principle; he gave no sign of thinking political coercion into a strategy of industrial organization or development. Thereafter his strategic concerns

⁵⁸⁰ Leon Trotsky, “Osnovnye zadachi i trudnosti khoziaistvennogo stroitel’stva (doklad na zasedanii moskovskogo komiteta RKP[b], 6 ianvaria 1920 g.),” *Sochineniia*, 21 vols. (12 published) (Moscow: Gosudarstvennoe Izdatel’stvo, 1920-27), XV, 86-87; idem, “Khoziaistvennoe polozhenie respubliki i osnovnye zadachi vosstanovleniia promishlennosti (Doklad na zasedanii fraktsii Vserossiiskogo Tsentral’nogo Soveta professional’nykh soiuzov, 12 ianvaria 1920 g.),” *ibid.*, XV, 32-33, 45, 50; idem, “Organizatsiia truda (Doklad na IX s’ezde RKP(b) [March 30, 1920],” *ibid.*, XV, 129-163 (quotations, 129-134 passim, 162).

⁵⁸¹ Idem, “Profsoiuzy i militarizatsiia truda (rech’ na III Vserossiiskom s’ezde professional’nykh soiuzov, 9 apreliia 1920 g.),” *ibid.*, XV, 178-196 (quotations, 180, 184, 194-195). Cf. idem, “O trudovoi distsipline (Rech’ na mitinge v Muromskikh zheleznodorozhnykh masterskikh 21 iunია 1920 g.),” *ibid.*, XV, 365-371; idem, *Terrorism und Kommunismus: Anti-Kautsky*, 2nd ed. (Hamburg: Kommunistische Internationale (Carl Hoym Nachf., Louis Cahnbley, 1921), 111-126 (quotation, 119).

⁵⁸² E.g., idem, “Rech’ na rasshirennom plenumе Tsektrana, 2 dekabria 1920 g.,” *Sochineniia*, XV, 410-438; “Resoliutsiia, priniataia rasshirennym plenumom Tsektrana po dokladu T. Trotskogo ob ocherednykh zadachakh soiuzа ot 8 dekabria 1920 g.,” *ibid.*, XV, 438-442; L. Trotskii, “Ob itogakh raboty na transporte (Doklad na VIII Vserossiiskom s’ezde sovetov 22 dekabria 1920 g. [December 22, 1920],” *ibid.*, XV, 452-485. Cf. Trotsky’s projects and orders for the Donets Basin Commission, to restore the region’s mining industry, *ibid.*, XV, 489-510, 594-597.

swelled to grand, global geo-political dimensions. If (rarely) he approached an industrial struggle, he sailed past it toward “*world revolution.*”⁵⁸³

Comintern Chairman Zinoviev continued to write much about labor, much more than before about labor’s tactics. And since the Comintern line (starting from Lenin’s attack on “leftism” in 1920) soon turned into the United Front, he had plenty reason to examine the proletariat’s industrial bases. But if he did so, he left no record of it. Closing the Comintern’s Third Congress in 1921, his executive committee foresaw Communism happening because of “the spontaneous upsurge of the vast majority of the [world’s] proletariat” (under Communist party leadership). It mentions in anticipation only one industrial action, a strike on (of course) railroads, which will stop the bourgeoisie from sending troops to crush the spontaneous upsurge. The committee warned that while the bourgeoisie had a “well thought-out strategy,” the proletariat “is only beginning to develop a strategy.” This, “a plan of action,” workers must have, because “a careful and intelligent proletarian strategy must be counterposed to the enemy’s strategy.” But the committee left no less than the great chain of Communist being then, “increasingly intense and extensive revolutionary agitation,” “clear and accessible slogans,” “*experience in struggle,*” as bases for the determination of a strategy.⁵⁸⁴ At the Comintern’s Fifth Congress in 1924, regarding labor, Zinoviev again urged “strategy.” Defending the United Front, denying popular mistrust of “a policy of maneuver that does

⁵⁸³ E.g., idem, “Novaia ekonomicheskaia politika Sovetskoi Rossii i perspektivii mirovoi revoliutsii [1922],” *ibid.*, XII, 314-316; idem, *On the Trade Unions [1923-1939]* (New York: Merit Publishers, 1969), 65.

⁵⁸⁴ Grigory Y. Zinovyev, *Rabochaia partiia i professional’nye soiuzy (o “neitralizmie” profesional’ nago dvizheniia)* (St. Petersburg: Gosudarstvennoe Tipografia, 1918), 36-91; idem, *The Communist Party and Industrial Unionism* (London: Workers’ Socialist Federation, 1918), 1-3, 9-12; idem, *Die Tagesfragen der internationalen Arbeiterbewegung* (Berlin: Westeuropäischen Sekretariat der Kommunistischen Internationale, 1920), 24-35, 45, 71-73, 85-87, 91-92; “ECCI Appeal to the Proletariat of All Countries,” in Alan Adler, ed., *Theses, Resolutions, and Manifestos of the First Four Congresses of the Third International*, tr. Alix Holt and Barbara Holland (London: Pluto, 1980), 300-301, 304-305.

not give immediate tangible results,” he declared, “Workers are not children. They know the class struggle is a war where you need strategy.” But he never (at least in public) explained its industrial or technical dimension.⁵⁸⁵

Radek, an SPD (pro-Luxemburg) veteran, having jumped to the Bolsheviks in 1917, took it for his Comintern mission to propagate a general strategy for socialist revolution and proletarian dictatorship. But even when the strategy (nominally) involved unions and strikes, it was all political. For example, introducing the Comintern’s first general report “On Tactics” at its Third Congress, he mentioned “anarcho-syndicalists,” “direct action,” and (of course) miners and railroaders, and explained the party’s duty “to raise the whole working class to the defense of the workers of any one branch of industry, and exactly the same, for workers fighting on a local scale, it must strive to get the proletariat of other industrial centers on their feet and marching. The experience of the revolution shows that the broader the battlefield, the bigger the hopes for victory.” But he omitted explanation of how to raise the support, or broaden the field.⁵⁸⁶

⁵⁸⁵ Grigory Y. Zinoviev, *Kommunisticheskii internatsional za rabotoi: Takticheskie problemy Komintern a i rabota ego sektsii: Rechi, proiznesennye na IV Vsemirom Kongresse Komintern a*, 2nd ed. (Moscow: Gosudarstvennoe Izdatel'stvo, 1923), 68-70, 95-96; idem, *La question syndicale: Discours de Zinoviev au Ve Congrès de l'Internationale Communiste* (Paris: L'Humanité, 1924), 5, 28.

⁵⁸⁶ Karl Radek, *Die Entwicklung des Sozialismus von der Wissenschaft zur Tat* (Berne: Promachos, 1918), 17-23, 32-34; idem, *Zur Taktik des Kommunismus: Ein Schreiben an den Oktober-Parteitag der K.P.D.* (Berlin: K.P.D. [Spartakusbund], 1919), 5; idem, *Programm des sozialistischen Wirtschaftsaufbaues* (Leipzig: A. Seehof & Co., 1920), 12-21; idem, *Die Entwicklung der Weltrevolution und die Taktik der Kommunistischen Parteien im Kämpfe um die Diktatur des Proletariats* (Berlin: Westeuropäische Sekretariat des Kommunistischen Internationale, 1920), 18, 40-49; idem, *Proletarische Diktatur und Terrorismus* (Berlin: Kommunistische Internationale, 1920), 38; idem, *Der Weg der Kommunistischen Internationale (Referat über die Taktik der Kommunistischen Internationale)* (Berlin: Kommunistische Internationale, 1921), 21, 45, 48; and “O taktike,” in Bela Kun, ed., *Kommunisticheskii Internatsional v dokumentakh: resheniia, tezisy i vozzvaniia kongressov Komintern a i plenumov IKKI, 1919-1932*, 2 vols. (Moscow: Partiinoe Izdatel'stvo, 1933), I, 180-201 (quotations, 187, 195-196). That Radek introduced the report, Adler, *op. cit.*, 274.

Kamenev meanwhile, who knew the Russian railroad union at its most syndicalist and most aggressive, contributed nothing that I can find in print on its strategic positions or maneuvers.

Bukharin was the Bolshevik formally most qualified to develop the concept of proletarian industrial strategy. In 1919, in a theoretical defense of “proletarian dictatorship,” he wrote of the bourgeois state’s “considerations of strategy against oppressed classes (so called concessions under pressure from below). . . .” Like Parvus, whose old argument Lenin (and he himself) had turned into substantial books during the war, he emphasized modern capitalism’s fractured, disparate, spasmodic conflicts, whence he could have taken the dialectic to proletarian strategy. But he did not. A year later, in a brilliant theoretical study of socialist “transformation,” backing Trotsky’s War Communism, he opened questions of “technical relations” of production, the “technical division of labor,” economic equilibrium, “expanded negative reproduction,” and coercion, all rich in suggestions of proletarian industrial power. He recalled Marx on “cooperation” and quoted him on the working class as “schooled, united, and organized by the very mechanism of the capitalist productive process,” precisely to highlight a “decisive. . . . fundamental” relationship, “that system of collaboration which is embodied in the relations of production between workers. . . .” He explained “the technical intelligentsia” and its strategic function in production. He tried to understand proletarian coercion as “self-organization and compulsory self-discipline.” And now and then he thought “strategic.” He wrote again of a state’s “strategic concessions to a class enemy, observed in “the process of social [socialist] transformation. . . . the proletariat’s seizure of the economy’s strategic junctions,” and cited *The Childhood Disease of ‘Leftism’* plus its

subtitle "...Marxist strategy and tactics." But he did not show industrial and technical imbalances in cooperation, the difference between function and position in production, or that "breaking [or maybe only slacking] the connections" in production could force a (tacit) bargain even on a proletarian dictatorship. What could have been a major step in the formulation of a Soviet doctrine of proletarian strategy, featuring industrial operations, did not happen.⁵⁸⁷ Bukharin's intervention in the uproar over the transport unions, a suddenly cogitated "workers' democracy," even "industrial democracy," heralded loftier concerns.⁵⁸⁸ In 1921 he published his most ambitious opus, the *Theory of Historical Materialism*, "a general introductory manual of Marxist sociology." Here he inflated historical materialism into a kind of materialist Durkheimian functionalism, in which "man's connection in work," or "social labor" in general, was "the fundamental condition for the possibility of the inner equilibrium of that system which is human society." Disconnections at work did not appear. As an example of dialectical differences between a class's "enduring" and "momentary interests," he gave "the proletariat's most enduring and general interest in capitalist society...the destruction of the capitalist regime," and "its partial interests...the conquest of strategic positions and...the

⁵⁸⁷ Nikolai I. Bukharin, "Teoriia proletarskoi diktatury," in N. Bukharin et al., *Oktiabr'skii perevorot i diktatura proletariata: sbornik statei* (Moscow: Gosudarstvennoe izdatel'stvo, 1919), 5-21 (quotation, 7); idem, *Ekonomika perekhodnogo perioda: Chast' 1, Obshchaia teoriia transformatsionnogo protsesssa* (Moscow: Gosudarstvennoe Izdatel'stvo, 1920), [10-13, 20, 30, 36, 39-42, 45-56, 64-70, 84, 88-93, 115-116, 126-129, 136-147 (quotations,)] 11, 20, 30, 39, 42, 45, 48, 51, 55, 115, 140, 152 n1. Bukharin's citation of Hans "Dellbrück" (sic, *ibid.*, 21 n1, not on war, but the same book Lenin had read, *Regierung und Volkswille*) is for a theoretical point about "the state," not about "strategy." Cf. Nikolai I. Bukharin, *The Politics and Economics of the Transition Period*, tr. Oliver Field (London: Routledge & Kegan Paul, 1979), 68, 210 n6.

⁵⁸⁸ N. Bukharin et al., "O zadachakh i strukture profsoyuzov [January 16, 1921]," in N.N. Popov, ed., *Protokoly c'ezdov y konferentsii Vseoyuznoi Kommunisticheskoi Partii (b): Desiatyi c'ezd RKP (b), mart 1921 g.* (Moscow: Partiinoe Izdatel'stvo, 1933), 801-804.

undermining of bourgeois society.”⁵⁸⁹ But the “strategic” dimension of these positions and trenches (political, industrial, or other) was not simply indefinite, but indeterminable.

On Lenin’s death Bukharin praised him as a “strategist,” and wrote of his “strategy” as “applied Marxism,” but mostly in a political context, never in industrial conflicts. He also left a doubt about how Lenin had strategized, whether he did it after changes “in the objective sphere,” in response to them, in “adaptation to what is new,” or ahead of things and enemies, providing “leadership” to make objective conditions new.⁵⁹⁰

Appointed Commissar of the Workers’ and Peasants’ Inspectorate in 1919, Stalin soon knew more about the Soviet economy’s “strategic junctions” than anyone else in the world. He wrote little about them for the public record. His sense of them by January 1921 (the heat of War Communism cooling) comes only by implication, in his account of Trotsky’s and his disagreements on “the question of unions,” i.e., “strengthening labor discipline.” On balance, not simply in timing, but in general, he was by then against “forcing” workers, or, as he put it in parentheses, “(the military method)”; he stood for “convincing” them “(the union method).” He criticized “compulsory” appeals to them, and urged instead raising their “initiative” to fight the new “economic danger (shortage of locomotives and machinery for agriculture, textile mills, and metallurgical plants, shortage of equipment for electric power stations...).” And against Trotsky’s transport

⁵⁸⁹ N. Bukharin, *Theorie des historischen Materialismus: Gemeinverständliches Lehrbuch der marxistischen Soziologie*, tr. Frida Rubiner (Berlin: Kommunistische Internationale, 1922), 93-98, 148-167 (quotations, 93, 337). His citations of Delbrück here are not about “the art of war”: *ibid.*, 352-353, 356-357. Where the German translation has “Krieg und Kriegsoperationen,” *ibid.*, 180, an English translation has “war and strategy”: idem, *Historical Materialism: A System of Sociology*, tr. anonymous (Ann Arbor: University of Michigan, 1969), 160.

⁵⁹⁰ Idem, *Revoliutsionnyi teoretik* (Leningrad: Gosudarstvennoe Izdatel'stvo, 1924), 3; idem, *Lenin as a Marxist* (London: Communist Party of Gt. [sic] Britain, 1925), 50, 60-61, 63.

authority he defended the transport unions.⁵⁹¹ In sum, he understood the country's industrial fields, and would not battle but negotiate to command them.

Six months later he drafted a pamphlet on "Russian Communists' political strategy and tactics," drawn it seems from his lectures at Sverdlov University for party organizers. His examples were all from politics and war, not one from industry (not even railroads). But his conceptions of strategy and tactics were so abstract, first philosophical, then often in the discourse of a mechanical engineer's manual, that they made sense for any field. To start, he explained where (he thought) strategy and tactics had no "application," on "the *objective* side," on "those processes of development that happen outside and around the proletariat independently of its will or its party's" (e.g., until then, technological development?). The "area" for applying strategy and tactics was on "the subjective side," on "those processes that happen inside the proletariat as the objective processes' reflection in its consciousness." In the highest consciousness, "Marxist *theory*," the objective processes came clear in "their development and dying away" in each objective "period," from one historic "breakthrough" to the next. If in a modern period the proletariat and its party correctly understood which class was rising, which falling, if they correctly deduced from theory the rising class's ("in this case" the proletariat's) "movement" and "target," and if they correctly calculated all the objective and subjective forces in conflict, they would have a correct strategy (for that period) for defining "the general direction" of history's (revolutionary) movement. Consequently, although they could not determine objective development, they could by their strategic "disposition of forces" and direction of them speed it up. (To many of his students such a

⁵⁹¹ Joseph Stalin, "Nashi raznoglasiia [Our Disagreements, January 5, 1921], *Sochineniia*, V, 4-14 (quotations, 5, 8-11).

lecture may well have sounded like a problem in vector analysis, in the composition and resolution of forces, finding a polygon of motion's resultant.) Within a period, from battle to battle, their tactics might correctly change several times, even to seek losses, if these hastened strategic success (increased the proletariat's velocity or shortened the distance to the breakthrough onto a new plane or into a new system of only its consciously controlled force?).⁵⁹² The draft remained a draft; the author did not take it to press.

Shortly he did adapt passages from it for an article on the Russian party's "three periods" from 1900 to the present. The tropes were still from mechanics. But the exposition was more concrete, thoroughly political in its examples to 1917, mainly political on the last, post-'17 period, the "strategy" for which, at once international and national, was, he wrote (most indefinitely), "to maneuver." Accordingly among the party's tasks figured (the only industrial references) "mastery of the basic branches of industry and improvement of provisions for the workers employed there, ...electrification of transport and heavy industry."⁵⁹³

In January 1923, managing negotiations to organize the Union of Soviet Socialist Republics, Stalin lectured again at Sverdlov on the Russian party's "strategy and tactics." Two months later he published his definitive views on the matter, making him (to my knowledge) the first Marxist anywhere to conceptualize in print a specifically Communist

⁵⁹² Idem, "O politicheskoi strategii i taktike russkikh kommunistov: Nabrosok plana broshiury [The Political Strategy and Tactics of the Russian Communists: Synopsis of a Pamphlet, July 1921]," *Sochineniia*, V, 62-87 (quotations, 62, 64). Philosophically, cf. G. Plekhanov, *The Development of the Monist View of History* [1894] (Moscow: Foreign Languages Publishing, 1956), 144-287. Mechanically, cf. Akademischer Verein "Hütte," *Des Ingenieurs Taschenbuch*, 19th ed., 2 vols. (Berlin: Wilhelm Ernst & Sohn, 1905), 147-170; idem, *Spravochnaia kniga dlia inzhenerov, arkhitektorov, mekhanikov i studentov, s dop. dlia russkikh tekhnikov*, ed. G.L. Zandberg (Moscow: Skoropech, 1909), which I have not yet seen; Dmitrii K. Bobylev, *Kurs analiticheskoi mekhaniki*, 3rd ed., 2 vols. (St. Peterburg: Iu. N. Erlikh, 1909), II, 4-14, 116-184; Harrison W. Hayward, "Mechanics of Rigid Bodies," in Lionel S. Marks, ed., *Mechanical Engineers' Handbook* (New York: McGraw-Hill, 1916), 188-222.

⁵⁹³ Joseph Stalin, "Partiia do i posle vziatiia vlasti [The Party Before and After Taking Power, August 28, 1921]," *Sochineniia*, V, 104-112 (quotations, 108, 112).

“strategy and tactics.” This version was sharper, but not new. Its concern was in fact not a complete “strategy and tactics,” but as before “political strategy and tactics.” The processes that happened “outside and around the proletariat” were now “objective, or elemental,” i.e., primal, basic, uncontrolled, natural, spontaneous, while the processes involving their reflection “inside the proletariat” were now “subjective, or conscious,” cognitive. As before, the objective processes were beyond strategy, but he now clarified what they (mainly) were, “the economic development of the country, the development of capitalism, the breakdown of the old power, the proletariat’s elemental movement....” Likewise, the subjective processes were clearer for being not only “conscious,” but also “open to planning and measurement,” which of course made them “entirely subject” to strategy and tactics. But the periodic definition of strategy (its task “to predetermine the character of operations for the entire period of the war, to predetermine maybe nine-tenths of the fate of the entire war”), the episodic definition of tactics, the reminder that deliberate tactical losses could guarantee future strategic advantages, all this was the same. Of industrial matters the only hints were simple, unweighted references to “particular strikes,” “mass political strikes,” “unions,” “factory committees,” and “strike committees.”⁵⁹⁴

Barely a month later, reporting on “organization” to the party’s annual congress, he repeated his old criticism of the military model. “...in the military area...the party

⁵⁹⁴ Idem, “K voprosy o strategii y taktike russkikh kommunistov [Concerning the Question of the Strategy and Tactics of the Russian Communists, March 14, 1923],” *ibid.*, V, 160-180 (quotations, 160-161, 164, 169-170). In an introductory paragraph the author claimed, “This article must be regarded as a compressed and schematic exposition of the basic views of Com. Lenin”: *ibid.*, 160. Cf. Lenin, “Luchshe men’she, da luchshe [Better Fewer, But Better],” published in *Pravda*, March 4, 1923, where Lenin slammed the Workers’ and Peasants’ Inspectorate, of which Stalin was still commissar. In another regard, it may be significant that Stalin used the word “operatsiia” (*Sochineniia*, V, 164). Cf. A. Svechin, *Strategiia*, 2nd ed. (Moscow: Voennyi Vestnik, 1927), 14-16, 150-171, 200-214; and Jacob W. Kipp, “Mass Mobility, and the Red Army’s Road to Operational Art, 1918-1936,” (Ft. Leavenworth: Foreign Military Studies Office, 1988), or <http://call.army.mil/fmso/fmsopubs/issues/redopart.htm>, 1-25.

gives orders, and the army, i.e., the working class, carries out these orders... In the political area things are much more complicated. ...in politics the class does not depend on the party, but the other way around.” To describe the relationship he tried a new analogy, a fictional technology, the party surrounding itself with a network of “mass apparatuses that would be like antennae in its hands, by means of which it would transmit its will to the working class, and the working class from a scattered mass would turn into the party’s army.” Back on earth, to examine the “apparatuses” actually in practice, he reverted (for his first time in print) to Lenin’s image of “drive belts uniting the party with the class.” Here he made himself absolutely clear: “The first, basic drive belt, the first, basic driving apparatus by means of which the party connects with the working class-- this is the unions.” He analyzed them only by levels of membership, down to “the primary cells...the *fabzavkomy*, the factory-plant committees; he made absolutely no other distinction among them.⁵⁹⁵

Deep in the struggle over the party and the state in 1924, Stalin gave a series of nine lectures at Sverdlov on “the basics of Leninism.” He had a broad and a narrow definition of the subject: “Marxism of the epoch of imperialism and proletarian revolution in general, theory and tactics of the proletariat’s dictatorship in particular.” From neither perspective did he mention material bases, say at railroads, ports, coal mines, pipe lines, oil refineries, iron smelters, steel mills, or power plants. In Lecture VII, “Strategy and Tactics,” he cited Lenin’s “*Detskaia bolezn’* [sic, *The Childhood Disease*]” among “the most valuable contributions to Marxism’s...revolutionary arsenal,” quoted it more than anything else, and declared, “Leninism’s strategy and tactics are the science of

⁵⁹⁵ Joseph Stalin, “1. Organizatsionnyi otchët tsentral’nogo komiteta RKP(b), 17 apreliia [The Organizational Report of the Central Committee of the R.C.P.(B.), April 17, 1923],” *Sochineniia*, VI, 197-222 (quotations, 198-200).

leadership of the proletariat's revolutionary struggle." Mostly he repeated his own stuff, e.g., periodization of strategy, examples from the Bolsheviki's political history. A few statements were new (for him), but military clichés. ("Strategy is the determination of the direction of the proletariat's main blow on the basis of a given stage of the revolution....") The first condition for "the correct use of reserves" is, "Concentration of the revolution's main forces at the decisive moment at the enemy's most vulnerable point....") His most suggestive new image here (new for him) occurred in his discussion of tactics, an oddly spoiled metaphor: "...that special link in the chain of processes seizing which it will be possible to hold the whole chain and prepare the conditions for achieving strategic success." In the lecture on the party ("the proletariat's combat staff"), he did mention among its constituents both unions and "factory-plant organizations." These and other "extra-party organizations of the working class," he repeated, the party "by its experience and authority" could "turn into...drive belts uniting it with the class."⁵⁹⁶ Nowhere in the

⁵⁹⁶ Idem, "Ob osnovakh leninisma: Lektsii chitannye v Sverd'lovskom universitete [The Foundations of Leninism: Lectures Delivered at the Sverdlov University, April-May 1924]," *Sochineniia*, VI, 69-188 (quotations, 71, 151-152, 157, 163, 170, 172, 177-179). Stalin's references to "concentration of Russian industry" and "every serious strike" (*ibid.*, 127-128) I have not counted as serious industrial references. For help translating *boevoi shtab* as "combat staff" I thank William C. Fuller; this is the staff on the battlefield, not the "General Staff," i.e., the staff at headquarters, as in the standard English translation: *Works*, VI, 187. The lectures appeared in *Pravda*, and became a pamphlet under the same title. Cf. Roy Medvedev, *Let History Judge: The Origins and Consequences of Stalinism*, rev. and exp. (New York: Columbia University, 1989), 821-822. The often noted catechism of Stalin's prose may come not only from his adolescent years in the seminary, but also from old familiarity with manuals for "practical engineers," many taking courses at Sverdlov. Cf. e.g., Matthias N. Forney, *Catechism of the Locomotive*, 2nd ed., rev. and enl. (New York: Railroad Gazette, 1891); Georg Kosak, *Katechismus der Einrichtung und des Betriebes der Locomotive: Eilzugs-, Personen- und Güterzugslocomotiven, Berglocomotive, Strassenlocomotive, Tramway-Locomotive, für Locomotivführer, Bahnbeamte, studirende technischer Fachschulen, sowie zur populären Belehrung für gebildete jedes Standes*, 6th ed. (Vienna: Spielhagen & Schurich, 1892); Ivan Time, *Prakticheskii kurs parovykh mashin*, 2 vol. (St. Peterburg: A. Transhelia, 1886-1887); N. A. Kviatkovskii, *Prakticheskoe rukovodstvo k obrabotke nefi i ee produktov*, 2nd ed. (Nizhnii-Novgorod: N.I. Volkov, 1902). The last three I have not yet seen; Kosak is in the Stanford Library, Time in the Library of Congress, Kviatkovskii in the UC-Berkeley Library.

series did he even discursively connect strategy, force, power (vulnerability), or drive with industrial organization.⁵⁹⁷

Two years hence, approaching a showdown with Trotsky, Zinoviev, and Kamenev, Stalin published a pamphlet on “questions of Leninism.” As he had before allowed, he now confirmed, “The basic question in Leninism...is...the question of the proletariat’s dictatorship.” No surprise, he found in Lenin’s work no explicit industrial argument about this or any less than basic question. But he recalled Lenin (again) on the dictatorship’s “mechanism” and “drive belts,” adding (as if Lenin had originally included them) “levers” and “guiding force.” Catechistically he explained the belts and the levers as “those very mass organizations of the proletariat without the help of which it is impossible to bring about the dictatorship”; the guiding force, he need not have explained, but did, was the party. Again, of all the mass organizations, the first were “the workers’ unions.” And here they carried at least the trace of an industrial identity and argument, “the mass organization...connecting the party with the class above all along the line of production.” Stalin quoted Lenin as well on the need for “mutual trust between the working class’s vanguard and the workers’ mass.” He again instructed the party “not to command, but first of all to convince,” as “guide, leader, teacher of its class.” He recalled the very particular fight five years before between Trotsky’s transport authority and the transport unions, and quoted Lenin at the time urging the party “to convince people whatever it may cost at the beginning,” and only if that failed, “force

⁵⁹⁷ Cf. Joseph V. Stalin, “Oktiabr’skaia revoliutsiia i taktika russkikh kommunistov: Predislovie k knige ‘Na putiakh k Oktiabriu’ [The October Revolution and the Tactics of the Russian Communists (1924)],” *Sochineniia*, VI, 363, 380-385.

them.”⁵⁹⁸ Not only was he attacking Trotsky. In the factionally agitated contests then over Soviet wage policy he was again (implicitly) bargaining for strategic unions’ political support, against the Leningrad Opposition and for “socialism in one country.”

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Lenin had several times urged Taylorite studies of industrial work in Soviet Russia.⁵⁹⁹ He thought of them for practical purposes, to raise Soviet productivity, and Soviet economists might have made them into a theory of value and a policy in practice accounting for production’s strategic positions. For a decade no major Russian Marxist showed any interest in any such matter. But two lesser figures came close to the strategic points. Stanislav Strumilin, who before 1917 had studied electrical engineering (Petersburg Electro-Technical Institute) and economics (Petersburg Polytechnic), became the main Soviet social scientist of labor in the 1920s. As the scholar who taught Wassily Leontiev input-output analysis, he might well have reconciled Marx on value with matrices and the evidence of industrially strategic power, but his more urgent duties at

⁵⁹⁸ Idem, “K voprosam leninizma [On the Questions of Leninism, 1926],” *ibid.*, VIII, 13-90 (quotations, 15-16, 32-33, 35, 43-44, 53). Mechanically considered, the levers and the directing force are puzzling. The author may have had in mind the mechanism of linkage, where the oscillating link is the lever, or beam. (See B.K. Thoroughgood, “Mechanism,” in Marks, *op. cit.*, 652.) But if so, the directing force is nonsense. In another, more probable imagery, transmission of power by friction gearing (engines or motors, flywheels, drive wheels, sheaves, drums, drive belts, drive shafts, guide pulleys, driven shafts, etc.), a lever would serve not to move dead weights, but (as a friction-gear shift) to shift a belt from a driver to an idler and back. When the worker shifted the lever to bring the transmission into effect (“in gear”), he was throwing the driving force into action. (Walter Rautenstrauch, “Machine Elements,” *ibid.*, 734-748; and C. Kemble Baldwin, “Hoisting and Conveying,” *ibid.*, 1107.)

⁵⁹⁹ Vladimir I. Lenin, “Doklad ob ocherednykh zadachakh sovetskoi vlasti [Report on the Immediate Tasks of the Soviet Government (April 29, 1918)],” *Polnoe sobranie*, XXXVI, 260; idem, “Shest’ tezizov ob ocherednykh zadachakh sovetskoi vlasti [Six Theses on the Immediate Tasks of the Soviet Government (April 30-May 3, 1918)],” *ibid.*, XXXVI, 279; idem to Popova, November 20, 1919, *ibid.*, LI, 84; idem to Yenukidze, November 21, 1919, *ibid.*, LI, 86; idem to Al’skomy (supporting Gastev’s CIL), June 3, 1921, *ibid.*, LII, 244-245; idem, “Lozhka dëgtia v bochke mēda [A Fly in the Ointment (sic, for A Spoonful of Tar in a Barrel of Honey) post-September 10, 1922],” *ibid.*, XLV, 206-207. Cf. Trotsky, “Osnovnye zadachi,” 85-86.

the Gosplan occupied him otherwise.⁶⁰⁰ Aleksei Gastev, poet, machinist, in 1917-18 secretary-general of the Russian metalworkers' union, in 1920 organized for the new national federation of Russian unions a Central Institute of Labor, for research on "the scientific organization of work." Its purpose was to socialize Taylorism, but in practice it yielded rather a blend of individualized workplace safety tips, ergonomics, and personnel management. Eventually it had to compete with a full-blown Soviet "psycho-technics," a Soviet Mayoism.⁶⁰¹

In this atmosphere the Marxist study theoretically richest for an explanation of the links between productivity and the structure of work came into print in Leningrad. It was a paper by Bukharin on "the technology and economy of contemporary capitalism," for the USSR Academy of Sciences in 1932, maybe the most original and stimulating work he ever published. Coming from interests he had already pursued in his brilliant 1920 essay on socialist "transformation," steeped for 12 more years in Marx on material production and the labor process, sharpened by the latest, most serious German, French, English, and American literature (and testimony) on modern *Technik* and technology, more learned for its author's part the year before in the Second International Congress of the History of Science and Technology (in London), focused by his duties then as director of research for the Soviet Union's Supreme Council of the National Economy,

⁶⁰⁰ Stanislav G. Strumilin, *Izbrannye proizvedeniia*, 5 vols. (Moscow: Nauka, 1963-65); idem, *Na Planovom Fronte* [1921--] (Moscow: Nauka, 1980). Cf. E. E. Pisarenko, "Strumilin, Stanislav Gustavovich," in A.M. Prokhorov, ed., *The Great Soviet Encyclopedia*, 31 vols. (New York: Macmillan, 1973-83), XXIV, 606; M. C. Kaser, "Strumilin, Stanislav Gustavovich (1877-1974)," *New Palgrave*, IV, 534.

⁶⁰¹ Aleksei K. Gastev, *Kak nado rabotat': Prakticheskoe vvedenie v nauku organizatsii truda*, 2nd ed. (Moscow: Ekonomika, 1972). Cf. "Gastev, Aleksei Kapitonovich," *The Great Soviet Encyclopedia*, VI, 136. Georges Friedmann, *Problèmes du machinisme en U.R.S.S. et dans les pays capitalistes* (Paris: Éditions Sociales Internationales, 1934), 19-20, 41-42, 45-48, 54-58, 83-91. The Red Mayo was Isaak N. Spielrein, "Zur Theorie der Psychotechnik: Vortrag, gehalten auf der VII. Internationalen Konferenz für Psychotechnik, Moskau, 9. September 1931," in Michael Erdélyi et al., *Prinzipienfragen der Psychotechnik: Abhandlungen über Begriff und Ziele der Psychotechnik und der praktischen Psychologie* (Leipzig: Johann Ambrosius Barth, 1933), 31-51.

but aimed at bourgeois Europe and the United States, the paper explored one of Marxism's greatest subjects in an absorbing analysis of socialism's ultimate antagonist.⁶⁰² From the contradictions between productive forces and productive relations, which explained material development and class conflict, therefore human history, Bukharin deftly drew the unity in contradiction between the "technical" and the "economic." In competitive and in monopoly capitalism he examined the various inherent conflicts between production's process and its organization. Most to the point he adduced monopoly capitalism's technically ever more powerful internalization of dead and live labor, "the materially substantial, direct connection between economies." He emphasized "electrification, thermofication, gasification, oil pipe lines," not for simple examples, but to change "the question" from "movement of goods by transport" to "unification in the heart of production itself, in the sources of its energy, in the centers of its motive force." He considered all the new processes, "mechanization," "automatization," "chemicalization," and "along the same line...the telephone, radio, television [televiziia]," moreover (for "the subjective factor...the working class") "'biotechnics' and 'psychotechnics,'" to show "the general technical tendency of monopoly capitalism....to

⁶⁰² Among the post-1920 authorities not Marxist whom he cited on Taylorism, "rationalization," *Technik*, technology, industrial organization, imperialism, and the Great Depression are Herbert von Beckerath, Hermann Bente, Moritz J. Bonn, Goetz A. Briefs, Roger Dernis, Ferdinand Fried (Friedrich Zimmermann), Friedrich von Gottl-Ottlilienfeld, Charles A. Gulick, Julius Hirsch, Maurice Holland, Fritz Kestner, Henri Le Chatelier, Alfred Mond, Scott Nearing, Eugen Schmalenbach, Henry R. Seager, Oswald Spengler, Fritz Sternberg, W.G. Waffenschmidt, Ernst Wagemann, Sidney and Beatrice Webb, and Max Weber: N.I. Bukharin, *Tekhnika i ekonomika sovremennogo kapitalizma: Rech' na torzhestvennom godovom sobranii Akademii nauk SSSR 19 fevralia 1932 g.* (Leningrad: Akademii Nayuk SSSR, 1932), 15 n1, 23 n2, 24 n1, 27 n2, 28 n1, 29 n1, 34 n1, 35 n1. See also his interest in Morris L. Cooke, ed., "Giant Power: Large Scale Electrical Development as a Social Factor," *Annals of the American Academy of Political and Social Science*, CXVIII (March 1925); and the giant Ausschuss zur Untersuchung der Erzeugungs- und Absatzbedingungen der deutschen Wirtschaft, *Verhandlungen und Berichte des Untersuchungsausschusses für allgemeine Wirtschaftsstruktur...*, 66 (?) vols. (Berlin: E.S. Mittler/E.S. Mittler & Sohn, 1927-32): *Tekhnika*, 19 n1. Bukharin's paper in London displayed much culture, but no scientific or technological work: N.I. Bukharin, "Theory and Practice from the Standpoint of Dialectical Materialism," *Science at the Cross Roads: Papers Presented to the International Congress of the History of Science and Technology* [1931] (London: Frank Cass & Co., 1971), 11-33.

universal technical combination.” But the more systematic his Marxist argument, the stronger his functionalism, which again got the better of him. Although he recognized imbalances, asymmetries, and contradictions galore, he saw nothing strategic in them. He did not once treat static or dynamic connection as capitalist weakness, a conjunction of differences, a joint for a disjunction, a transmission that could go into neutral, a combination showing its seams, where it would most easily break or tear. And he took every connection’s maintenance for granted (*gratis* to the adversary). By then he knew of Böhm-Bawerk’s admission of *Macht* in the market, but like him thought of it politically, and agreed it did not abolish “economic law,” his own, Marxist economics. He elaborated an almost Schumpeterian argument on monopoly and development through his analysis of modern capitalism’s technical and organic composition. But he had no idea of some (even unskilled) workers’ technically strategic power over constant or variable capital. Only, he thought, because of monopoly capitalism’s inevitable organization in “corners, rings, pools, cartels and syndicates, trusts, mergers, concerns, banking consortia,” would the world not end in a “single, technically organized capitalism.”⁶⁰³

The next year, on the fiftieth anniversary of Marx’s death, Bukharin contributed to a Soviet Academy of Science memorial. Here he repeated themes from earlier papers, including another treatment of capital’s composition, again regardless of technically strategic positions. Only in a discussion of Hans Kelsen’s errors on Marxist theory of

⁶⁰³ Idem, *Tekhnika*, 9-10, 18-24, 26, 30-31. Only “capitalist monopolies” practice “scientific [or any other kind of] strategic” action, cutting prices, taking away credit, imposing boycotts: *ibid.*, 27. Cf. “Vernehmung des Sachverständigen Schumpeter zur Kartellpolitik [September 28, 1929],” in Ausschuss zur Untersuchung der Erzeugungs- und Absatzbedingungen der deutschen Wirtschaft, *Verhandlungen und Berichte des Untersuchungsausschusses für allgemeine Wirtschaftsstruktur (I. Unterausschuss)*, 3. *Arbeitsgruppe: Wandlungen in den wirtschaftlichen Organisationsformen, Vierter Teil, Kartellpolitik, Zweiter Abschnitt, Vernehmungen* (Berlin: E.S. Mittler & Sohn, 1930), 358-366.

proletarian revolution, “practically” the need to destroy the bourgeois state, did he mention the proletariat’s “strategy and tactics,” i.e., in politics or war.⁶⁰⁴

Chapter VIII. Red International Labor “Strike Strategy,” 1923-1930

If daily practice made ideas clear, the leaders of the Red International of Labor Unions (founded in 1920) could have taught industrially and technically strategic positions as a science, like topography in military science. None of them a major Marxist, they were nevertheless directing the hardest strategic organizing, recruiting revolutionary syndicalists into Communist parties (or keeping them there), helping them into strategic jobs in strategic industries, and holding them true to the Comintern’s United Front. If they did not know, they had to learn fast which positions were strategic, why, and how to

⁶⁰⁴ N.I. Bukharin, “Marx’s Teaching and Its Historical Importance,” in idem et al., *Marxism and Modern Thought*, tr. Ralph Fox (London: G. Routledge & Sons, 1935), 75.

use them, or fail. And being international, British, French, German, and Russian, they had national variables to test their technical and industrial experiences, to tell political (or cultural) from material factors. Immediately on the Franco-Belgian occupation of the Ruhr in January 1923, maybe having heard Stalin's Sverdlov lectures, a Russian (ex-Left SR) framed the idea of "workers' strategy" in the RILU's journal, internationally, financially, politically, militarily, and culturally (but not industrially or technically).⁶⁰⁵ That summer the RILU's central council elected a special "commission for strike strategy," to promote useful knowledge of the matter. "You yourselves well know," the council's executive bureau circularized RILU affiliates, "that the strike movement, which yearly involves millions of workers all over the world, has until now been little studied. ...draw a comparison between the bourgeoisie's output in the...study of the conduct of war and what on our side has been undertaken for putting the experiences of class struggle to use... In all countries there is a rich literature on war, schools and academies of war, where they painstakingly examine everything that would throw new light on the forms, methods, and accompanying circumstances of military engagements. What can we show in the...study of the strike movement? Almost nothing at all!... But does the strike of 1,200,000 English miners, which shut down the gigantic English empire..., have less importance than the Battle of Sedan? Is the strike struggle that in 1919-20 involved the whole world and awakened millions of common workingmen not worth being studied in all its details?" For practical purposes the new commission would be a red labor research project. If the commission had "exact material" on a long list of questions (no industrial

⁶⁰⁵ S. Mstislavski, "Die Besetzung des Ruhrgebiets und die Arbeiterstrategie," *Die Rote Gewerkschafts-Internationale*, No. 2 (25), February 1923, 134-142; ditto, *ibid.*, No. 3 (26), March 1923, 231-238; ditto, *ibid.*, No. 4 (27), April 1923, 361-366. Cf. S.D. Mstislavskii, *Five Days Which Transformed Russia*, tr. Elizabeth K. Zelensky (London: Hutchinson, 1988).

or technical question) about strikes, if it “sifted and studied” the material, “we would have an inexhaustible source for the internationalisation of our tactics and make the experiences [of some] accessible to all.” From red case studies could come “the elaboration of a [red] strike strategy.”⁶⁰⁶ In April 1924 the bureau announced the agenda for the RILU’s next congress, the sixth of 12 items being “strike strategy.” In May it asked all affiliates to provide “sifted” information of various kinds on strikes, including “exact data of trade or industry [on strike], the district and the number of participants,” and whether “the strike remained isolated from neighboring firms or overlapped onto other trades (territorial localization of the strike).”⁶⁰⁷ Better even than the 1910 Kautsky-Luxemburg debate, this was a chance for Marxists to conceptualize explicitly strategic terms for workers’ industrial power.

The congress opened in Moscow on July 8, 1924. Welcoming the delegates (311 of them, from 39 countries), RILU Secretary-General Lozovsky within about six minutes referred to “strategy.” In the next breath he addressed “organizational questions,” and in the next raised “a question of the highest importance, the strike.” At once he set the congress a big challenge: “To total up the results [of past strikes], to underpin a scientific foundation [for new strikes], to try to define how to lead our economic battles, how to gather all our forces into one,” that was the delegates’ first concrete “task.”⁶⁰⁸ And they had no better guide to meet it, despite his faults, than Lozovksy. Russian, a

⁶⁰⁶ “Aufrufe und Rundschreiben: Zur Streikstrategie,” *Die Rote Gewerkschafts-Internationale*, No. 8 (31), August 1923, 763-764; S. Mstislavski, “Stukoff: Strategie und Taktik des Klassenkampfes,” *ibid.*, No. 9 (32), September 1923, 841-842; A. Hercllet, “Zur Frage der Streikstrategie,” *ibid.*, No. 12 (35), December 1923, 961-967; L. Repossi, “Fabrik und Gewerkschaft (Ein Beitrag zur Streikstrategie,” *ibid.*, No. 1 (36), January 1924, 30-32.

⁶⁰⁷ “Offizieller Teil: Zum 3. Kongress der R.G.I.,” *ibid.*, No. 4 (39), April 1924, 242; “An sämtliche der Roten Gewerkschafts-Internationale angeschlossenen Organisationen!” *ibid.*, No. 5 (40), May 1924, 318-319.

⁶⁰⁸ *III kongress Krasnogo Internatsionala Profsoiuzov: Otchët (po stenogrammam)* (Moscow: Profintern, 1924), 5-7.

schoolteacher's son, a Socialist since 1901, Bolshevik in 1905-06, refugee in Paris from 1909, a CGT hat-and-cap makers' union secretary, split with the Bolshevik exiles in 1912, closest then to French syndicalists (mainly in the railroad unions), back in Russia in June 1917, a national officer in Russian unions since, Bolshevik again, expelled from the party, readmitted again, in charge of the RILU from its foundation in 1920, and editor of its journal, he knew more varieties of syndicalism than anyone else at the congress, had written much more about multiply strategic cases, e.g., Alsace-Lorraine, and had studied the "strike-strategy" commission's data.⁶⁰⁹ If not a major Marxist, he had a sophisticated Marxist appreciation of "mutuality" between economics and politics. And he specifically wanted powerful (pro-Communist) labor movements in other countries as a non-party support for the Comintern.

Amid arguments about other business, mainly the Amsterdam International and anarcho-syndicalism, it took two days for "strike strategy" to surface. And it was Lozovsky who brought it up. Reporting on the RILU's "future tasks," he previewed the item on the agenda. "...our strategy does not correspond to the unfolding struggle. No one has been occupied until now with questions of strike strategy, not a single

⁶⁰⁹ A. Lozovskii, *Ugol' i zhelezo: k bor'be za El'zas-Lotaringiiu: ekonomicheskii etiid* (St. Petersburg: Kniga, 1918); idem, *Rabochii kontrol': s prilozheniem instruktssii po rabochemu kontroliu Vserossiiskago Soveta rabochago kontroliia, professional'nykh soiuzov, fabrichno-zavodskikh komitetov i rezoliutsii rabochikh, tekhnicheskikh i predprinimatel'skikh organizatsii* (St. Petersburg: Sotsialist, 1918); idem, *Tred'unionizm i neitralizm (Tipy rabocheho dvizheniia Anglii i Germanii)* (Tver: Tversoi Gubernskii Sovet Profsoiuzov, 1920); idem, *Professional'nye soiuzy v sovetskoi Rossii* (Moscow: Vserossiiskii tsentral'nyi sovet professional'nykh soiuzov, 1920); idem, *Organizatsionnye voprosy s prilozheniem ustava Profintern* (Moscow: Krasnyi internatsional profsoiuzov, 1921); idem, *Die Internationale Rat der Fach- und Industrieverbände (Moskau gegen Amsterdam)* (Hamburg: Kommunistische Internationale, 1921); idem, *Aufgaben und Taktik der Roten Gewerkschafts-Internationale* (Berlin: Rote Gewerkschafts-Internationale, 1921); idem, *Amsterdam, Moskau, London* (Hamburg: Kommunistische Internationale, 1921); idem, "Das Aktions-Programm der Roten Gewerkschafts-Internationale [1921]," in idem et al., *Die Rote Gewerkschafts-Internationale* (Frankfurt: Internationale Sozialistische Publikationen, 1978), 67-163; idem, *Mirovoe nastuplenie kapitala* (Moscow: Profintern, 1922); idem, *Frankreich und die französische Arbeiterbewegung in der Gegenwart: Eindrücke und Betrachtungen* (Berlin: Rote Gewerkschafts-Internationale, 1922); idem, "Der grosse Strategie des Klassenkrieges [memorial to Lenin]," *Die Rote Gewerkschafts-Internationale*, No. 2/3 (37/38), February/March 1924, 103-112.

International. Earlier ones did not think about it, but we revolutionary unions are bound and obliged to think it.... In general and on the whole the broad masses of the members of revolutionary unions do not have a concept of the question of strike strategy. Even the top leadership still thinks little about this question.” We have to reflect (“speaking in Russian, in synod”) on our “experience of separate gigantic battles,” he said, and how to use it for the coming struggle. “I think in this area we can also learn something from military science. True, our army is not the same as a regular army. There they maneuver with other materials; there it is another system of organization. But inasmuch as it is about conflicts, battles, we can learn something.” Shortly he was talking about the need for “special economic counter-intelligence” on big businesses, and then, as if he had been reading Parvus, he gave a remarkably clear argument on industrial strategy.

“Our still home-made operation,” he said, “is expressed in the fact that the work Profintern activists carry out (and Communists among them) is done, speaking in Russian, *camotëkom*, by gravity, drifting wherever our weight takes us. Where Communists were raised (leather workers, food workers), there they continue to work. This is very good; we have to take over all branches of work. But a more or less rational approach to the questions before us has to make us think out where, in which lines of production, to concentrate our attention so as to have in our hands the most necessary organs of the capitalist machine.” This work, he said, we have hardly started. “I remember when in the past I put forward this idea of the need to concentrate our attention on transport, on taking over mining, gas, electricity, the telegraph, radio, the chemical industry, and so on, comrades told me, ‘Sorry, but you cannot just throw Communists from other branches over into these lines, because in Europe they have customarily had

among leather workers, leather workers working, among metal workers, metal workers, among miners, miners.’ But comrades, they have a lot of customs in Europe and America that we have to fight against. *We have to concentrate, to put all our forces together in one fist, to be able to throw them into the branches of production most essential to us for a given country.* In one country coal plays the central economic role, in another country another branch of production, and so on. But in each country we have to thoroughly study which areas of people’s work are most important, which one may be the most sensitive, if we should hit it, on which we should turn our maximum attention, for if we do not have these most important branches of work, we will not win any decisive battle or any decisive victory.” And he gave a classic example, railroads (and a freshly painful case). At a union conference the previous October in Saxony, when (and where) the Comintern leaders and the KPD thought they could finally commence the German Revolution, he had asked comrades there, “...and how about the railroaders, will they let the troops into Saxony or not?’ They answered me, among the railroad workers we have almost no influence. Well, comrades, if we have no influence among the railroad workers, then, for your information, the revolution is going to go very bad, for a centralized state can then throw its units and its army back and forth to all sides, and will beat us according to all the rules of the art of war. This art of war our enemies know well, and we do not know it well enough. *So the concentration of forces on socially essential [obshchestvenno-neobkhodimyykh] lines of production presents itself as the most important question for the entire revolutionary union movement.*” He did not stop. Having made the industrial argument, he shifted it immediately into international terms, urging “the creation for the most important lines of production of joint committees of representatives of different

countries...let's say a German-Polish railroad workers' committee, a Franco-German railroad workers' committee, or a Russian-Polish railroad workers' committee.... We have to prepare organizationally [i.e., industrially], and not only politically, the possibility of international action."⁶¹⁰

After he proceeded through 10 other "future tasks," the debate on them all ensued. Altogether 32 delegates (from 15 countries) spoke. No one disputed the industrial argument. Nor did anyone develop it. Most ignored it, talking about other problems. Only four showed some concept of it. Ireland's lone delegate (for years an ITGWU organizer in the United States) pointed (as if Lozovsky had not) to "the huge revolutionary possibilities that transport workers offer us." One of Poland's 13 delegates, responding, he said, to Lozovsky's call "to concentrate our attention on certain individual [sic, *einzelne*] industrial groups that play an important role in the working class's struggle," declared they should include chemical workers unions (which Lozovsky had included). He noted (originally) that they would be important in future wars. "The creation of solid revolutionary cells in chemical shops has to be given due attention, for only on this basis can anti-militarist work be done effectively and not only in words." On another "task" Lozovsky had considered, that of going beyond industrial unions to organize "One Big Union" (like in Czechoslovakia), one of Czechoslovakia's 18 delegates observed that guilds and trades there resisted joining industrial unions much more than they did the one general union. He explained, suggesting an argument on technical strategy, "Precisely these craft kind of groups as neighbors have often had the biggest fights with each other, and would rather be brought into a general union and there be sectioned into locals." For example, he said, machinists, firemen, and smiths would not go into the metal workers'

⁶¹⁰ *III kongress*, 43-44.

industrial union, or varnishers and carpenters or bricklayers and stucco masons into the building-industry union, but they all went happily into the OBU, although there now disputes arose over whether locals were “autonomous [*selbstätige*]” or “independent [*selbständige*].” One of Austria’s three (!) delegates raised an intensely practical question of industrial power, “the relations of the RILU with Edo Fimmen,” since 1919 secretary-general of the International Transport Workers Federation, leading “the Amsterdam Left”; he hoped the RLIU would cooperate with Fimmen.

In his summation therefore Lozovsky did not return to “strike strategy,” or speak of force in “socially essential lines of production.” He did complain about “millions and millions of workers who not only do not think about strikes happening over the border, but do not even get excited when strikes happen alongside them, but in another line of production. Only a strike happening in the plant where they work affects them. This separatism,” he said, “this corporative isolationism, this lack of principled, welded unity of the working class, has its tracks preserved even in our organizations. Maybe you say I am exaggerating. But...country after country I will show you a whole series of facts when some groups of revolutionary workers, let’s say, chemical workers, get very little excited because, let’s say, revolutionary metal workers have gone into a struggle before them.” He certainly knew the difference between ideals and solder, but he probably could not have explained off-hand why it took principled solidarity to spread some proletarian operations, while others spread as if action in one plant materially triggered action in another, almost automatically. His remarks closest to an industrial argument came in final

passing references to the need for bi-national industrial-union committees for international action, “for example, railroaders, miners, chemical workers.”⁶¹¹

On July 16-17 the report and debate on “strike strategy” took place. After “future tasks” it took most time. The first of four reporters (himself a French railroad union leader, syndicalist, and CGTU secretary-general) explained the strategy’s purpose, “to make use of all favorable circumstances for centralization and coordination of strike movements in every country and gradually so shape them that international strikes are practically feasible.” And he explained the biggest problem, workers’ “local craft tradition..., which prevents them from surveying the effective range of the battlefield of classes and from observing the power of capitalist concentration.” Hence “the abundance of elementary, partial strikes, which are the more difficult to lead the more deep-rooted the federalist prejudices that rule some union organizations,” and all the more difficult the bigger the economic differences among workers in different trades, regions, and countries. (Although this was beginning to sound like the pre-war problem of mass political strikes, how they spread, the reporter was heading in a new direction.) He offered a few lame proposals, e.g., new slogans (“No more elementary partial strikes!”), solidarity, labor councils for trades and regions. But considering the business he knew best, he turned sharper. “International industrial cartels of unions” could coordinate international industrial strikes, especially by transport, metal, and mine workers. He confessed he could not lay out any strike strategy “in all its details,” because “it is a much

⁶¹¹ *Protokoll über den dritten Kongress der Roten Gewerkschafts-Internationale* (Berlin: Roten Gewerkschafts-Internationale, 1924), 76-77, 87-90, 97; *III kongress*, 103-114 (quotations, 112-113). I use the Russian record of the congress for Lozovsky’s statements, the German record for others’. Cf. summaries and excerpts in *L’Internationale Syndicale Rouge, L’activité de l’I.S.R.: Rapport pour le iiiie congrès* (Paris: La Cootypographie, 1924). Only the congress’s conclusions are in *Third World Congress of the Red International of Labor Unions: Resolutions and Decisions* (Chicago: Trade Union Educational League, 1924). As for Parvus, he died December 12, 1924, in Berlin, in bourgeois and socialist disgrace.

too complicated matter,” but he assured the delegates that “since the end purpose of our strike strategy’s application is the revolution,” they would “perfect” it in practice. And then he sketched a pretty good idea of “international strike strategy” in six “points.” Its third, most industrial, and most technical point was “organizing national strikes: (a) concentration of thrust in a determined region, (b) material support on a country-wide scale, (c) disorganization of the technical equipment [*Einrichtung*], (d) preventing supply of raw materials and manufactured parts to the affected region, (e) creation of special groups for disorganizing the technical equipment.”⁶¹²

The second reporter recognized this was not enough. Indeed he said it only made him see how far they still were from “conceiving the situation...and accomplishing adequate action in it.” (German, by trade a mason, Spartakist, member of the Berlin Workers’ and Soldiers’ Council in 1918, a KPD minister in the Comintern’s recent disaster in Saxony, he had quite fresh memories of battle-shy unions and workers.) “The military strategist” and “the union strategist” fight different kinds of war, he declared. In “class war” workers have enemies not only at the front, but also in the rear, and some of the working class “stay in the bourgeoisie’s camp,” while yet others are “hard to move into the struggle.” In the proletarian army “there are often the most different views of the nature and the goal of the struggle,” and “the proletarian field commander’s reserves are hard to calculate.” Applying Clausewitz’s “ground rules to union struggles or civil war” would end in “a complete beating.” They could not adopt old or extraneous models, he implied. “We ourselves have to create a strike strategy....” He then explained the complications, but also the necessity of it: “We cannot wait for spontaneous explosions

⁶¹² This was Gaston Monmousseau: *Protokoll*, 201-208. Cf. idem, “Zur Streikstrategie in Frankreich,” *Die Rote Gewerkschaft-Internationale*, No. 6 (41), June 1924, 377-381.

within the working masses... The element of spontaneity naturally has to fall back, because our enemy is no longer so splintered as before.” After posing again the problem of differences among workers he gave the delegates his practical advice. “Above all” do not allow “struggles in isolation. ...get in touch with workers of the same locality, with other trade categories, ...confer about the locality with the region around, with groups in other industries....” Provide for the physical defense of strikes, soon against “hand grenades and revolvers,” as “in America.” Prepare for longer strikes. Do not use a slogan like “no partial strikes,” which “makes workers passive.”⁶¹³ And help the French (and others) overcome their “localism and federalism.” But he showed no industrial or technical insight.

The third reporter spoke most briefly, about “strike strategy” only in the United States. (Born in Kansas City, Mo., son of a railroad man, himself an electrician, a leader of the Anaconda copper strike in 1917, Communist, and officer of the Montana Federation of Labor until the AFL expelled him in 1923, he knew U.S. American syndicalism better than anyone else at the congress.) He emphasized a basic socially strategic fact about the American labor movement: “There are only two branches of industry where the number of organized workers is bigger than the number of unorganized....transportation and coal mining.” There unions could make effective alliances. Elsewhere (although he did not say so) some force was necessary, whether physical, legal, political, cultural, technical, or industrial (or all at once). “Every strike strategist in America has to orient himself toward the unorganized workers,” he said. The American party “in every branch of industry must therefore have a certain number of young, energetic, and devoted comrades, who themselves grow up in the industry, who

⁶¹³ This was Fritz Heckert: *Protokoll*, 208-218.

have to have not only political learning, but also every practical knowledge of the industry, ...and we take pains to bring up such leaders.” He looked forward to when they could combine the struggle of French, German, and American workers. Until then, he explained, amazingly, as if from a textbook on industrially strategic positions, “we will be able to penetrate only in small groups, and it will be necessary that we concentrate our forces in the strategic points that in every branch of industry occupy a central position. There are, for example, in America two railroad junctions that concentrate the country’s whole railroad transportation. If we succeeded in establishing firm contacts with the workers of these junctions, if we understood with the help of our cells how to convince them of the need for action in solidarity with German comrades, it would be possible to organize the kind of demonstration that would strengthen German workers’ courage.” He warned this would take more than “a few months.” But he closed in the hope of such “rules of labor strategy,” to “serve revolutionary unions in all countries as a plumbline.” If the congress’s conclusions were “not only on paper, but turned into living elements working in our daily struggle, if they...turned into positive action, then even in reactionary America workers would begin to feel that not only in Europe was a struggle for power going on, but also in ‘peaceful’ America hard days would come for capitalism.”⁶¹⁴

Finally Lozovsky reported on the subject. He wanted to see “if it is possible...to set up some rules binding for all countries and replace scattered, elemental, insufficiently studied, or badly organized strikes by a planned strike struggle based on the laws of military science and civil war.” And here (unlike in his report on “future tasks”) he proceeded mainly by quoting authorities. First he distinguished between politics, strategy,

⁶¹⁴ This was William F. Dunne: *ibid.*, 219-222.

and tactics. Assume theory, party, program, goal, and tasks. “‘*Politics*,’ *Lenin said, ‘is knowing how to maneuver with millions,*’” to meet the tasks and realize the goal. “But the way you have to go, the basic lines of the movement for bringing to life the set tasks,” that is strategy. He quoted Stalin’s “very interesting” recent book: “‘Strategy is the determination of the direction of the proletariat’s main blow on the basis of a given stage of the revolution....’” Then he tried to show how military concepts of strategy would apply, or not, quoting an anonymous “German military authority” on “*the direction of the operation and the choice of that point where you ought to fight,*” and so on. Quoting the same source, plus Moltke and Stalin, he defined tactics, “determination of the lines of conduct and methods of struggle for a single battlefield....” This science did not apply across the board. “...the basic sign of an army, *compulsion*, is missing in the united union army,” he said. “*Our union army is a volunteer army,*” where “compulsion is replaced by class solidarity, class-welded unity.” (Here he ignored the first and the third reporters’ industrial and technical points.) Also, repeating the second reporter’s point, he distinguished between a military front, “a line of fire,” and a “social front,” which is “zigzag,...inside the country, cuts in a thousand directions across town and country.” He expanded on the cultural struggles especially worrisome to German, Austrian, and Italian Communists. Then he returned to the strike, “to which the working class resorted long, long ago,” but which remained “not studied,” until now. And here came some of the previous months’ information, sifted. “...*the strike, like war, is the continuation of politics by other means.*” There were 13 kinds, (in his order) wildcat, “organized [union-run],” offensive, defensive, the solidarity strike, the kind “coming at intervals,” the local, the regional, the industrial, general strikes, international, economic, and “purely political”

strikes. Consequently, although “[e]ach strike is a test of strength between the entrepreneurs and the workers,” many “conditions” have to obtain for “this specific proletarian method of struggle” to have “the results desired by us.” Necessary to start, first, was “a highly conscious working mass.” Second, “merciless struggle against...guildsmen and corporatism, and a great, exclusive trust in [union] leaders,” which raised “the very important question of the mutual relations between the army and its staff.” From a military staff, he said, citing “military men,” you want “a strategic feeling [*chut’ë*], a strategic sense [*chuvstvo*], and strategic learning [*znanie*].” You could say the same, he said, “of the leading nucleus [*iadro*] of the union movement.” And he then listed 26 different abilities a union leader should have. Besides timing and knowing the enemy’s “weakest place,” “weakest link,” and “center of gravity (Clausewitz),” the only one industrially significant was the thirteenth, “knowing at the decisive moment [of the strike] how to draw in new reserves, mainly workers in socially essential [again *obshchestvenno-neobkhodimykh*] enterprises.” Always learn more from the enemy about “how to make war,” he advised them, citing, e.g., Bernhardt on “the war of the future,” in order to use the enemy’s lessons against him, “not for a minute forgetting that the strike is one of the forms of civil war.” He quoted Hindenburg: “One must never fight without a decisive point of attack.” True, he said, which for union leaders meant knowing “the socio-economic topography of the theater of military operations and what our enemy represents in political, economic, and organizational [industrial?] relations.”

He was heading again toward the industrial point. “It is essential to organize economic counter-intelligence... It is essential to carry out as soon as possible the concentration of our forces in *industrial* unions and the centralization of the whole union

movement, if we want to oppose the force of concentrated capital by the might of concentrated labor.” He lit into wildcat strikes, anarchists, and anarcho-syndicalists, just the moment for explaining the field of industrial force and the structure of technical power for strikes. He missed it. Instead he thought only of urging “the political element, i.e., the general class element.”

For all the information the bureau had collected, Lozovsky concluded most frustratingly on a maxim that he or any adult Marxist, liberal, conservative, or fascist had already learned in life, “You cannot think up or create *a science of victory*.” The best you can do, he advised, is take “a scientific approach,” which may reduce your defeats and increase your “*chances of victory*.” And be concrete, he added, and “learn, learn, and again learn from the most ingenious strategist of class struggle, Lenin,” on whose “strategic genius” he quoted Trotsky, in effect that Lenin took absolutely nothing for granted. He ended with a bromide from Moltke, “In war as in art there is no general norm. In neither can talent be replaced by a rule.”⁶¹⁵

The discussion of the report carried no dominant theme. Seven speakers mostly criticized what they took for erroneous criticisms and important omissions, most of them thereby provoking subsequent critics to criticize them too. (Behind the mutual, mounting criticism here throbbed German suspicion of French syndicalism and French resolve to make the suspect syndicalism Communist.) But amid the criticism and counter-criticism two (only two) positive notions received expression at least three times. The first was a

⁶¹⁵ Idem, “O stachechnoi strategii,” *III kongress*, 225-232. Cf. *Protokoll*, 223-230. His sixth kind of strike, “*stachki peremeshaiushchiesia*” (strikes intermittent, coming at intervals), probably misread as “*stachki peremeshaiushchiesia*” (strikes intermingled, mixed up), appears in German as “*Streiks mit kombinierten Zielen*,” which is not the kind of strike he meant: cf. *III kongress*, 227, and *Protokoll*, 225. Also, his reference to Clausewitz on “*tsestr tiazhesti*” (center of gravity) in Russian suffered the translation to “*das Zentrum des...Schwergewichts*” (center of the heavyweight, *peso completo*, full strength) in German: cf. *III kongress*, 228, and *Protokoll*, 226. Furthermore, the thirteenth attribute of the ideal union leader in Russian is the fourteenth in German: cf. *III kongress*, 228, and *Protokoll*, 226.

compound truism, repeated probably because of the report's promise of "a [single] strike strategy": any strategic rule had to fit all cases. (No one questioned the premise of rules.) The first speaker, the Irish delegate, put the notion negatively and totally, but clearly enough. "...I know the strike mechanism [which he did not here reveal] ...and I will tell you, if you believe that you can run a strike from some information bureau or some strategic bureau, I have to say that the people saying so know nothing at all of the subject they are talking about." A British delegate made the point indirectly, regarding particular British difficulties with wildcat strikes. Another declared his "joy that comrades are of an opinion that a strike strategy has to apply according to the situation in each separate country." A Canadian seemed to indicate the same: "All the reports...rest on the assumption...that we can completely lead the proletarian army and maneuver...during the strike according to the rules of the strategy of war. But if we look at the facts, we see that our strikes in capitalist countries with the possible exception of Germany still have the character of elementary uprisings, which result from the immediate needs of the working class." A French delegate put it more clearly, the slip in his language exposing the novelty still of a "strategy" for labor: "...we cannot here in any way firmly lay down one, uniform, once-and-for-all-time valid tactic for the whole International..."⁶¹⁶

The other positive notion with some support (not as much as the first) was of strategic industries. When the Canadian explained the importance of solidarity (or lack thereof), he spoke materially about the railroads, which in Winnipeg in 1919 and in Nova Scotia in 1923 had brought the strikebreakers and troops. A Polish delegate, winding down from a singularly arrogant lecture, let one last imperative fly: "Great working

⁶¹⁶ *Ibid.*, 231, 233-234, 237, 241. The Irish delegate was Jim Larkin; the British, George Hardy and one Thomas (whose first name I cannot find); the Canadian, Tim Buck; the French, Pierre Sémard.

masses, entire industrial branches and industrial centers, must be led into the struggle. Decisive importance obviously belongs to the dominant economic and social lines: transport, mining, metal industry, public utilities.” And the French delegate who had lapsed from “strategy” to “tactic” (himself a leading French syndicalist) declared, “We have to fix on the industrial branches against which our strongest battle should be directed. We have to increase our propaganda among the workers of those industrial branches that supply electrical energy, gas, ore, coal, on which the work of other industrial branches depends. If we finally manage to put these industrial branches under our control, we will have at our disposal greater chances for our struggle’s success.”⁶¹⁷

The first reporter summed up assuming no consensus. He would combine all the reports into one, he said, as “a basis for careful study of the questions under discussion.” The congress’s resolutions on July 22 reflected his judgment. The second resolution, on “future tasks,” admitting that even “[t]he revolutionary worker” still had no thought of “strategy and tactics” in strikes, set no task in this regard; RILU activists were only to “turn special attention to the methods and means of the strike struggle,” which they were to “treat with the highest attention.” Yet it also instructed affiliates “to organize economic counter-espionage.” And (as Lozovsky had urged) it ordered an industrial strategy, although without the name. “An equal distribution of forces in all lines of production is not rational. It is necessary to concentrate RILU backers’ attention on the organization of workers in those branches of work that can play a decisive role in the working class’s struggle against the bourgeoisie (transport, mining, metallurgy, the chemical industry, electricity, gas, telegraph, radio, etc.).” It emphasized, “*Without the conquest of these basic lines of production the struggle of the working class is doomed to failure.*” It

⁶¹⁷ *Ibid.*, 238, 241, 243. The Polish delegate was one Redens (Mieczyslaw Bernstein).

explained in straight Parvusian terms the logic of the strategy: “Concentration of efforts in this area results from the elementary calculation of the expedient application of revolutionary energy to the goals of the disorganization of the most vulnerable and important points of the capitalist system.” And (as Parvus had long ago suggested) it advised “creation of joint committees (Franco-German, German-Polish, German-Czech, Franco-Italian, Franco-German-English, German-Russian, Russian-Polish, and so on) of workers in the most important branches of production for the organization of combined campaigns and action.”

The seventh resolution was on “strike strategy.” As if the second resolution had not already ordered an industrial strategy, here the congress directed the executive bureau to publicize the report on the question and publish monographs on big strikes, and directed affiliates to publish material on “the methods and means” of strikes in their countries. It called on “all revolutionary unions to treat the question of strike strategy with utmost seriousness, for without thorough study of every experience of strike struggle, without mutual and broad acquaintance of the revolutionary workers of one country with the experience of other countries, without concentration of all forces, without planned, systematic preparation of small and large conflicts with capital, the revolutionary proletariat will not be able to defeat concentrated, backed by the contemporary bourgeois state’s full might, monopolistic capital.” But it offered no guidance in connecting research to the practice of concentration or industrially strategic operations.

In their tenth resolution, on “organizational building,” the delegates acted on numerous complaints of unions acting (or not) in isolation. “Separate trade unions are to

be joined together in industrial unions,” they ruled, “and separate industrial unions are to be unified as groups according to the most important branches of production. Industrial unions of a given country are to be unified on an international scale, at which level this unification is nevertheless to be carried out from below in the process of joint struggle.” In this same resolution they surprisingly elaborated Lozovsky’s push for “economic counter-intelligence” to order without so naming it the institution of workers’ agencies for advising on technical and industrial strategies. “Economic intelligence is to be organized at all union cells [*iacheikakh*, also slit trenches, foxholes]. The task of such an intelligence apparatus...consists in determining the real forces and intentions of the capitalists. For the construction of such an intelligence apparatus revolutionary unions and minority [i.e., Communist] movements in other unions are to start without delay in the person of the existing commissions of workers’ control. In addition, into this work through unions are to be drawn employees of banking and administrative enterprises and also of establishments and organizations regulating industry.”⁶¹⁸

Whoever drafted Resolution No. 21 (of 28 in all), on the Canadian Trade Union Educational League’s “program of action,” did the congress’s last industrial analysis. It began sharp and promising. “The railways constitute the arterial system of Canada and 79,000 organized railway workers are potentially the most powerful single body of organized workers in the Dominion.” (Canada’s labor force then numbered about 1,100,000, in transport and communications ca. 225,000.) But in three paragraphs it dwindled into a little string of flimsy, intelligence-free, de strategized, intra-industry exhortations.⁶¹⁹

⁶¹⁸ *III kongress*, 332-3, 343-344, 350.

⁶¹⁹ *Third World Congress*, 57.

As RILU's secretary-general Lozovsky continued to speak and write much about international labor strategies. These strategies, however, he like most Communist intellectuals already in 1924 increasingly reckoned in political or cultural terms (or bothwise). He did not forget the divisions of labor, but he urged his comrades ever more to capture hearts and minds.⁶²⁰ During the Comintern's reorganization for "the third period," expecting "sharp accentuation of capitalism's general crisis," he pressed RILU agents hard for more sensitivity to popular humors. At the RILU's fourth congress, March-April 1928, he redefined "strike strategy" culturally. "The problem of our strike strategy is the problem of the conquest of the masses," he said, as Gramsci and various others had been arguing. "...an incorrect approach to a strike, an insufficiently attentive relation to those processes that go on in the masses, thoughtlessness in capturing the mood of the masses, attempts to substitute the mass by apparatus, all this can lead only to defeat." For example, he told them, look at China (the great Communist urban revolutionary movement and disaster there, 1925-27). "In each country you have to study the question [of strikes], and each line of production you have to approach with special attention, especially those...that are concentrated. You have to find ways of organization

⁶²⁰ E.g., A. Losovsky, *Lenin, The Great Strategist of the Class War*, tr. Alexander Bittelman (Chicago: Trade Union Educational League, 1924); idem, *Lenin and the Trade Union Movement* (Chicago: Trade Union Educational League, 1924); idem, *The World's Trade Union Movement*, tr. M.A. Skromny (Chicago: Trade Union Educational League, 1924); idem, *Die internationale Gewerkschaftsbewegung vor und nach dem Kriege* (Berlin: Führer, 1924); *Edinstvo mirovogo profdvizheniia: doklady i rechi na VI S'ezde profsoiuzov SSSR* (Moscow: Profintern, 1925), 73-77; A. Lozovskii, *Parizh, Breslavl', Skarboro* (Moscow: Profintern, 1925); idem, *Na frantsuzskom s'ezde: rech' na s'ezde Unitarnoi Konfederatsii Truda vo Frantsii 29-go avgusta 1925 g.* (Moscow: Profintern, 1925), 8-12, 35; idem, *Le mouvement syndical international: avant, pendant et après la guerre* (Paris: Internationale Syndicale Rouge, 1926); *IV sessiia Tzentral'nogo Soveta Krasnogo Internatsionala Profsoiuzov, 9-15 marta 1926 g.: ochët* (Moscow: Profintern, 1926), 27-30, 70-71; A. Lozovsky et al., *Rabochaia Amerika: sbornik statei* (Moscow: Profintern, 1926); idem, *Wie kann die Einheit der Gewerkschaftsbewegung hergestellt werden?* (Moscow: Roten Gewerkschafts-Internationale, 1926; 5-20; idem, *Der Streik in England und die Arbeiterklasse der Sowjetunion* (Moscow: Rote Gewerkschafts-Internationale, 1926); idem, *Mirovoe profdvizhenie nakanune desiatoi godovshchiny Oktiabria* (Moscow: Gosizdat, 1927). Cf. the similar emphasis on morale, the negligence of transport and communications, in Emile Burns, *The General Strike, May 1926: Trades Councils in Action* (London: Labour Research Department, 1926), 21-68.

so as to counteract concentrated capital; you have to do research on the methods of organization for opposing international trusts and cartels. All this [study and research and at least industrially specific organizing] you have to do, but"--no longer for industrial or technical intelligence, rather to win workers' feelings--"you have to do it in such a way that each step, each act, each demand, each statement, each article and the program, action, speeches, all this is subordinated to one and the same goal, conquering the masses for the side of independent activities against capital."⁶²¹

The old industrial and even the technical lessons stuck in some Communist minds. In the United States the executive director of the new Labor Research Association, for a series of "industrial studies....from an avowedly labor point of view," wrote one study himself, on the automobile industry and its workers. Arguing for an industrial union of auto workers, he dwelt much on the unskilled majority, but cautioned against neglect of the skilled minority. "The assembly line workers, when questioned on organization and strike prospects, often ask: 'Would the tool and die makers strike too?' These workers are very important... They must be appealed to as the most strategically situated forces in any mass movement, and the danger, even after they are organized, of their splitting off from the industrial union into rival A.F.of L. craft unions must be carefully guarded against."⁶²²

After major industrial conflicts in Poland and Germany in the fall of 1928, an RILU-sponsored "International Conference on Strike Tactics" took place in Strassburg in

⁶²¹ *IV kongress Profintern, 17 marta-3 aprelia 1928 g.: stenograficheskii otchët, resoliutsii i postanovleniia* (Moscow: Profintern, 1928), 55-56, 295-297.

⁶²² Robert W. Dunn, *Labor and Automobiles* (New York: International Publishers, 1929), 7, 211. See also Anna Rochester, *Labor and Coal* (New York: International Publishers, 1931), 10; Charlotte Todes, *Labor and Lumber* (New York: International Publishers, 1931), 186; Horace B. Davis, *Labor and Steel* (New York: International Publishers, 1933), 9, 229-231.

January 1929. There Lozovsky renewed his industrially strategic discourse, in military language. He urged planning “strike strategy and tactics” for “the economic struggle.” The conferees considered the strike “a variety of war,” and sought “to outline for the battling proletarian army those offensive and defensive operations...making for...its maximal success in combat.” To oppose the defeatist “social-democratic strategists,” Lozovsky recalled the analogy of military science, military schools in every country using military history as “the basic material” for teaching “strategy and tactics.” Against the “reformist strategy” of a united front with the bourgeoisie to disorganize “the proletarian front and rear,” against the reformist claim that “economic struggle” was “anarcho-syndicalism,” he urged “study of gigantic economic battles” for “instructive material” precisely because of “the mutuality between economic and political struggle.”⁶²³

But of the conference’s ultimately 20 “decisions,” only one pertained to production. Decision IX addressed an old revolutionary Socialist concern, an old syndicalist specialty, now a Communist imperative there. Against capital’s concentration and recent “rationalization,” how to stop lockouts, how to spread strikes? The directions for both were on the simple side: extend operations, which you could do “along a vertical line or along a horizontal line, i.e., capturing...the workers of the given industry, or other [related] branches of industry, or workers of the entire region.” Which line, which kind of “reserves” should you call on? “...it depends on where the weakest place is for the entrepreneurs affected by the conflict.” And that you discover by studying “a trust’s

⁶²³ *Voprosy stachechnoi taktiki: Resheniia mezhdunarodnoi stachechnoi konferentsii v Strasburge v ianvare 1929 g.* (Moscow: Profintern, 1929), 5-9. Cf. *Problems of Strike Strategy: Decisions of the International Conference on Strike Strategy Held in Strassburg, Germany, January, 1929* (New York: Workers Library, 1929), 9-13.

connected and subordinated businesses, then...those businesses that supply raw materials or finish and distribute the products.” See if the businesses can transfer orders one to another, or meet their local shortages by shipments from other regions or from abroad. Against this maneuver “a very strongly effective weapon” was cutting off land and sea transport and public utilities (electricity, gas, etc.).”⁶²⁴

The other decisions were all political and cultural. And the directions were for hyper-sensitivity to the masses’ moods. The very first decision warned, “The most dangerous thing in an economic struggle is improvisation in calling for a strike under the influence of feelings, and not on cold calculation.”⁶²⁵ But the calculation essential in 19 of the 20 decisions lay in interpreting angry workers’ emotions and displaying the broadest possible respect for them, to induce voluntary mass action that RILU activists could lead.

From January to March 1930 Lozovsky gave five lectures on “the strike” at the Comintern’s Lenin School for party organizers. Only once did he go into the industrial argument, in the second lecture, on “politics and economics,” or, as he rephrased its topic, “economic struggles and our tactics,” but without a word of “strategy.” The character of economic struggle depends on numerous conditions, he explained, “above all on *where the given economic conflict takes place*.” For example, he said (yet again, classically), if it is “on the railroad or in the electrical industry, or includes other public enterprises, like waterworks, then this conflict with one blow acquires a more extensive and more general character than the original dimensions of the strike or conflict in question.” A conflict’s importance, he said, repeating (without knowing it) Parvus’s point

⁶²⁴ *Voprosy stachechnoi taktiki*, 29-30.

⁶²⁵ *Ibid.*, 17.

yet again, is a matter of “*the branch of industry in which it develops.*” For example, take a strike “anywhere in private industry, let’s say among garment workers, and an economic conflict in an iron and steel trust’s enterprises, e.g., US Steel... Such conflicts have different importance, not only because the number of involved workers is different--here quantity changes into quality--but because they implicate different strata of businessmen, whose influence on the bourgeois state apparatus is not equal,” which was not exactly Parvus’s point. But he came back to it, or close to it. “Naturally a conflict in the iron and steel trust, in heavy industry, or let’s say in the coal industry, insofar as these main branches of industry are *leading* in the bourgeois state, gains at once the importance of a general class conflict, for it puts the workers in opposition not only to the businessmen of that branch of industry, but also to the state, which is controlled by them.” He explained also, if not so clearly, that economic conflicts differed according to the period when they happened, e.g., in wartime, or before or after a war, or when capitalist industry was developing, or in decline. Trying to generalize the argument for the organizers, he resorted to philosophy. Help yourself to Hegel’s rule, he advised them, reassuring them it had become “a permanent part of Marxist thought,... ‘*the truth is concrete.*’” He brought the generality back to an anti-generalizing rule of thumb: “We can’t talk about economic struggles in general. We have to evaluate this or that economic struggle, one or another economic conflict, in order to comprehend the whole situation, the totality of all conditions, the balance of forces, and so on....” But his dialectic came loose: “...and only then [after comprehending the whole situation] can the degree of political importance that’s due to a particular conflict be weighed, only then can the connection between [the conflict’s] economics and politics be self-evidently settled.”⁶²⁶

⁶²⁶ A. Losowsky, *Der Streik: Fünf Vorträge gehalten an der Lenin-Schule zu Moskau* (Moscow: Rote

The third lecture was on “the strike as battle in the class struggle (the application of military science to leadership of the strike movement),” the fourth on “strike strategy and tactics.” In these the military analogies repeated in the RILU since 1923, Lozovsky faithfully reiterated. He omitted Moltke, Bernhardt, and Hindenburg, but gave Clausewitz (whom he reassured his students Lenin had recommended) a magnificent representation. And he discussed some particular strikes in military terms. But he did not bring the previous lecture’s industrial argument into either lecture’s military discourse. For his students’ needs he tried to find or phrase some more rules, but to no operational or consistent or even vivid effect. Here “I emphasize,” he said, “the most important rule of strategy and tactics, *that in defensive struggle alone you cannot possibly win.*” True, actually a truism. Appended were 1929’s “decisions” so insistent on sensitivity.⁶²⁷

Lozovsky remained the RILU secretary-general until the organization closed during the Popular Front, in 1937-38. Although of course he continued to express authoritative analyses and judgments on unions, often in military language, he never again for any public (so far as I know) went into any industrially or technically strategic argument.⁶²⁸

Gewerkschafts-Internationale, 1930), 31-32. Throughout the lectures Lozovsky ignored the RILU’s third congress, in 1924, citing antecedents no farther back than the fourth, in 1926.

⁶²⁷ *Ibid.*, 46-47, 50-52, 54-55, 57, 60-61, 67, 71, 76-77, 91-111. Cf. Selznick, *op. cit.*, 102-104.

⁶²⁸ A. Lozovsky, *Die Rote Gewerkschafts-Internationale im Angriff. Drei Reden...* (Moscow: Rote Gewerkschafts-Internationale, 1930); idem, *The World Economic Crisis: Strike Struggles and the Tasks of the Revolutionary Trade Union Movement* (Moscow: State publishers, 1931); idem, *Karl Marx und die Gewerkschaften* (Moscow: Ausländischer Arbeiter in der UdSSR, 1934); idem, *Za edinstvo mirovogo profdvizheniia 9 avgusta 1935 g.* (Moscow: TsKVKP(b), 1935); idem, ed., *Handbook on the Soviet Trade Unions, for Workers’ Delegations* (Moscow: Foreign Workers in the U.S.S.R., 1937); idem, *Polozhenie rabocheho klassa kapitalisticheskikh stran i bor’ba za edinstvo profdvizheniia* (Moscow: Profizdat, 1938).

Chapter IX. Western Marxists: Industrial Warfare, Ideological Struggle, Strategic Power, and Social Movements, 1935-2003

Neither (so far as I can now tell) did Communist or other Marxists in Western Europe, Africa, or Asia, anyway until after World War II. Communist, Socialist, and Trotskyist union organizers continued to collect industrial and technical intelligence for their parties. But their parties did not publish it; the only “strategic” references I have found in their publications, which are rare, are political.⁶²⁹ However private this intelligence, it became practically secret after Dimitrov’s speech in mid-August 1935 on “Unity of the Working Class against Fascism,” to commit the Comintern’s sections to a “Popular Front against fascism.” For security and because of the rules of bourgeois democratic discourse Communists would not divulge their privileged information. And

⁶²⁹ E.g., Ernst Thälmann, “Zu unserer Strategie und Taktik im Kampf gegen den Faschismus [1932],” in idem, *Reden und Aufsätze, 1930-1933*, 2 vols. (Köln: Rote Fahne, 1975), II, 114-145; Leon Trotsky, “A Strategy of Action and Not of Speculation--Letter to Peking Friends [1932],” *Class Struggle*, III, 6 (June 1933), 4-10.

neither would the others, if only to keep Communists from using it. Industrial and technical operations identified as “strategic” disappeared then from Marxist print, I would bet, everywhere in the Eastern Hemisphere. Even in party schools (i.e., the Comintern’s, not places like SUNY-Albany), although such matters were occasional subjects of discussion, they faded into general lessons, or evanesced into high theory.⁶³⁰

But they remained under discussion in the CPUSA. And in the world’s biggest capitalist country, where bourgeois democracy was safest, the industrial working-class had a strong syndicalist streak, and Communists would have to guide a tremendous new labor movement despite the dangers of dual unionism in order to build a Popular Front, the Comintern evidently encouraged the discussion. “J. Peters,” whom it sent to the United States in 1924, had landed here already wise to workers’ industrial and technical as well as political strongpoints. Born in 1894 in Cop, Hungary (now Chop, Ukraine), a railroad junction and border town, he had known material divisions of labor as a little boy, his paternal grandfather “a needletrade worker,” his father a railroad brakeman later a café-owner, his maternal grandfather a locomotive engineer, his mother the family café’s cook. His grandfather the engineer raised him in Debrecen (Hungary), a railroad division point. At home one brother became a “skilled machinist,” the other an “unskilled factory worker.” Four years an infantryman in World War I, “Peters” joined the Hungarian Communist Party in 1918, helped organize the Cop and Debrecen railroad shops, served in the Hungarian Red Army in 1919, then over the border north in Czechoslovakia organized organizers for the party in Uzhorod, another railroad junction and the regional (Transcarpathian) capital. Many other industrial and technical strengths

⁶³⁰ Palmiro Togliatti, *Lectures on Fascism* [1935], tr. Daniel Dichter (New York: International Publishers, 1976), 59-72; Mao Tse-Tung, “On Practice [1937]” and “On Contradiction [1937],” *Selected Works*, 4 vols. (Peking: Foreign Languages Press, 1967-69), I, 295-309, 311-347.

(and weaknesses) he did not yet understand in 1924, he learned working in small New York City factories, then as a Chicago District organizer, among Southern Illinois mineworkers, Gary steelworkers, and South Bend automobile workers. Five years he then spent back in New York apprentice to the party's best organizers there. Elected New York District organizational secretary in 1930, he served as the central committee directed at the party's national training school for organizers, teaching its course on "Organizational Principles." At Paterson on the strike's first day in 1931 he helped "bring down shops" at the silk mills. The next year he trained at the Comintern in "organizational issues." Back in the United States in 1933 he may then (if Whittaker Chambers told it true) have started organizing the party's new "*konspirativnyye*" connections in Washington and in Hollywood.⁶³¹

Two years later he certainly showed a strategic conception of industrial organization. In July 1935 he published in New York his "manual" on Communist organization, 117 pages of text, plus an index. He kept losing his focus between "big" and "strategic," and used "strategic" inconsistently. But in the chapter on "structure and functions" he made the strategic argument on industries clear enough. "The most important points" for the party to organize were "1. The big factories, mines, mills, docks, ships, railroads, etc., where the great masses of the basic sections of the proletariat are employed... The basic organization of the Party is the Shop Unit (Nucleus)...three members or more in a...factory, shop, mine, mill, dock, ship, railway terminal, office,

⁶³¹ On "J. Peters," "J. Peter," "József Péter," or "Isidor Boorstein," or the same under other names (maybe "Sandor Goldberg"), Whittaker Chambers, *Witness* [1952] (Chicago: Regnery, 1970), 32, 48, 244, 250-251, 309-310, 321, 342, 347, 369-370, 468, 543-544; David J. Dallin, *Soviet Espionage* (New Haven: Yale University, 1955), 412-413; Allen Weinstein, *Perjury: The Hiss-Chambers Case* (New York: Knopf, 1978), 58-62???; Harvey Klehr et al., *The Secret World of American Communism* (New Haven: Yale University, 1995), 73-97; Mária Schmidt, "A Rajk-per és az amerikai kapcsolat [The Rajk Trial and the American Connection]," *Korunk*, IX, 5 (May 1998), 89-107, www.hhrf.org/korunk/9805/5k15.htm, for translating which I thank Helena Toth.

store, farm, etc.” The party’s other basic organization was the street or town unit, “members living within a given territory.” But a shop unit mattered more. “The strategic importance of a Shop Unit, or Concentration Section, or of a District is the governing factor in deciding the number of delegates to the [party’s highest body, the National] Convention. ...the Section Committee can decide whether a Shop Unit from a big factory sends proportionately more delegates to the Section Convention than a Street Unit with the same number of, or perhaps even more, members.” And he explained why. “The main strength of our movement is in the Units (Nuclei) in large factories because: 1. The large factories and railroads are the nerve centers of the economic and political life of the country...” But “large” did not matter as much as “basic,” as he further explained. “The Party should concentrate all its forces and energy to build Shop Units, first of all in the basic industries. Basic industries are those upon which the whole economic system depends. They include: 1. Those which produce material for production, like steel, mining, oil, chemicals. 2. Those which deliver material to the place of production or consumption, like railroad, trucking, marine, etc. 3. Those which produce power for running the wheels of industry, electric power plants, steam and hydro-electric plants.” Strong shop units “in these basic industries with a mass following” in the automobile, textile, and packinghouse industries “could really...deliver decisive blows to capitalism.” He even headed toward a technically strategic argument. Why inside an industrial operation, including transportation, was “the Shop Unit (Nucleus) the best form of basic Party organization?” Among nine reasons, the first was economic (easier formation of a bargaining unit), the second (at least implicitly) technical. “A properly working, well-trained, politically developed Shop Unit...cannot be found out and gotten rid of by the

boss. In order to stop the work of such a Unit, the boss must close the factory. That means stopping production--shutting off the profits.” There lay the main difference between Socialist and Communist organization: “the Socialist Party organizations (branches) are built on the basis of bourgeois election wards and districts while the Communist Party is built on the place of employment. Party members who work in the same shop cannot belong to different Street Units.”⁶³²

In 1936 “Peters” went into the party’s conspiratorial “apparatus,” and in 1938 went deep underground. But meanwhile, running a united front from below in the AFL and pushing a popular front in the CIO, Party National Chairman William Z. Foster continued to insist as in the old RILU on the vital necessity of “strike strategy,” not only political but industrial too, and at least once, in the parable of the cook, on a technically strategic position.⁶³³ Whittaker Chambers bears witness credibly here: In 1939 he agitated against “the Party ‘underground’ in what Communists call ‘strategic places’--to mention only the least strategic, the Post Office....”⁶³⁴ Coherent details of various Marxist organizers in industrially or technically strategic action came into public print then and later in lore, memoirs, and autobiographies, e.g., of V. R. Dunne, Karl

⁶³² J. Peters, *The Communist Party: A Manual on Organization* (N.p.[New York]: Workers Library, 1935), 36-62 (quotations, 36, 38, 45-48).

⁶³³ William Z. Foster, *Industrial Unionism* (New York: Workers Library, 1936), 19-20, 23, 44; idem, *Unionizing Steel* (New York: Workers Library, 1936), 9, 12-13, 23, 25, 27-28, 35-37; idem, *Organizing Methods in the Steel Industry* (New York: Workers Library, 1936), 3-4, 6, 8 14-15, 17; idem, *From Bryan to Stalin* (New York: International Publishers, 1937), 117, 123-124; idem, *What Means A Strike in Steel* (New York: Workers Library, 1937), 8-9, 11-27, 30, 33-34, 36, 47, 49; idem, *A Manual of Industrial Unionism: Organizational Structure and Policies* (New York: Workers Library, 1937), 5, 16-22, 49-51. His political criticism of a simply industrial, syndicalist strategy: *From Bryan to Stalin*, 34-36, 42-43, 46, 61-63, 149-150, 160-162. The parable: *What Means A Strike*, 20. It is interesting genderwise.

⁶³⁴ Karl [Whittaker Chambers], “The Faking of Americans,” quoted in Klehr et al., *op. cit.*, 95.

Skoglund, Wyndham Mortimer, or Robert Travis, “the most brilliant strike strategist the UAW ever had.”⁶³⁵

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After World War II, the tremendous strikes across the United States in 1945-47 challenged Marxists here to understand them and lead them accordingly. Like the great struggles of 1918-20 and 1930-33 they opened historic opportunities for a working-class party, and drove anti-socialist labor leaders to try to stop pro-socialists from organizing bases in labor for it. But unlike before, these post-war strikes happened in the world of the United Nations, a co-victorious Soviet Union, the WFTU, Euro-decolonization, and the atom bomb, all of which seemed to Marxists to make socialism both probable and urgent. And despite the federal laws for collective bargaining this great labor movement gave spectacular proof of certain workers’ industrial and technical power, e.g., classically, in the country’s first nationwide railroad strike. U.S. Communists, having strained during the war to prevent strikes, now fought to lead them in a kind of revival of the united front from below for “a mass people’s party.” Chairman Foster called again as if from the RILU for serious “strike strategy.”⁶³⁶ Two years later a federal jury convicted him and his party’s other national officers under the Alien Registration Act of “willfully and knowingly conspiring (1) to organize as the Communist Party of the United States of America a society, group and assembly of persons who teach and advocate the overthrow and destruction of the Government of the United States by force and violence, and (2)

⁶³⁵ Charles R. Walker, *American City: A Rank-and-File History* (New York: Farrar & Rinehart, 1937), 88-127, 163-221; Farrell Dobbs, *Teamster Rebellion* (New York: Monad, 1972), 21-22, 42, 57, 58, 61-62, 66, 71-91, 119-159; Henry Kraus, *The Many & the Few: A Chronicle of the Dynamic Auto Workers* (Los Angeles: Plantin, 1947), 31-55, 70-85; Wyndham Mortimer, *Organize! My Life as a Union Man* (Boston: Beacon, 1971), v, 95-96, 103-104, 120, 126-127, 131, 138, 146-149, 153, 185.

⁶³⁶ William Z. Foster, *Problems of Organized Labor Today* (New York: New Century, 1946), 17-23, 27; idem, *American Trade Unionism: Principles and Organization, Strategy and Tactics: Selected Writings* (New York: International Publishers, 1947), 22, 25-28, 32 n*, 43, 107-111, 155-156, 169, 171, 219-242.

knowingly and willfully to advocate and teach the duty and necessity of overthrowing and destroying” said government by force and violence.⁶³⁷ Even under this heat a (still Communist) former CIO steel organizer, become in 1950 an AFL hotel workers’ treasurer, published a sharp, tough, rousing defense of strikes, including “a practical manual” on their conduct, viz., “strike strategy.” There, coming from the RILU’s third congress, 1924, through the lectures at the Lenin School in 1930, is Lozovksy’s explanation of military analysis in “industrial warfare,” uncited (of course), in good American English, but a faithful translation, right down to mentioning Clausewitz. Besides, in abundance, the author offered many industrial examples and some technical lessons from U.S. labor history, e.g., “the key plants and departments [must] receive special attention... Not all the plants are of equal importance. There is always a key plant or department, upon which production, or lack of production, depends....the key point of production,” and “spread the struggle.”⁶³⁸ But his was (to my knowledge) the last public Communist consideration of such keys.⁶³⁹

Already during the war Trotskyists had publicized workers’ power, in wildcat strikes in the United States and in the soviets (they saw) in the works councils organizing across Europe in 1943-44.⁶⁴⁰ After the war every Trotskyist “tendency” presented its own strategy for fortifying the proletarian cause. But few of these strategies were industrial; none was technical. Cannonism professed “concentration on trade union work,” and introduced “automation” into socialist discussion, but its strategy was always

⁶³⁷ U.S. Supreme Court, *Dennis v. United States*, 341 U.S. 494 (1951).

⁶³⁸ John Steuben, *Strike Strategy* (New York: Gaer Associates, 1950), 63-86, 91, 119, 138-139, 148.

⁶³⁹ Cf. William Z. Foster, *History of the Communist Party of the United States* (New York: International Publishers, 1952), 299, 347, 561: three passing references to “strike strategy.”

⁶⁴⁰ Comité Exécutif Européen de la IVe Internationale, “Résolution sur la stratégie de sections européennes de la IVe Internationale dans les luttes ouvrières,” *Quatrième Internationale*, n.s., No. 4 (February 1944), 17-20.

“ideological,” or “educational.”⁶⁴¹ The Johnson-Forest Tendency looked “right at the point of production,” and found there an interesting individual worker (a machinist), but collectively only “the self-mobilization of the proletariat.” And thence its “strategic conclusions” soared into the wild, blue yonder: “abolish organization....develop spontaneity--the free creative activity of the proletariat.”⁶⁴² The Shachtmanites in their “third camp” kept backing “the reformist officialdom against the Stalinist officialdom,” their strategy ever more simply propagandistic, until the one still recognizable Marxist among them adopted a strategy of politics and culture.⁶⁴³ The Chaulieu-Montal Tendency foresaw workers overthrowing “the fixed and stable distinction between *dirigeants* and *exécutants* in production and in social life in general,” organizing their own macro- and micro-*gestion*, or all humanity suffering “degradation and brutalization.” The proletariat’s capacity to overcome “capitalist and bureaucratic barbarism,” Montal argued, came straight from its history, its “*experience*,” viz., its “progressive self-organization,” and (explicitly against American industrial sociology then) he framed a brilliant design for research on the “fundamental question, how men placed in conditions of industrial work adapt to this work, knot specific relations among themselves, perceive and practically construct their relation with the rest of society, in a singular way compose

⁶⁴¹ James P. Cannon, *The Struggle for Socialism in the “American Century”*: Writings and Speeches, 1945-1947 (New York: Pathfinder, 1977), 86-94, 290, 299-304; idem, *American Stalinism and Anti-Stalinism* (New York: Pioneer, 1947), 29-34; idem, *Speeches to the Party: The Revolutionary Perspective and the Revolutionary Party* [1952-1953] (New York: Pathfinder, 1973), 54-63, 124-135; Lynn Marcus, “Automation: The New Industrial Revolution,” *Fourth International*, Spring 1954, 53-58.

⁶⁴² Grace Lee Boggs, *Living for Change: An Autobiography* (Minneapolis: University of Minnesota, 1998), 48; J. R. Johnson [C.L.R. James], F. Forest [Raya Dunayevskaya], and Ria Stone [Grace Lee Boggs], *The Invading Socialist Society* (New York: Johnson-Forest Tendency, 1947), 9-11, 20; Paul Romano [Philip Singer], *Life in the Factory* [1947] (Boston: New England Free Press, 1969), 34-41; C. L. R. James, *Notes on Dialectics: Hegel, Marx, Lenin* [1948] (New York: Lawrence Hill, 1980), 117. Cf. Tony Cliff, *State Capitalism in Russia* [1948] (London: Pluto, 1974), 127-130.

⁶⁴³ Max Shachtman, “A Left Wing of the Labor Movement: Two Concepts of the Nature and Role of Stalinism,” *The New Internationalist*, September 1949, 209; Irving Howe and B.J. Widick, *The UAW and Walter Reuther* (New York: Random House, 1949), 24-25, 58-65, 78-79, 150; Irving Howe and Lewis Coser, “Images of Socialism,” *Dissent*, I, 2 (Spring 1954), 122-138.

an experience in common that makes of them a historic force.” But he did not inquire into their relations of industrial or technical power at work, seeking instead their “attitudes” and “mentality.”⁶⁴⁴ Pabloism’s industrial strategist, explaining his plan for factory occupations, advised workers to take “a key enterprise threatened with a lock-out and preferably using [domestic] inputs,” organize national support, operate the plant themselves, and sell the product “according to the population’s needs....” He and Pablo hailed *contrôle ouvrier* and *autogestion*, but never explained what control or management of a plant in production required industrially or technically.⁶⁴⁵ The Cochranites, veterans of struggle “at the point of production” in Detroit, Flint, and Toledo, sure that industrial work gave industrial workers “class instinct,” pressing therefore “to proletarianize the [Socialist Workers] party,” expressed only a political strategy.⁶⁴⁶ The quasi-Bordigan Italian Socialist Left brilliantly expounded the logic of industrial and technical strategy, in which workers’ “informed awareness...and therefore *positive*, intelligent initiative” would be “decisive” for socialist economic development, but never got to concrete analysis.⁶⁴⁷ The Naville ex-Tendency, no longer in a party, but highly influential in the

⁶⁴⁴ Cornelius Castoriadis, “Phénoménologie de la conscience prolétarienne [1948],” in idem, *La société bureaucratique*, 2 vols. (Paris: Union Générale d’Éditions, 1973), I, 123-129; idem, “Socialisme ou barbarie [1949],” *ibid.*, I, 176-183; Claude Lefort, “Le prolétariat et sa direction [1952],” in idem, *Éléments d’une critique de la bureaucratie* (Geneva: Librairie Droz, 1971), 31-32 (his emphasis); idem, “L’expérience prolétarienne [1952],” *ibid.*, 45-58.

⁶⁴⁵ E. Germain, “Occupations d’usine et mouvements agraires en Italie,” *Quatrième Internationale*, VIII, 1 (December 1949-January 1950), 25-26; idem, “La révolution politique en Pologne et en Hongrie,” *ibid.*, XIV, 10-12 (December 1956), 19-20, 29-30; Ernest Mandel, *Traité d’économie marxiste*, 2 vols. (Paris: René Julliard, 1962), II, 209, 275-277, 327-328, 352-353, 363-367; Michel Raptis, “Le dossier de l’autogestion en Algérie,” *Autogestion: Études, débats, documents*, No. 3 (September 1967), 4-10, 70-78; Ernest Mandel, ed., *Contrôle ouvrier, conseils ouvriers, autogestion: Anthologie* (Paris: Maspéro, 1970), 7-45, 317-425.

⁶⁴⁶ J. Andrews et al., “The Roots of the Party Crisis--Its Causes and Solution: Document Submitted to the Political Committee of the Socialist Workers Party [1953],” in Cannon, *Speeches to the Party*, 347-352; Harry Braverman, “Labor and Politics,” in Bert Cochran, ed., *American Labor in Mid-Passage* (New York: Monthly Review, 1959), 99-112.

⁶⁴⁷ Raniero Panzieri, “Appunti per un esame della situazione del movimento operaio [1957],” Gaetano Arfé, ed., *Mondo Operario, 1956-1965*, 2 vols. (Florence: Luciano Landi, 1966-67), II, 746-748; idem and Lucio Libertini, “Sette tesi sulla questione del controllo operaio [1958],” *ibid.*, II, 835-838; idem, “Un

French Ministry of National Education, directed public attention to new technologies' effects on the divisions of labor, examined automation's critical need for maintenance, introduced Dunlopian *comportement stratégique* into French sociologese, and drew suggestive parallels between modern war and industrial work. But it remained stuck on psychology (Watsonian behaviorism!): the *sociologie du travail* it helped to create, mainly a sociology of occupations, had only a vocational strategy.⁶⁴⁸

Other French Marxists, in the new Parti Socialiste Unifié, insisted on automation's revolutionary potential. Following (tacitly) the Naville ex-Tendency, an analyst of "the new working class" emphasized its "social psychology," particularly automation's "integration" of workers into the firm, that in the most advanced industries "for the first time in history" workers, technicians, and production managers were together merging unionism and socialism. He especially noted "*the means of pressure that the relations of [automated] production themselves*" gave unions to gain "effective participation" in a company's *gestion*. There was "*la grève 'presse bouton'* [the push-button strike], ... a system of meticulous organization of the strike based on the system of

dibattito sul 'l'Unità' [1958]," *ibid.*, II, 883-884; Raniero Panzieri, "Sull'uso capitalistico delle macchine nel neocapitalismo [1961]," *Spontaneità e organizzazione: Gli anni dei "Quaderni rossi", 1959-1964* (Pisa: Franco Serantini, 1994), 25-41; idem, "Lotte operaie nello sviluppo capitalistico [1962]," *ibid.*, 73-92; idem, "Spontaneità e organizzazione [1963]," *ibid.*, 111-115 (his emphasis); Vittorio Foa, "Lotte operaie nello sviluppo capitalistico [1961]," *Quaderni Rossi*, reprint, 6 vols. (Rome: Nuove Edizioni Operaie, 1976-1978), I, 1-17; Dario Lanzardo, "Il trasporto della forza-lavoro nel processo capitalistico di produzione," *ibid.*, II, 191-201.

⁶⁴⁸ Pierre Naville, "L'avenir des élites et la réforme de l'enseignement," in Charles Bettelheim et al., *La crise française: Essais et documents* (Paris: Pavois, 1945), 116-117, 128-131, 142-152; idem, *Théorie de l'orientation professionnelle* (Paris: Gallimard, 1945), 250-286; idem, *Le nouveau Leviathan: De l'alienation à la jouissance: La genèse de la sociologie du travail chez Marx et Engels* (Paris: Marcel Rivière et Cie., 1957), 405-416, 431-437, 466-474; idem et al., *L'automation et le travail humain: Rapport d'enquête (France, 1957-1959)* (Paris: Centre National de la Recherche Scientifique, 1961), 285-286, 309-310, 390-392, 402-405, 423-424, 478-480, 707-715; idem and Pierre Rolle, "L'évolution technique et ses incidences sur la vie sociale," in Friedmann and Naville, *Traité de sociologie du travail*, I, 364-370; Pierre Naville, "Le progrès technique, l'évolution du travail et l'organisation de l'entreprise," *ibid.*, I, 371-386; and idem, "Travail et guerre," *ibid.*, II, 305-327. The Dunlopian reference, *ibid.*, I, 383, is to Sayles, *Behavior*. Naville knew Bright on automation and maintenance: *ibid.*, I, 461. On his connections with Henri Wallon at the Education ministry, Elisabeth Pradura, "Interview with Pierre Naville," February 18, 1987, <picardp1.ivry.cnrs.fr/Naville>.

organization of the firm itself. ...the essential thing is to hit management at its most sensitive points,...interrupting production not where the “climate” for making demands is necessarily the strongest, but where stopping production is liable to paralyze important orders or block the start-up of certain production series. ...it is a technical conception of striking based on the firm’s characteristics of production and on its inability to put into place a procedure for repression in regard to the technicians.” On such a strike the union’s leadership resembled “a real technical general staff, whose decisions must be followed with discipline by the entire membership.” A long strike at Thomson-Houston in Bagneux in 1959 was “a series of *coups de butoir* [fender bumpings] day after day at different essential points liable to disturb management.... Here a lab, there a shop, or a section of a shop, they would shut it down for an hour, an hour and a half. In fact 1/25th of the firm was shut at a time, but the repercussion of these different plugs was such that all the firm’s production was paralyzed. Altogether 10% of working hours on strike blocked all production for six weeks. ...the slogan: ‘A minimum loss for personnel with a maximum loss for management.’” This particular strike had carried onto the French left’s “strategic and tactical map,” provoking some discord in the Communist Party and encouraging the foundation of the PSU.⁶⁴⁹ Another PSU intellectual then wrote copiously about French labor’s needs for new “strategy,” which he described eloquently, e.g., “a strategy of progressive conquest,” but rather as he thought Marcuse would, not concretely.⁶⁵⁰

⁶⁴⁹ Serge Mallet, *La nouvelle classe ouvrière* (Paris: Seuil, 1963), 14-19, 22-23, 30-31, 49-59, 92, 111, 123-128, 140, 161-176, 233-238, 242-243, 246-249, 251. Cf. Pierre Belleville, *Une nouvelle classe ouvrière* (Paris: Julliard, 1963).

⁶⁵⁰ André Gorz, *Stratégie ouvrière et néo-capitalisme* (Paris: Seuil, 1964), 10, 20, 24-25, 28, 31-32, 38, 46, 49, 52-54, 75, 98, 124-125, 169, 174, 181-182, 184. I find no suggestion in either Mallet’s or Gorz’s book of any even indirect acquaintance with Dunlop’s arguments.

Marxists eventually (occasionally) Maoist brought no question of workers' industrial or technical strategy to public debate either. Of those concentrating on economic matters, the most prominent never put their explanations in strategic terms. Of those otherwise occupied, e.g., at "structural Marxism," the most prominent who did use strategic language had philosophical, or epistemological, or even ontological conflict so intensely in mind that they wrote of nothing less than cosmic.⁶⁵¹

On the New Left, coming of age after 1956, Marxists had before them several impressive reasons for industrial and technical analysis of workers' power (e.g., Berlin, Poland, Hungary, Cuba). But in Great Britain the most brilliant and sophisticated ignored lessons latent in British syndicalism, and fixed on cultural contests over the Labor Party.⁶⁵² In the United States the most brilliant (forget sophisticated) steered clear of academic or independent scholarship, to dedicate themselves to the movement for "a democratic society." There, especially in SDS's Economic Research Action Projects, where they could have drawn lessons from American syndicalism for research and action for working-class power, they organized projects for the urban poor. But there they followed an economic strategy (the War on Poverty) where they most needed a cultural strategy (radical alienation), ran into Black reality (Malcolm X, Chicago's first Rainbow

⁶⁵¹ Charles Bettelheim, *Les problèmes théoriques et pratiques de la planification: Cours professé à l'École Nationale d'Organisation Économique et Sociale* (Paris: Presses Universitaires de France, 1946), 3-4, 65-66, 101, 158-169, 171-173, 237-238, 273-274; idem, *Problèmes théoriques et pratiques de la planification*, 3rd ed. (Paris: François Maspéro, 1966), 10, 14-17, 64, 68-69, 120-123, 213-214; Paul A. Baran, *The Political Economy of Growth* (New York: Monthly Review, 1957), 60 n35, 96-98, 102-105; idem and Paul M. Sweezy, *Monopoly Capital: An Essay on the American Economic and Social Order* (New York: Monthly Review, 1966), 8-9, 188-189, 191, 341-345; Louis Althusser, *Pour Marx* (Paris: François Maspéro, 1965), 205-224; idem and Étienne Balibar, *Lire le Capital*, 2 vols., 2nd ed. (Paris: François Maspéro, 1970), I, 24-30, 114, 122-131, II, 39-55, 92-99, 124-148.

⁶⁵² Paddy Whannel and Stuart Hall, "Direct Action?" *New Left Review*, 8 (March-April 1961), 16, 18-21, 24-25, 27; Perry Anderson, "Sweden: Study in Social Democracy, Part 2," *ibid.*, 9 (May-June 1961), 41-44; idem, "Critique of Wilsonism," *ibid.*, 27 (September-October 1964), 4-7; idem, "The Left in the Fifties," *ibid.*, 29 (January-February 1965), 3-18; idem, *Arguments Within English Marxism* (London: Verso, 1980), 176-207; Tom Nairn, "The Nature of the Labour Party, Part 1," *ibid.*, 27 (September-October 1964), 39-43.

Coalition), and unless they accepted Black (or Rainbow) power, failed.⁶⁵³ Among the many more becoming academics, the most perceptive studying workers worried over the problem of “ideology,” what their subjects thought and why. One of the canniest, who had read a strong derivative of Dunlop’s concept of “strategic,” and who could have related it to union stewards and their “ideology” (ca. 1958), missed that question by a mile.⁶⁵⁴ Another, writing on Revolutionary Cuban industrial workers’ “political attitudes,” recognized (as few academics then did) that skilled workers in the sugar mills had a strategic position, which he nearly called “strategic,” but he explained it as a function of the Cuban labor market and as contingent on their “Communist ‘political education.’” He recognized as well that workers (collectively) in certain other industries were “privileged,” viz., workers in “communications, electric power, oil refining, tourism, cigarette manufacturing, and beer and malt brewing,” but not because of their industrial position, rather because they thought they were “privileged.”⁶⁵⁵

1968 sharpened the U.S. academic New Left on authority and alienation, but not on industrial work or workers. Most impressive on these matters in ‘68’s immediate wake was a young colleague of Dunlop’s in the Harvard Economics department. Asking whether “work organization [was] determined by technology or by society,” he gave

⁶⁵³ Norm Fruchter et al., “Chicago: JOIN Project,” *Studies on the Left*, V, 3 (Summer 1965), 107-125; Norm Fruchter and Robert Kramer, “An Approach to Community Organizing Projects,” *ibid.*, VI, 2 (March-April 1966), 31-61. Cf. Slim Coleman and George Atkins, *Fair Share: The Struggle for the Rights of the People* (Chicago: Justice Graphics, 1989), 51-55, 69-73, 83-90, 99-107, 121-124, 115-116, 133-151, 159-161, 185-188, 195-196, 201-204; Paul Siegel, “Uptown, Chicago: The Origins and Emergence of a Movement Against Displacement, 1947-1972” (Ph.D. dissertation, University of Illinois at Chicago, 2002), 238-288.

⁶⁵⁴ E.g., Sidney M. Peck, *The Rank-and-File Leader* (New Haven: College and University Press, 1963), 32-33, 68, 94, 194, 323, 325, his derivative source being Sayles, *Behavior*.

⁶⁵⁵ Maurice Zeitlin, *Revolutionary Politics and the Cuban Working Class* (Princeton: Princeton University, 1967), 4, 18, 49-51, 55, 93, 100-102, 114-119, 153-154, 167, 277 (quotations, 4, 115-116, 119 n20). Cf. “workers in the least strategic, least developed industries,” where anarchists had more appeal: *ibid.*, 168. On “inherent relatively contingent historicity,” cf. idem, “On Classes, Class Conflict, and the State: An Introductory Note,” in idem, ed., *Classes, Class Conflict, and the State: Empirical Studies in Class Analysis* (Cambridge: Winthrop, 1980), 3.

himself plenty room in between or in synthesis to consider industrial workers' strategic use of technology, which might (often did) lead employers to thwart them by changing it. But he radically shunned Dunlop (then his faculty's dean), did not differentiate pre-industrial and industrial work, confused the technical need for coordination and the social functions of hierarchy, mixed static with dynamic problems, worried over the wisp of "self-expression," and never grasped the technical struggle.⁶⁵⁶ More acutely an even younger scholar (Harvard B.A., '70), not yet an academic, but a legislative assistant at Oil, Chemical, and Atomic Workers, studying (not knowing it was Dunlop's idea) "labor market stratification," set to explaining the labor market formed in the U.S. steel industry from 1890 to 1920. Unaware of *Industrial Relations Systems* (except as she unknowingly read it in Brody's labor history), she recreated much of Dunlop's argument on "the technical context," not in his terms (IR "systems," or "job content," etc.), but in some of her "major themes" close to his idea, e.g., a technical "realm of possibilities," conflict over job reclassifications, and so on. Even so she too confused technical and social relations, mixed struggles in place with struggles over change, and missed the strategic uses workers made of technology between changes.⁶⁵⁷ Among other U.S. academic New Lefties then, typically engrossed in studies of working-class "consciousness," none I can find wrote of modern workers conscious of their industrially or technically strategic power at work, or of them actually having any power, except as a class, culturally united.

⁶⁵⁶ Stephen A. Marglin, "What Do Bosses Do? The Origins and Functions of Hierarchy in Capitalist Production [1971]," *Review of Radical Political Economics*, VI, 2 (Summer 1974), 33-60. On the first page he mistakes Engels's anti-Bakuninist polemic "Von der Autorität" (1872-73) for a timeless Newtonian pronouncement.

⁶⁵⁷ Katherine Stone, "The Origins of Job Structures in the Steel Industry," *ibid.*, VI, 2 (Summer 1974), 61-97. Cf. Dunlop, *Industrial Relations*, on "job content," 47-52, "clusters," 176-177, "wage-rate structure," 360-365. Stone cites Robert B. McKensie [sic, for McKersie], "Changing Methods of Wage Payment," in John T. Dunlop and Neil W. Chamberlain, eds., *Frontiers of Collective Bargaining* (New York: Harper & Row, 1967), 178-210, but not John T. Dunlop, "The Function of the Strike," *ibid.*, 103-121, or James W. Kuhn, "The Grievance Process," *ibid.*, 252-270, either of which would have strengthened her argument.

One who knew industrial work well saw workers' power there only in skill, whiteness, masculinity, seniority, and (for those lacking these attributes) anger. He took technical divisions of labor simply for limits on workers, and took the labor movement, as if its members' work were strategically irrelevant, for at best "a social movement."⁶⁵⁸

Unlike the U.S. New Left, young European academic Marxists post-'68 consistently focused on capitalism's class struggles, and conceptualized them strategically. One in Britain referred explicitly to technical strength, e.g., "strategic power to bring a whole works to a standstill," citing Dunlop in his account of the difficulties and significance of organizing early 20th-century English craftsmen, semi-skilled workers, and unskilled laborers into a "general union." Even in the emotion over "unofficial strikes" in Britain then he recalled, not from Dunlop but from a directly derived source, "strategic position in the flow of production which makes management highly vulnerable...." Others regardless of Dunlop also commented on technically strategic positions and shopfloor strategy in their own studies of (then) modern assembly lines and plants "as automated as possible." All these, however, were passing observations, the primary question being to explain, "What do workers want?," not whence did they have the power to act, but why they acted, the answer being "grievances and aspirations," or "consciousness," or "attitudes."⁶⁵⁹ Of the young theorists in "the current debate [1973] on

⁶⁵⁸ Stanley Aronowitz, *False Promises: The Shaping of American Working Class Consciousness* (New York: McGraw-Hill, 1973), 9-10, 26-39, 42-48, 137-211, 250-251, 295-296, 304-308, 360-370; idem, *The Crisis in Historical Materialism: Class, Politics, and Culture in Marxist Theory* (New York: Praeger, 1981), 123-136; idem, *Working Class Hero: A New Strategy for Labor* (New York: Pilgrim, 1983), 133, 143, 148-149, 181, 187-193, 198.

⁶⁵⁹ Richard Hyman, *The Workers' Union* (Oxford: Clarendon, 1971), 49-60, 70-72, 179, 181, 185-192, 198, 201-202, 215-226; *Marxism and the Sociology of Trade Unionism* (London: Pluto, 1971), 37-53; idem, *Strikes* (London: Fontana, 1972), 53, 62-63, 65, 130; idem, *Industrial Relations: A Marxist Introduction* (London: Macmillan, 1975), 17, 25, 26, 113, 183, 188, his derivative sources being Sayles, *Behavior*, and Kuhn, *op. cit.* Cf. Dorothy Wedderburn and Rosemary Crompton, *Workers' Attitudes and Technology* (Cambridge: Cambridge University, 1972), 19, 64-76, 125, 133-136, 142-145, without Dunlop, but with

revolutionary strategy” in France, the most important noted not only “the particular opportunities” that “technicians and subaltern engineers” had “of impeding production,” but also “the new possibilities of...bottle-neck strikes...precisely...open to semi-skilled workers,” but again only in passing.⁶⁶⁰ In Italy among the young professors of *Potere Operaio*, recognizing the working class “as subject of power,” the most ingenious was teaching that in autonomously organized struggles for their obvious needs, “the factory of strategy,” workers were gaining “a capacity for violence equal and contrary to that of the bosses,” and on their own would create “the strategy of revolution.” But he could not tell what “the revolutionary practice of the masses” would be, since “insurrection” was “an art.”⁶⁶¹

Among the New Left’s elders one Marxist, in Britain, popularized electronics for a broader, more peaceful movement. As he explained it, “the new technical revolution, namely, the computer revolution,” provided the necessary material condition for “a new socio-economic structure.” From operations research, network analysis, and input-output economics he argued that the computer allowed not only more centralized (monopoly) capitalism and more centralized socialism, but also local “basic community units” to develop “decentralised” socialism. He cited for an example (a sign of New Left confusion) the Czech reforms in 1967-68, according to which “the central economic authorities [were] to take only broad strategic decisions shaping the general direction of

Sayles, *Behavior*, and Kuhn, *op. cit.* Among the best without Dunlop are Huw Beynon, *Working for Ford* (London: Penguin, 1973), 46, 72, 98, 129-150, 169-173, 190, 224, 285-286; Danièle Kergoat, *Bullerbor: L’histoire d’une mobilisation ouvrière* (Paris: Seuil, 1973), 13, 15, 29-31, 50-53, 185-187, 210-211, 218, 229-231; and Christiane Barrier, *Le combat ouvrier dans une entreprise de pointe* (Paris: Économie et Humanisme, 1975), 44-45, 65-70, 137-194.

⁶⁶⁰ Nicos Poulantzas, *Les classes sociales dans le capitalisme aujourd’hui* (Paris: Seuil, 1974), English 326-327.

⁶⁶¹ E.g., the most ingenious, Antonio Negri, “Partito operaio contro il lavoro,” in Sergio Bologna et al., *Crisi e organizzazione operaia* (Milan: Feltrinelli, 1974), 99-193; Antonio Negri, *La fabbrica della strategia: 33 lezioni su Lenin* (Milan: La Monzese, 1977), 39-70.

longer-term development.” He did not even hint, however, that workers at computers could also disorganize existing economic and political structures. It would not take a very subversive reader to infer an industrial strategy from his discussion of “the transportation problem,” “linkages,” “bottlenecks,” or “the technological dangers in excessive centralisation,” viz., “very serious disruption in the event of a breakdown.” But he did not draw it, not even in his “strategy” of a “Socialist-trade union alliance” and “workers’ control.”⁶⁶²

Another in Britain, the most theoretically enthusiastic and critically keen of the younger generation there, returned to the original Gramsci for help on a revolutionary socialist strategy. It was a long, fascinating, often brilliant inquiry, but on one plane and along one (very sinuous) line. From a politico-cultural perspective the hopeful strategist went far into Gramsci’s politico-cultural ideas on “hegemony,” and carefully, grippingly explained their politico-cultural virtues and faults. He even discovered (for socialists who don’t read German) the great Kautsky-Luxemburg debate of 1910, the unacknowledged Delbrück, *Niederwerfungs-* and *Ermattungsstrategie*, and Gramsci’s unwitting, indirect adoption of this discourse. But for all that about strikes and revolution and socialism he did not notice Kautsky’s or Luxemburg’s industrial examples, or wonder about Gramsci’s (scattered, idiomatic, coded) notes on *Ordine Nuovo*, “the new intellectual,” “spontaneity,” “union” and “unionism,” and “the factory,” where (Gramsci wrote)

⁶⁶² Stephen Boddington [“John Eaton,” Steven Boddington], *Computers and Socialism* (Nottingham: Spokesman Books, 1973), 7, 24-26, 60-71, 95-104, 115-117, 145-150, 152-159, 186, 201-202, 229-232, 238-241; and John Eaton, Michael Barratt Brown, and Ken Coates, *Economic Strategy for the Labour Movement: An Alternative* (Nottingham: The Spokesman, 1975), 4-10. Spokesman Books belonged to The Bertrand Russell Peace Foundation.

“hegemony is born...”⁶⁶³ There a “new intellectual” might read some industrially and technically interesting strategic commentary. But a leading New Left intellectual did not.

Of all the Marxist intellectuals then actually involved in socialism as it actually was, but trying to “humanize” or “democratize” it, probably the most strategically minded was the Czech who had been the principal author of the Prague Spring’s “Program of Action.” But the positions of strength for his strategy, in 1968 in the CPC Central Committee, afterward in the international public discourse, images, and politics of human rights, made it best always to ignore the chances of workers seizing the Skoda steel furnaces. A young Hungarian in excellent position to publish a view on workers’ technical power in a big plant’s machine shop, innocently did not in his book about his work there (which may be what kept him out of jail). A member of the East German party, announcing his “general strategy” for a “Communist Alternative,” predicted a “comprehensive cultural revolution” to “overcome subalternity,” i.e., a radical educational reform that would abolish “the old division of labor.” But the main force for this revolution would be only “unhappy consciousness” among “an intelligentsia focused on the universal.” The leading intellectuals of the Polish Workers Defense Committee showed no particular interest in the Lenin Shipyard’s electrical department (but went to jail when they joined Solidarity, the chairman of which, an electrical engineer, came from that department).⁶⁶⁴

⁶⁶³ Perry Anderson, “The Antinomies of Antonio Gramsci,” *New Left Review*, 100 (November 1976), 7-9, 16, 27, 41, 50-51, 55-78 passim. Gramsci, *Quaderni*, I, 72, 125, 319-321, 328-332, 461, 514, II, 1137-1138, III, 1589-1591, 1719-1721, 1794-1798, 2145-2146, 2156.

⁶⁶⁴ Zdenek Mlynár, *Praga, questione aperta: il '68 cecoslovacco fra giudizio storico e prospettive future* (Bari: De Donato, 1976), 69-101, 150-203; idem, *Nightfrost in Prague: The End of Humane Socialism*, tr. Paul Wilson (New York: Karz, 1980), 45-115; idem, *Krisen und Krisenbewältigung im Sowjetblock*, tr. Jiri Starek (Cologne: Bund, 1983), 135-162; Miklós Haraszti, *A Worker in a Worker's State*, tr. Michael Wright (New York: Universe Books, 1978); Rudolph Bahro, *Die Alternative: Zur Kritik des real existierenden*

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So for decades Marxism contributed but faintly to public considerations of workers' industrial (never mind technical) power. Not until fifty years after the RILU's deliberations on "strike strategy," almost 40 years after "Peters" explained "basic industries" and "Shop Units," almost 25 years after the CPUSA tried to refocus organizers on them, nothing of which anyone evidently remembered in 1974, do I find again clear, publicly Marxist premises for the industrial and technical arguments--in an ex-Cochranite's remarkable book that year on "the degradation of work." Unlike New Leftists American and European then, Harry Braverman did not worry over proletarian attitudes; he wanted to understand "the structure of the working class." Rejecting the craze "to derive the 'science before the science,'" he intended to conceptualize the class first not "*for itself*," but "as a class *in itself*." This conception he sought in the study of production, of the working class at work, in its occupations and their changes. He went deep into the new Harvard Business School- and U.S. government-sponsored studies of automation, its effects on productivity, and their consequences for "manpower."⁶⁶⁵ There he saw "the working class as it exists, as the shape given to the working population by the capital accumulation process," and consequently cast his explanation of the class in the modern divisions of labor power and "the labor process," i.e., "the work of production,"

Sozialismus (Cologne: Europäische Verlaganstalt, 1977), 321-331, 366, 384-387; and Zinaïda Erard and G. M. Zygiel, eds., *La Pologne: une société en dissidence* (Paris: Francois Maspero, 1978).

⁶⁶⁵ Harry Braverman, *Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century* (New York: Monthly Review, 1974), 3, 27. His main sources were Bright, *op. cit.*, and United States, National Commission on Technology, Automation, and Economic Progress, *Technology and the American Economy: Report, Appendices*, 7 vols. in 6 (Washington: Government Printing Office, 1966), especially II, *The Employment Impact of Technological Change*. His quotation of "science before the science" is from Marx to Kugelmann, July 11, 1868, in Marx and Engels, *Werke*, XXXII, 553. Cf. Harry Braverman, "Automation: Promise and Menace," *American Socialist*, October 1955, 7-12.

specifically “the subdivision of labor in detail.”⁶⁶⁶ On these premises he might well have made a Marxist version of Dunlop’s argument. And he did describe skilled and semi-skilled workers in the United States, particularly machinists and clerical workers, holding industrially and technically strategic positions of unprecedented power from the 1930s into the 1970s.⁶⁶⁷ But from faults in logic and substance, e.g., a slipping dialectic, irrepressible Trotskyist apocalypticism, a continual drift in focus from divisions of labor to particular trades, an underdeveloped notion of imperialism, neglect of recent American and European industrial battles, omission of the recent European Marxist analyses of technology and labor, assumption (shades of the aristocracy of labor) of the identity of skill and power, he could not conceive of such strength in the future. The “labor process” under monopoly capitalism (nearly the same in “the Soviet bloc”) led, he explained, to continual deskilling, therefore labor’s progressive incapacitation. It was simply the scientifically centralized, subordinate cooperation of scientifically divided, detailed, degraded labor, continually redivided, redetailed, and more degraded. Like bourgeois sociologists and the New Left then, he concluded that modern workers were losing all but emotional power.⁶⁶⁸

Post-Braverman, mostly in his wake, many Marxist academics considering questions of strategy took only capitalists or managers for strategists. In their accounts workers acted only in “resistance,” on the strength of interests, indignation, or solidarity,

⁶⁶⁶ Braverman, *Labor and Monopoly Capital*, 70-84, 187-223.

⁶⁶⁷ *Ibid.*, 110-112, 145-151, 192-206, 220-227, 237 n*, 326-330, 429-430.

⁶⁶⁸ *Ibid.*, 11-16, 22-24, 169-235, 377-449. Braverman knew of Dunlop, but evidently only from Clark Kerr et al., *Industrialism and Industrial Man* (Cambridge: Harvard University, 1960), which Braverman mistook for a statement of “technological determinism”: Braverman, *Labor and Monopoly Capital*, 16. If he had consulted the older Williamson, *op. cit.*, instead of George Soule, *Economic Forces in American History* (New York: William Sloane Associates, 1952), he would have read Dunlop’s original strategic argument.

maybe by “stratagem,” but never strategically.⁶⁶⁹ In one of the best such accounts, on the British automobile industry, the author distinguished “central workers...who, by the strength of their resistance [because of their “power to disrupt production”], collectively force...managers to regard them as essential,” but never identified which were disruptive, much less “the potentially most disruptive,” or allowed that their disruptions could be strategic.⁶⁷⁰ In many other Marxist accounts industrial workers (even “the working class” at large) appeared capable of strategy, but only away from work, in labor markets or politics or culture.⁶⁷¹ In still other accounts workers did hold positions of recognized

⁶⁶⁹ E.g., Christian Palloix, *L'économie mondiale capitaliste et les firmes multinationales*, 2 vols. (Paris: Francois Maspero, 1975), II, 263-273; idem, *Procès de production et crise du capitalisme* (Grenoble: Francois Maspero, 1977), 167-185, 217-226; Michel Aglietta, *Régulation et crises du capitalisme: l'expérience des États-Unis* (Paris: Calmann-Lévy, 1976), English 112-150, 190-198; Theo Nichols and Peter Armstrong, *Workers Divided* (London: Fontana, 1976), 23-27, 60-83; Ken C. Kusterer, *Know-How on the Job: The Important Working Knowledge of “Unskilled Workers”* (Boulder: Westview, 1978), 27-39, 45-62, 68-71, 75-80, 83-125, 163-176, 183-185, 188-190; Claire Williams, *Open Cut: The Working Class in an Australian Mining Town* (Sydney: George Allen & Unwin, 1981), 12-17, 22-26, 58-60, 67-72, 93-101; Ruth Cavendish, *Women on the Line* (London: Routledge & Kegan Paul, 1982), 5, 8, 41, 76-124, 139-156, 171-172; Craig R. Littler, *The Development of the Labour Process in Capitalist Societies: A Comparative Study of the Transformation of Work Organization in Britain, Japan, and the USA* (London: Heinemann, 1982), 5-11, 25-35, 66-68, 117-145, 149-155, 181-185, 189-190; Carmen Sirianni, *Workers' Control and Socialist Democracy* (London: Verso, 1982), 257-260, 321-327, 337-356; Hugo Schmitz, *Technology and Employment Practices in Developing Countries* (London: Croom Helm, 1985), 79, 94, 98, 158-159, 170-177, 181-183, 199-203; Ruth Milkman, *Gender at Work: The Dynamics of Job Segregation by Sex during World War Two* (Urbana: University of Illinois, 1987), 20-21, 23, 25, 39; Paul Thompson, *The Nature of Work: An Introduction to Debates on the Labour Process*, 2nd ed. (London: Macmillan 1989), 98-100, 106-108, 111, 130, 150-152, 166, 235-236, 238, 242-245; Assef Bayat, *Work, Politics and Power: An International Perspective on Workers' Control and Self-Management* (New York: Monthly Review, 1991), 179-207; Marcia de Paula Leite, *O futuro do trabalho: novas tecnologias e subjetividade operaria* (São Paulo: Fundação de Amparo de Pesquisa do Estado de São Paulo, 1994), 13, 35-36, 42, 152, 193-195, 207-215, 218, 229-235.

⁶⁷⁰ Andrew L. Friedman, *Industry and Labour: Class Struggle at Work and Monopoly Capitalism* (London: Macmillan, 1977), 6-8, 45-55, 64-76, 80-85, 109-114, 265-271, 282.

⁶⁷¹ E.g., Erik O. Wright, *Class, Crisis and the State* (London: NLB, 1978), 64-67, 74-87, 98-102, 216, 226-252; idem, *Classes* (London: Verso, 1985), 79-82, 117, 287-290; Celso Frederico, *Consciencia operaria no Brasil: estudo com um grupo de trabalhadores* (São Paulo: Atica, 1978), 53-54; Richard Edwards, *Contested Terrain: The Transformation of the Workplace in the Twentieth Century* (New York: Basic Books, 1979), 12-22, 111-129, 163-183, 213-216; Makoto Kumazawa, *Portraits of the Japanese Workplace: Labor Movements, Workers, and Managers* [1981], tr. Andrew Gordon and Mikiso Hane (Boulder: Westview, 1996), 126-155, 229-230, 238; Rosemary Crofton and Gareth Jones, *White-Collar Proletariat: Deskillling and Gender in Clerical Work* (Philadelphia: Temple University, 1984), 5, 35-36, 58-59, 210-214, 225-250; Adam Przeworski, *Capitalism and Social Democracy* (Cambridge: Cambridge University, 1985), 25-29, 78-81, 99-132; Robert Boyer, *La théorie de la régulation: une analyse critique*

industrial and technical power. Some of these positions were only conjunctural, opportunities of a transition from one division of labor to another.⁶⁷² Most, which more or less veiled Braverman, were structural, inevitable, inherent in modern production whether in capitalist democracies, a capitalist dictatorship, a people's republic, or an Islamic republic.⁶⁷³ When workers holding them acted strategically, in cooperation or conflict with capitalists, managers, or other workers, they wielded extraordinary force. But none of this literature included any industrial or technical explanation of the fact.

The failure is particularly frustrating in otherwise good studies of labor's struggles in highly strategic industries. For example, to show "workers' actual *potential*,...what workers *can* do...if they choose," a young U.S. critic of Braverman's wrote of "democratic" and "bureaucratic" factions in a Los Angeles Teamsters local. He

(Paris: La Découverte, 1986), 17, 64, 103; and Claire Williams and Bill Thorpe, *Beyond Industrial Sociology: The Work of Men and Women* (North Sydney: Allen & Unwin, 1992), 210-247.

⁶⁷² E.g., Michel Freyssenet, *La division capitaliste du travail* (Paris: Savelli, 1977), 107; Randy Hodson and Teresa A. Sullivan, *The Social Organization of Work* (Belmont: Wadsworth, 1990), 251; Enrique de la Garza Toledo, *Reestructuración productiva y respuesta sindical en México* (Mexico City: Universidad Nacional Autónoma de México, 1993), 163, 171-172, 176-177, 180, 182, 195.

⁶⁷³ E.g., Benjamin Coriat, *Science, technique et capital* (Paris: Seuil, 1976), 191-243; idem, *L'atelier et la chronomètre: essai sur le taylorisme, le fordisme et la production de masse* (Paris: Christian Bourgeois, 1979), 191-198, 203-214, 235-261; idem, *L'atelier et le robot: essai sur le fordisme et la production de masse à l'âge de l'électronique* (Paris: Christian Bourgeois, 1990), 93-94, 114-116, 197-230; Sidney Peck, "Fifty Years after 'A Theory of the Labor Movement': Class Conflict in the United States," *The Insurgent Sociologist* [Special Issue on *The Social Relations of Work & Labor*], VIII, 2 and 3 (Fall 1978), 10-13; Philip Nyden, "Rank-and-File Organizations and the United Steelworkers of America," *ibid.*, VIII, 2 and 3 (Fall 1978), 15-24; idem, *Steelworkers Rank-and-File: The Political Economy of a Union Reform Movement* (New York: Praeger, 1984), 9, 24, 38-43, 49, 63-64, 73, 78-89, 94, 98-99, 103, 106, 109-119; Paul J. Nyden, "Rank-and-File Organizations in the United Mine Workers of America," *The Insurgent Sociologist* [Special Issue on *The Social Relations of Work & Labor*], VIII, 2 and 3 (Fall 1978), 25-39; John Humphrey, *Capitalist Control and Workers' Struggle in the Brazilian Auto Industry* (Princeton: Princeton University, 1982), 118-124, 130-135, 162, 229-230; Göran Therborn, "Why Some Classes Are More Successful than Others," *New Left Review*, 138 (March-April 1983), 38, 40-43, 52-55; Assef Bayat, *Workers and Revolution in Iran: A Third World Experience of Workers' Control* (London: Zed, 1987), 57, 77, 80-81, 91-92, 95-96, 139-140, 156, 160, 163-165, 202, 204; Ruy de Quadros Carvalho, *Tecnologia e trabalho industrial: as implicações sociais da automação microelectrônica na indústria automobilística* (Porto Alegre: L & PM, 1987), 25-28, 38-39, 57-63, 71, 89-93, 118-145, 159-170, 196-211, 221, 224; Claire Williams, *Blue, White and Pink Collar Workers: Technicians, Bank Employees and Flight Attendants* (Sydney: Allen & Unwin, 1988), 23-25, 70-74, 82, 99, 116-117, 123, 169-170; Lajos Héthy, *Organizational Conflict and Cooperation: A Theoretical Approach Illustrated by a Case Study from the Hungarian Construction Industry* (Budapest: Akadémiai Kiadó, 1988), 18-34, 44-68, 107-147.

argued rightly that the IBT had enormous “economic power,” enough “to transform the social and political climate of America,” not because of its numbers or treasury, but because of its “power...to disrupt production” on a national scale. But he never indicated how much disruption his local could cause. He attended constantly to “strategy” and “strategic” concerns. He gave a vivid sense of truck drivers’ “potential power,” even internationally. He described how drivers had done “direct action.” And he explained why his “democratic” subjects had to resist “their own localism,” not hold to “a parochial strategy,” but connect with other workers, spread their movement, if they would beat the bosses and their “bureaucratic” rivals; he insisted on “strategic outreach.” But he thought their strategy, i.e., “thought-out plans of long-term action,” depended only on social relations, e.g., personal circles in the company yard, hiring hall, or parking lot, or at a regular café or club, where militants could stir the offensive spirit and keep it strong. He noted that unlike most Teamsters locals elsewhere his local comprised only drivers, and these not on the road, but driving “the streets” making “pickups and deliveries,” viz., PUD drivers. But he missed the fact’s technical significance. His drivers’ “strategic position” he explained in purely sociological (Simmelian?) terms, adding that it gave them “cultural influence” among other workers, but ignoring their material relations even with other Teamster “crafts” in moving Metro LA’s freight, or stopping it. As if a formalized division of labor meant technical separation, he lamented his local’s “isolation” from the other “crafts,” e.g., dockhands and maintenance mechanics, but simply for the sociological loss, not for the technical loss of the power to close docks and deadline trucks. He recalled cooperation from the mechanics’ local in successful direct

actions, but as an issue of solidarity, not as technical reinforcement.⁶⁷⁴ Evidently he could not see the extra-disruptive potential of technical alliances.

Another example appears in the preeminent analysis of changes in technology and work at U.S. automobile plants between the 1890s and 1950. Following “a complex, dialectical [actually New Left] theory,” this young Braverman critic wanted to show that capitalism continually regenerated “subjective and cultural” contradictions. For proof he adduced the auto industry’s concentration in “a few huge factories,” which brought its workers “into close communication with one another and [stimulated]...the growth of class consciousness and collective action.” He gave an engineer’s precise insight into the functionalist “vulnerability” of the industry’s moving assembly lines, the threat of “disruption” in the technically symmetrical dependence there. And he had a clear concept of technical dissymmetries, e.g., in the 1930s, GM’s vital dependence on its two “mother plants,” manufacturing units in Flint and Cleveland where its workers stamped the bodies of maybe “three-fourths or more” of the company’s cars. But he also left the wrong impression that “interdependence of the labor process” happened only along the line, as if only in continuous sequence, so that strategic positions were only on the line. Considering the great strikes in 1936-37 he focused on pulling switches, and missed the workers’ physical capture of the strategic dies GM tried to remove from Fisher One, or the strategic importance of the powerhouse there (if only for heat, since this was Michigan, and the occupation began December 30). And he ignored the difference

⁶⁷⁴ Samuel R. Friedman, “Changes in the Trucking Industry and the Teamsters Union: The Bonapartism of Jimmy Hoffa,” *The Insurgent Sociologist* [*Special Issue on The Social Relations of Work & Labor*], VIII, 2 and 3 (Fall 1978), VII, 2 and 3 (Fall 1978), 52-62; idem, *Teamster Rank and File: Power, Bureaucracy, and Rebellion at Work in a Union* (New York: Columbia University, 1982), 2-3, 10, 18, 21, 42, 53-55, 63, 67-71, 96-100, 106-110, 117-120, 152-154, 174, 208, 213-214, 218, 226, 229-231, 236-237, 245, 259-265, 272-273.

between technically and socially strategic operations (Fisher One and Chevrolet No. 4).⁶⁷⁵

The most original and effective Marxist critique of Braverman's thesis came in 1979 from Michael Burawoy. Like Braverman, Burawoy wanted to explain monopoly capital's exploitation of labor in "the labor process," particularly in machining. However, he defined this process as both "practical" and "relational." Practically, it "is...[or "involves"] the translation of the capacity to work into actual work," evidently (as for Braverman) a material or technical process. In its "relational aspect," it is "the relations of the shop floor into which workers enter, both with one another and with management," making "a shop-floor culture." Against Braverman, Burawoy minimized the matter of divided and subdivided labor, took individuals as his subjects, magnified culture's power, and shifted emphasis from capitalist coercion to capitalist inducement of workers' (self-negating) consent. Even so, from derivatives of Dunlop's argument in "organization theory," he recognized certain workers as "strategic," or "key," or "core," in "a strong bargaining position." Even if some workers knowingly worked perforce part of their turn just for capital, while others felt they were playing as they did so, Burawoy could well have also considered those who were "crucial to the [strictly "practical"] production process or...important to the smooth ["practical"] running of the factory." But he did not. Because of his primary interest not in the working class, but in the singular worker, because of his emphasis on consent, his free-spirited (not Marx's, rather Simmel's, or

⁶⁷⁵ David Gartman, *Auto Slavery: The Labor Process in the American Automobile Industry, 1897-1950* (New Brunswick: Rutgers University, 1986), 15, 33, 155-160, 164-178, 262-263, 322. See also Larry George to h-labor@h-net.msu.edu, "Third message on Flint sit down," July 8, 2003, where Travis's daughter Carole Travis tells of the decision to take Chevrolet No. 4, referring to "[not] strategic enough" and (twice) to "strategy," but not specifying or explaining "strategic" or "strategy," emphasizing instead the importance of "drama." Cf. Kraus, *op. cit.*, 78-83, 86-91, 106, 125-126, 150-151, 179, 189-229, 251-254.

Erving Goffman's) dialectic, his irrepressible functionalism, and his dramatization of "the labor process," which he also termed, indiscriminately, "relations in production," "relations at the point of production," and "the organization of work" (comprising "technical relations in production" and "social relations in production"), in which form he stressed its "political and ideological *effects*," he instead mostly dematerialized "the production process." By his definition it was "the [technical and social] organization of work" plus "political apparatuses of production," or, as he defined them, the workplace's regulatory "institutions." Hence "the production process" was a "production regime," specifically a "factory regime," whose "political apparatuses" were the "locus and object" of a "politics of production." This notion, a workplace "regime" and its politics, was not Dunlop's idea of a workplace's "rules" and "disputes." For Burawoy whatever happened at a shop where production happened, workers working, workers playing, was part of production (or a part in the production): what mattered most was immaterial work, serious stuff, all work, no play--"ideological struggle."⁶⁷⁶

Most remarkable, however, on proletarian industrial power the most important Marxist advance in theory since Parvus's, were some "papers" posthumously published in the United States on industrial workers' "*potere vulnerante*," the damage strikes can do to an economy. The young Italian professor who had written them, Luca Perrone, had been no militant, and he never gave any sign of even having heard of Braverman or his

⁶⁷⁶ Michael Burawoy, *Manufacturing Consent: Changes in the Labor Process under Monopoly Capitalism* (Chicago: University of Chicago, 1979), xiii, 4-10, 15, 51-57, 63-65, 73, 79-81, 94, 102-103, 107, 124-125, 147, 149, 171-177, 199-199; idem, *The Politics of Production: Factory Regimes under Capitalism and Socialism* (London: Verso, 1985), 7-14, 29, 35-39, 50-54, 59-63, 68, 87-88, 108-113, 122-155, 186-189, 194, 197-202, 206 n71, 229-230, 254-256, 259-261. Cf. idem, "The Anthropology of Industrial Work," *Annual Review of Anthropology*, VIII (1979), 241, 245-246, 252. On workers who were "crucial to the [strictly practical, technical] production process," cf. Kapferer, *op. cit.*, 4-7, 32-38, 46, 60-61, 155-157, 317-318; and Michael Burawoy, *Constraint and Manipulation in Industrial Conflict: A Comparison of Strikes among Zambian Workers in a Clothing Factory and the Mining Industry* (Lusaka: University of Zambia, 1974), 1-5, 8-18.

thesis (or of Burawoy, much less Parvus). A graduate of the Università Cattolica in Milan in 1968, he had spent 1969-71 at Pirelli (in “information and industrial relations”) mastering the literature on information theory, systems theory, and organization theory. In his first professional performance, at an Olivetti Foundation conference in 1971 on “the social and political implications of scientific-technological innovations in the information sector,” he had concentrated on strategic information, systematic conflicts, and technically powerful shifts inside organizations. As a graduate student in Sociology at Berkeley from 1971 to 1974, he had shown special interest in “social classes,” particularly in measuring inequality. In 1979, for his first major project, on “strikes as collective action,” looking to found an “Italian school” on “labor conflicts,” he went into “graph theory,” toward “operations research,” “network analysis,” and “path analysis,” to learn how to find industrial “constraint.” Just then he discovered Parkin, workers’ with vastly “disruptive potential,” and “vulnerable” capital, whence his translation, *il potere vulnerante*, “wounding power.” And surveying neoclassical labor economics, as it happened in literature by Dunlop’s critics, he discovered the concept of “union power,” which (despite the economist he quoted) he took for “workers’ power.” So contrarily induced into Dunlop’s strategic argument, without knowing it, he ingeniously invented it himself, got its industrial and technical logic quite right, not in a market but in production, in “micro-macro interaction,” went beyond Dunlop to install the argument explicitly in input-output analysis, making “a strategic position in the flow of goods and services” (in principle) clear and measurable, added Ricardo on “positional rent” in matters of compensation, and started collecting evidence for a full theoretical

development. But he died in 1980 (at 35); and since then no Marxist has promoted his argument, expanded it, or refined it.⁶⁷⁷

Meanwhile old and new Marxist academics were advocating a new Marxist science that might have yielded a concept of industrially powerful workers. In Cambridge (Mass.), Worcester (Mass.), Paris, Baltimore, and London (why in these places in particular an intellectual historian may one day explain), they revealed exciting prospects of their “new economic geography,” the study of capitalism’s continual, always uneven territorial development, redeployment, relocation of industrial operations. But they remained geographers nonetheless, and all oblivious of Parvus, Delbrück, and Dunlop; they had no engineer’s eye. Had they seen labor’s “strategic locations” not only in terrestrial but also in unevenly developed industrial “space,” or in localized technical division, seen them on a scale of disruptibility, they might well have drawn a Perronian argument in industrial maps and blueprints. But they worried too much about capitalist

⁶⁷⁷ His main early articles are Luca Perrone, “Innovazione informatica e ruoli manageriali nella organizzazione aziendale,” in Franco Rositi, ed., *Razionalità sociale e tecnologie dell’informazione: descrizione e critica dell’utopia tecnocratica*, 3 vols. (Milan: Comunità, 1973), II, 252-304; idem and Erik O. Wright, “Classi sociali, scuola, occupazione e reddito in U.S.A.: Una analisi quantitativa sulle diseguaglianze in una società post-industriale,” *Quaderni di Sociologia*, n.s. XXIV, 1-2 (January 1975), 55-91; idem and Erik O. Wright, “Marxist Class Categories and Income Inequality,” *American Sociological Review*, XLII, 1 (February 1977), 32-55. His last, unfinished work is in various versions: Luca Perrone, “Il potere vulnerante degli scioperi: una analisi sulla posizione dei conflitti nel sistema delle interdipendenze,” *Sociologia e Ricerca sociale*, I, 2-3 (December 1980), 93-127; idem, “Potere vulnerante e propensione alla sciopero,” in Giuseppe Colasanti and Luca Perrone, eds., *Scioperi e movimenti collettivi: Strikes as Collective Action, The Italian School Approach* (Rome: Casa del Libro, 1982), 177-213; idem, “Positional Power and Propensity to Strike,” ed. Erik O. Wright, *Politics and Society*, XII, 2 (1983), 231-261; idem, “Positional Power, Strikes and Wages,” ed. Erik O. Wright, *American Sociological Review*, XLIX, 3 (June 1984), 413-421. Perrone made nothing of Pareto on *interdipendenza*. Of Dunlop, he knew directly only his *Wage Determination* (2nd ed., 1950). The critic of Dunlop’s on whom he relied most heavily was Melvin W. Reder, “Job Scarcity and the Nature of Union Power,” *Industrial and Labor Relations Review*, XIII, 3 (April 1960), 349, 354-361. On Perrone’s project in 1979-80, Giuseppe Colasanti, “Introduzione: lo sciopero come azione collettiva,” in Colasanti and Perrone, *op. cit.*, 11-21. The Social Sciences Citation Index shows no article on Perrone, 259 hits for “Marxist Class Categories,” which has nothing of his strategic argument, 16 for “Positional Power, Strikes and Wages,” six for “Positional Power and Propensity.” These latter papers were the sources of the bourgeois theory some years later that “positional power” increased workers’ militancy: Wallace et al., “The Positional Power of American Labor,” and idem et al., “Positional Power, Class, and Individual Earnings Inequality.”

real-estate maneuvers, urban planning, and economic landscapes, to conceptualize a cartography or model of capitalist industrial (or technical) vulnerability.⁶⁷⁸ The biggest loss accrued from the best of them, Yves Lacoste, who had the clearest strategic sense. Had he and his comrades at *Hérodote* offered not only a geopolitical analysis for anti-imperialists, but also a geoindustrial analysis of proletarian powers of disorganization, they could have taught workers “how to organize there, how to fight there.”⁶⁷⁹ But they did not.

Highly promising anyway, even without Perrone or the new geography, was a new British Marxist study of industrial relations in “new technologies,” i.e., computers. Bryn Jones opposed Braverman’s thesis that modern capital would always deskill labor, e.g., that computerized “numerical control” in machine shops simply degraded a machinist’s work. He showed instead that in actual metalworking plants’ divisions of labor “numerical control” did not abolish skills but redistributed them, depending on markets, power, strategies, and tactics. Moreover automation could not eliminate skill, which did not consist simply in execution, but always involved “tacit knowledge,” necessary even in jobs seeming to require no skill; implicitly, wherever work happened in a division of labor, at least a technical strategy would be possible. Jones also questioned a parallel argument for transcending Braverman’s thesis, a case (made in part by a student

⁶⁷⁸ E.g., Richard Peet, “Outline for a Second-Year Course on the Socioeconomic Geography of American Poverty,” *Antipode*, II, 2 (December 1970), 1-34; Robert Goodman, *After the Planners* (New York: Simon & Schuster, 1972), 102, 171-210; Henri Lefebvre, *La production de l’espace* (Paris: Éditions Anthropos, 1974), 83-110, 221-222, 421-423, 432-433, 464-465; Alain Lipietz, *Le capital et son espace* (Paris: François Maspero, 1977), 10-11, 89-92, 149-157; David Harvey, *The Limits to Capital* (Oxford: Basil Blackwell, 1982), 106-119, 124-125, 376-380, 388-395, 407-412; Doreen Massey, *Spatial Divisions of Labour: Social Structures and the Geography of Production* (London: Macmillan, 1984), 7-8, 17-35, 70-82, 99-109, 166-170; Neil Smith, *Uneven Development: Nature, Capital and the Production of Space* (Oxford: Basil Blackwell, 1984), 81, 86, 99-113, 144-145.

⁶⁷⁹ Yves Lacoste, *La géographie, ça sert, d’abord, à faire la guerre* (Paris: François Maspero, 1976), 7-8, 11-17, 25-30, 63-71, 95-103, 127-132, 144, 163-180.

of Dunlop's) that capitalist technology could drive production from Taylorism through Fordism and neo-Fordism into post-Fordism, "flexible specialisation." This prospect, general versatility in traditional skills and the latest computerized numerical control, for plant-wide "collective polyvalence," industrial work beyond technical division of labor, and the claim it had already materialized in northern Italy, he showed to be an extravagant mistake. He drew not another "technological paradigm" or "universal model," but nationally different (Italian, Japanese, British, U.S.) historically contingent, techno-social evolutions of the (metalworking, batch-producing) factory, each a hybrid combination, featuring some cybernation and some collective versatility, but all involving some division of labor and skill. He continually emphasized national peculiarities in industrial relations, the inevitably imperfect machine shop, the impossibility of economic or technical determinism in the organization of work.⁶⁸⁰ He even, a few times, mentioned workers in "strategic" terms.⁶⁸¹ In short he established the grounds for a sophisticated

⁶⁸⁰ Bryn Jones, "Destruction or Redistribution of Engineering Skills: The Case of Numerical Control," in Stephen Wood, ed., *The Degradation of Work? Skill, Deskilling and the Labour Process* (London: Hutchinson, 1982), 179-200; Bryn Jones, "Technical, Organisation and Political Constraints on System Re-Design for Machinist Programming of NC Machine Tools," in Ulrich Briefs et al., eds., *Systems Design for, with, and by the Users* (Amsterdam: North Holland, 1983), 95-105; Bryn Jones and Stephen Wood, "Qualifications tacites, division du travail et nouvelles technologies," *Sociologie du travail*, XXVI, 4 (October 1984), 407-421; Bryn Jones and Michael Rose, "Re-dividing Labour: Factory Politics and Work Reorganisation in the Current Industrial Transition," in Kate Purcell et al., eds., *The Changing Experience of Employment: Restructuring and Recession* (London: Macmillan, 1986), 35-57; Bryn Jones and P.J. Scott, "Flexible Manufacturing Systems in Britain and the USA," *New Technology, Work, and Employment*, II, 1 (Spring 1987), 27-36; Bryn Jones, "When Certainty Fails: Inside the Factory of the Future," in Stephen Wood, ed., *The Transformation of Work? Skill, Flexibility and the Labour Process* (London: Unwin Hyman, 1989), 44-58; Bryn Jones, "New Production Technology and Work Roles: a Paradox of Flexibility versus Strategic Control?" in Ray Loveridge and Martyn Pitt, *The Strategic Management of Technological Innovation* (Chichester: John Wiley & Sons, 1990), 293-309; Bryn Jones, *Forcing the Factory of the Future: Cybernation and Societal Institutions* (Cambridge: Cambridge University, 1997), 14, 21-22, 28-30, 33-35, 42, 44, 46, 49, 56-57, 129, 197, 205, 210-214, 217-259. Here his concerns are not only Braverman, *op. cit.*, but also David Noble, *Forces of Production: A Social History of Automation* (New York: A.A. Knopf, 1984); Sabel, *op. cit.*; and Michael J. Piore and Charles F. Sabel, *The Second Industrial Divide* (New York: Basic Books, 1984).

⁶⁸¹ Jones, *Forcing the Factory*, 111-112, 248-249.

Marxist analysis of workers' industrial and technical positions of power, and he had the vocabulary. But he had other fish to fry.

Still more promising was a British Marxist adoption of "sociotechnical theory." From study of "industrial psychology," John Kelly had turned to "job satisfaction," then to modern industry's "organization of work," in his words its "division of labor," and the "wage-effort bargain...the instrumental character of employment." There he reported workers "strategically placed to disrupt production," and recognized that a labor movement could have a general "strategic framework." But despite his insights into labor's structure he did not indicate specific industries or particular positions at industrial work from which workers could seriously disrupt production; much less did he develop an argument to explain industrially or technically strategic action.⁶⁸² In later studies of strategic industrial strikes in Britain, although he once cited Kautsky (i.e., Kautsky's crib from Delbrück) on "the strategy of attrition, as opposed to the strategy of overthrow," Kelly did not suggest an industrial or technical position on which to base either strategy.⁶⁸³ Ultimately he recalled Dunlop's *Industrial Relations Systems*, but ignored its strategic argument to criticize the book for having "conveyed a sense of stability in industrial relations." As if strategy were mission, or simply a wish ("if wishes were horses..."), he returned to a kind of social psychology, "mobilization theory," in search

⁶⁸² John E. Kelly, *Scientific Management, Job Redesign, and Work Performance* (London: Academic Press, 1982), vii-viii, 7-8, 28, 34-35, 52-58, 75-79, 111-145, 151, 156-158, 212-214.

⁶⁸³ Idem et al., *Steel Strike: A Case Study in Industrial Relations* (London: Batsford Academic and Educational, 1983), 64, 67, 71, 77, 106-108, 115-117, 121-124, 131-136, 170-172, 174, 179, 181; John E. Kelly, *Trade Unions and Socialist Politics* (London: Verso, 1988), 3-6, 54-56, 64-68, 71-72, 78-82 (the citation of Kautsky, 80), 85, 88, 108-110, 130, 152, 184-208, 293-297; idem et al., *Dock Strike: Conflict and Restructuring in Britain's Ports* (Aldershot: Avebury, 1992), 1-4, 45-46, 52, 124-125, 145, 157, 215-216, 221-223.

of the conditions and ideology to inspire workers' collective action: labor's strength of will would be the basis of labor's strategy.⁶⁸⁴

The young U.S. Marxist probably best prepared then to conceptualize strategic industrial work was a second-generation "new economic geographer" at Berkeley. Coming from a Stanford ('69) B.A. in Economics and a Hopkins ('77) Ph.D. in Geography and Environmental Engineering (supervisor David Harvey), Richard Walker had written brilliantly on value and rent in Marxism, capital mobility, and location theory, before turning in 1983 to study labor. Through the next decade he and fellow Marxist geographers wrote brilliantly on labor markets and mobility, services in production, mechanization and reorganization of "the labor process," the geographics of industrial work, technology and place in developing divisions of labor, and so forth. They enlarged on every idea necessary for conceptualizing strategic position in production. And along the way they read some Dunlop (and the right Parkin). Most promising were their considerations of the "social" (~/= industrial) and "technical" as well as "spatial division of labor," where they brought their geographic arguments nearly to the strategic point, almost replicating Dunlop's analysis. Even so, they did not consider the use of labor's divisions to disrupt production. In their accounts (as in Braverman's) capital was the protagonist, especially for its powers of "coordination," and never in danger. Walker and his co-authors insisted on capitalist mayhem, but emphasized firms' "strategies" keeping continually new divisions of labor together in production and "circulation." The only base they noted that labor used strategically was political, e.g., "the left-controlled Greater London Council," which in 1985-86 pursued an "Industrial

⁶⁸⁴ John E. Kelly, *Rethinking Industrial Relations: Mobilization, Collectivism, and Long Waves* (London: Routledge, 1998), 10-13, 18-19, 51-65, 100, 135-136.

Strategy....embodying bold and imaginative socialist policies” (before Thatcher abolished it). They wanted to imagine a Left better at coordinating production and consumption than capitalism or Soviet socialism had been, a Left able to “overcome the social division of labor,” to “integrate” labor for the sake of all workers. They did not envision politically or industrially how this Left could gain a serious chance to do such integration.⁶⁸⁵

By the late 1980s a second generation of post-Braverman sociologists at Berkeley was doing Marxist studies of “the labor process.” One of Burawoy’s students who shifted well into Industrial Relations chose a comparative study of U.S. and British machinists suffering pre-1914 degradation of their labor and fighting back in “factory politics.” He conceptualized “strategic power” at work, and used the concept to help explain U.S. machinists’ support for industrial unionism, British machinists’ support for syndicalism. But confining himself to machinists, disregarding not only Dunlop, but Parkin and Perrone too, conceptually in debt to Soffer, and relying often on the Sofferism in Montgomery’s labor history, he practically argued only craftsmen or skilled workers ever

⁶⁸⁵ Richard Walker, “Contentious Issues in Marxian Value and Rent Theory: A Second and Longer Look,” *Antipode*, VII, 1 (April 1975), 31-54; idem and Michael Storper, “The Theory of Labor and the Theory of Location,” *International Journal of Urban and Regional Research*, VII, 1 (March 1983), 1-41; Richard Walker “Is There a Service Economy,” *Science and Society*, XLIX, 1 (Spring 1985), 42-83; idem, “Machinery, Labour and Location,” in Stephen Wood, ed., *The Degradation of Work?* (London: Unwin Hyman, 1989), 59-90; Michael Storper and Richard Walker, *The Capitalist Imperative: Territory, Technology, and Industrial Growth* (New York: Blackwell, 1989), 53-54, 79-83, 89, 126-153, 165-166, 172, 211, 216-218; Andrew Sayer and Richard Walker, *The New Social Economy: Reworking the Division of Labor* (Cambridge: Blackwell, 1992), 66-75, 81-85, 110-129, 226-270. Cf. Doreen Massey (who had read the right Sayles, but not absorbed any Dunlopism from it), *Spatial Divisions of Labour: Social Structures and the Geography of Production* (London: Macmillan, 1984), 7-8, 17-35, 70-82, 99-109, 197-198, 296; Neil Smith, *Uneven Development: Nature, Capital and the Production of Space* (New York: Basil Blackwell, 1984), 85-86, 99-113.

held “strategic positions”--the old (anyway mainly cultural) argument about “labor aristocrats.”⁶⁸⁶

Among young U.S. Marxist academics then the one who dealt most with labor’s direct leverage was another sociologist, Howard Kimeldorf. He wanted primarily to understand “radical” West Coast dockworkers. While emphasizing social origins and culture to explain the difference between West Coast “radicals” and East Coast “conservatives” in the 1930s and ‘40’s, he knew about “critical, basic or ‘key’ industries,” knew as well that “every work place has its characteristic paratechnical relations,” and that “content and timing of strategy” were “of critical importance.” Nevertheless, “bridging” only “‘culturalist’ and ‘syndicalist’ problematics,” he ignored the industrial and “paratechnical” positions of power at work that “radicals” and “conservatives” used to spread (or impose) their “organizing strategies.”⁶⁸⁷ In his later study of syndicalism among Philadelphia dockworkers and New York hotel and restaurant workers, in both cases “industrial syndicalism” (the IWW) in the 1910s, “business syndicalism” (the AFL) in the 1930s, he argued from the start workers’ power “to disrupt production.” And there he drew outright on Perrone’s strategic argument. But he used it only half right: distinguishing between “strategically located skilled workers” with “reserve power” and “the less skilled” without “positional advantages,” who had

⁶⁸⁶ Jeffrey Haydu, *Between Craft and Class: Skilled Workers and Factory Politics in the United States and Britain, 1890-1922* (Berkeley: University of California, 1988), passim, especially 2, 12-13, 27-30, 60, 66-67, 73-74, 77, 100, 103, 118, 125, 137, 175, 186, 228 n1, 266 n1.

⁶⁸⁷ Maurice Zeitlin and Howard Kimeldorf, “How Mighty a Force? The Internal Differentiation and Relative Organization of the American Working Class,” in Maurice Zeitlin, ed., *How Mighty a Force? Studies of Workers’ Consciousness and Organization in the United States* (Los Angeles: University of California, Los Angeles, 1983), 40, 43, 45-46, 49, 53, 57-58; Howard Kimeldorf, “Sources of Working-Class Insurgency: Politics and Longshore Unionism during the 1930s,” in Maurice Zeitlin, ed., *Insurgent Workers: Studies in the Origins of Industrial Unionism* (Los Angeles: University of California, Los Angeles, 1987), 9-10, 37, 42, 44-45, 58; Howard Kimeldorf, *Reds or Rackets? The Making of Radical and Conservative Unions on the Waterfront* (Berkeley: University of California, 1988), 3-4, 8, 16, 18, 80-98, 113, 135-136, 165-168, 195 n47.

only “the power of large numbers...magnified by strategic timing,” or “situational power,” he ignored strategically positioned less-skilled workers.⁶⁸⁸ If Kimeldorf had understood better the modern industrial division of labor, industrial work’s asymmetries in dependence, he would have understood better labor’s continual conflict between homogeneity and heterogeneity, and could have strategically explained its varying syndicalism. But “in the world of work,” following Burawoy, he looked rather for “consciousness,” for a dispositional issue, a feeling, “solidarity,” and (most undialectically) for “syndicalism, pure and simple.” Instead of projecting even half of Perrone’s argument into a highly strategic modern industry, e.g., communications, he found general significance in the “unusual militancy” of a Las Vegas restaurant hostess, a brave worker, but no more than morally powerful.⁶⁸⁹

Through the last 15 years, in concern over Information Technology and the latest round of capitalist globalization, Marxists have much debated contemporary labor strategy--all regardless of Parvus, Parkin, and Perrone. Testing Braverman’s and Burawoy’s arguments in “hi-tech communications,” one of the sharpest new scholars of “work and technology” did an excellent analysis of “strategic” work at Bell’s old Central Offices. He also gave an excellent explanation of AT&T’s “algorithmic” victory there by installing its Mechanized Loop Testing system, which “destroyed the industry’s most strategic craft [the Test Deskmen]....” He concluded that management’s new technology could (as it did at New York Telephone in the 1970s) bring more skilled jobs to a plant,

⁶⁸⁸ Idem, *Battling for American Labor: Wobblies, Craft Workers, and the Making of the Union Movement* (Berkeley: University of California, 1999), 3, 14-17, 29-30, 46-47, 68, 89-93, 115-116, 155-156, 163-164, 167. The Leninism that Kimeldorf cited was that goblinized in Selznick, *op. cit.* Kimeldorf cited Parkin, but not on “disruptive potential,” *ibid.*, 172 n14. His reference to Perrone, *ibid.*, 16, 181 n56, assimilates him with Soffer, *op. cit.*, on workers’ “control...of production” and labor aristocracies.

⁶⁸⁹ Kimeldorf, *Battling*, 1-20, 30, 58-59, 85, 153-158, 166-167, 175 n28, 182 n60, 208 n4.

but destroy workers' technical power there, because it automated the work "at the directive nodes of the productive circuitry...." If he had taken a cue from Jones (whom he may have read, but did not cite), he might have found new directive nodes and workers there. If he had followed Perrone, he would have examined the connections between circuits.⁶⁹⁰ He may have been too pessimistic about hi-tech labor's future because he had not looked at the field broadly enough.

However glum its conclusion, his book implied a reasonable hope for labor that other Marxists in the debate rarely offered. For the most part their efforts in writing looked like many not-Marxist debates on labor strategy, much moral advice and exhortation, heavy-lifting, straining, huffing, and puffing about what labor should do, must do. Almost all the coherent arguments were largely political: what strategy labor should follow in partisan affiliation, what strategy supposedly pro-labor parties should follow against pro-business parties, what strategy putatively pro-labor parties in government should follow.⁶⁹¹ The few that shifted away from national "social democracy," to strategies for "new social movements," or "mobilization," or local "democratization," or "structured movement," or "new internationalism," have all again been to change labor's heart and mind.⁶⁹² Seldom is there any recognition of the kind of power workers themselves might have at work, its locale no more specified or detailed

⁶⁹⁰ Steven P. Vallas, *Power in the Workplace: The Politics of Production at AT&T* (Albany: State University of New York, 1993), 11, 13, 17-24, 83-140, 187-195. He knew Parkin, *ibid.*, 218 n9, but not the book best for his purposes.

⁶⁹¹ E.g., Leo Panitch and Ralph Miliband, "The New World Order and the Socialist Agenda," in idem, eds., *The Socialist Register 1992: The New World Order* (London: Merlin, 1992), 1, 16-17, 21-22; Leo Panitch, "Globalisation and the State," in idem and Miliband, eds., *The Socialist Register 1994: Between Globalism and Nationalism* (London: Merlin, 1994), 61-63, 82-88; Daniel Bensaid, "Neo-Liberal Reform and Popular Rebellion," *New Left Review*, 215 (January 1996), 109-117; Steve Jeffreys, "France 1995: the backward march of labour halted?" *Capital & Class*, 59 (Summer 1996), 7-21.

⁶⁹² E.g., Leo Panitch, "Reflections on Strategy for Labour," in idem et al., eds., *The Socialist Register 2001: Working Classes, Global Realities* (London: Merlin 2001), 367-392; Göran Therborn, "Into the 21st Century: The New Parameters of Global Politics," *New Left Review*, 2nd ser., 10 (July 2001), 87-110.

than “the workplace,” “the shopfloor,” or “the assembly line.”⁶⁹³ In France, instead of explaining the tremendous strikes (successful) there in 1995, so that labor elsewhere could learn from them, French academic Marxists took the occasion to prove themselves smarter than “certain” other French intellectuals who had assured the world of *la fin du travail*.⁶⁹⁴ Some hegemonic contest!

Although barely noticed even in the U.S. debate on strategy, the contemporary Marxist who has clarified most about it is Jerry Lembcke. He too is blank on Parvus, Parkin, and Perrone. But he has articulated familiar theses into his own sharp, dialectically tight explanation of labor’s potential. Straight from Marx and Engels (regardless of the “new economic geography”) he emphasizes that capitalist development is uneven from the start within countries, so that nationally the capitalist class and the working class are both continually reforming in sectorally and geographically shifting divisions of the old-fashioned, the not so old but far from new, and the vanguard of growth.⁶⁹⁵ From “structural Marxism” he insists on the distinction between a class’s “*intrinsic capacity*” (the capitalist class’s being capital accumulation, the working class’s being “collectivity”) and either class’s “*hegemonic capacity*...[or] ability to deploy...[its]

⁶⁹³ E.g., Sam Gindin, “Socialism ‘with Sober Senses’: Developing Workers’ Capacities,” in Leo Panitch and Colin Leys, eds., *The Socialist Register 1998: The Communist Manifesto Now* (London: Merlin, 1998), 77, 90-93; Sam Gindin, “Notes on Labor at the End of the Century: Starting Over?” in Ellen M. Wood et al., *Rising from the Ashes? Labor in the Age of ‘Global’ Capitalism* (New York: Monthly Review, 1998), 197-201; and David Mandel, “‘Why is There No Revolt?’ The Russian Working Class and Labour Movement,” *Socialist Register 2001*, 187-192.

⁶⁹⁴ E.g., Jacques Kergoat et al., *Le monde du travail* (Paris: La Découverte, 1998), especially on “the strike as enigma,” 389-390.

⁶⁹⁵ Jerry L. Lembcke and William Tattam, *One Union in Wood: A Political History of the International Woodworkers* (New York: International Publishers, 1984), 1-17, 131-154; Jerry L. Lembcke, *Capitalist Development and Class Capacities: Marxist Theory and Union Organization* (Westport: Greenwood, 1988), 29-41, 68-70, 111-112; idem et al., “Labor’s Crisis and the Crisis of Labor Studies: Toward a Rethorized Sociology of Labor,” in Patrick McGuire and Donald McQuarie, eds., *From the Left Bank to the Mainstream: Historical Debates and Contemporary Research in Marxist Sociology* (Dix Hills: General Hall, 1994), 117, 119-120, 123; Jerry L. Lembcke, “Labor History’s ‘Synthesis Debate’: Sociological Interventions,” *Science and Society*, LIX, 2 (Summer 1995), 137-173.

intrinsic capacity against opposing classes.”⁶⁹⁶ From “radical critical theory” Lembecke stresses the strategic difference between the capitalist class’s “pecuniary logic” of collective action, and the working class’s “associational logic” of collective action, its less “proletarianized” fractions pushing business unions (“the mobilization of financial resources”), its more “proletarianized” fractions pushing industrial and general unions (“mobilizing human resources”).⁶⁹⁷ And from Communist unionizing in the 1930s he argues for “strategic importance” rather than size (number of members) as “the key consideration” in unionizing campaigns. “The key...was to mobilize the sectors of the working-class movement that were regionally, sectorally, and politically *over*-developed in such a way that...sectors underdeveloped at the time could advance, sling-shot fashion, beyond...more advanced sectors... In other words, the structural location of job positions in the most advanced sector constitutes the cutting edge of the historical process.” (In yet other, simpler words, “the most advanced sector” in the most developed region is most strategic because it matters more than any other to the entire structure of production.) If workers in this sector and region use their strategic power only for themselves, they do no more than drive capitalism into new forms, and sooner or later it will outflank them. If they use their power collectively, to organize the working class at large, they give it the “hegemonic capacity” for “socialist transformation.” And if the working class at large

⁶⁹⁶ Idem, “Labor’s Crisis,” 119; “Labor History’s ‘Synthesis Debate,’” 158-159, 161. Cf. Göran Therborn, “Why Some Classes Are More Successful than Others,” *New Left Review*, No. 138 (March-April 1983), 40-41

⁶⁹⁷ Lembecke, *Capitalist Development*, 41-63, 65, 162, 166, 175. Cf. Claus Offe and Helmut Wiesenthal, “Two Logics of Collective Action,” in Maurice Zeitlin, ed., *Political Power and Social Theory* (1980), 67-115.

uses this capacity not only defensively, in economic strikes, but also offensively, in political strikes, it takes the lead toward socialism.⁶⁹⁸

But Lembcke does not go deeper, into the industrial, technical bases of strategic strikes, defensive or offensive. The “units” of Communist unionizing in the 1930s interest him as bases more of “representation” and community “mobilization,” than of industrial action. For all his clarity on “*linkage between temporal and spatial unevenness*,” he misses the party’s emphasis on “Shop Units...in the basic industries”; he does not look for linkages in production, the “micro-macro interaction” at work or striking work. His slingshot simile, potential energy released into kinetic energy, correctly puts labor’s most strategic positions inside capitalism’s most advanced sector, but “sector” (domestic, foreign, private, public, primary, secondary, tertiary?) is too vague for practical strategic analysis or planning. Besides, the logic of starting a struggle in the same area as the planned final front may be too narrow. Because of uneven development, a strike in a less advanced industry, e.g., transportation, may shut down various more advanced industries, including the most advanced, pull capital into crisis, and cascade labor’s collective action.

If Lembcke had connected historical, sectoral, geographic, industrial, and technical questions, he could have made Marxist theory even more useful than he did not

⁶⁹⁸ Lembcke, “Labor History’s ‘Synthesis Debate,’” 159; idem, *Capitalist Development*, 29-31, 41-42, 150-153, 158-159, 163-168, 175. Cf. the third generation of “new economic geography,” or the new “political economy of place,” especially “geographically informed study of labor and work,” the best of which are Andrew Herod, ed., *Organizing the Landscape: Geographical Perspectives on Labor Unionism* (Minneapolis: University of Minnesota, 1998), xiii-xvi; and idem, *Labor Geographies: Workers and the Landscapes of Capitalism* (New York: Guilford, 2001), both ignorant of Lembcke, but fully versed in “social construction.” Of at least 60 references to labor “strategy” in the former, none shows any sense of specifically industrial positions of strength, and only one is to a technically strategic stronghold: *Organizing*, 276-277. Of at least 30 such references in the later book, none has specifically industrial significance; a non-strategic reference to “skill” suggests “greater bargaining power”: *Labor Geographies*, 276 n3.

only for labor history but for labor sociology and labor's strategizing as well. For example, consider the now (still) most advanced U.S. industry, telecommunications, where it is most developed and most congested, along the East Coast. Struggling with capital there as strategically as they can, telecommunications workers have not lately suffered another algorithmic defeat. Since each algorithm is good only for its task, workers have sought as yet extra-algorithmic, still irregular tasks, found them in repairs, installation, and maintenance, and struck them to defend themselves. They have even tried to close MAN (metropolitan area network) offices. And they have had some defensive success.⁶⁹⁹ They would probably win new ground for themselves and other workers if they made industrially strategic alliances, fought across broader terrain, and raised the stakes. If the next telecommunications strike along the East Coast coincided with "concerted activities" on I-95 in New Jersey and in the North American Power Grid's Eastern Interconnection, at least in the East Central Area and the Mid-America Interconnected Network serving Louisville (UPS's hub) and Memphis (FedEx's hub), it would indicate substantial working-class "hegemonic capacity." What would such a coincidence take technically? Most important, as far as I can tell, would be strategically located electrical maintenance technicians, radio mechanics, help-desk workers, teamsters, and shipping clerks.⁷⁰⁰ Consider the same industry in Mexico, where the

⁶⁹⁹ Deborah Solomon and Yochi J. Dreazen, "Verizon Hit by Strike, but Talks Progress," *Wall Street Journal*, August 7, 2000, A3; idem, "Striking Unions and Verizon Keep Talking," *ibid.*, August 8, 2000, A3, A8; Leslie Cauley, "Verizon, Unions Tentatively Reach Pact," *ibid.*, August 21, 2000, A3, A10; Yochi J. Dreazen, "Array of Contracts Hindered Verizon Deal," *ibid.*, August 25, 2000, A2, A6; Carlos Tejada, "Verizon Reaches Tentative Pact With Unions on Five-Year Deal," *ibid.*, September 5, 2003, B5.

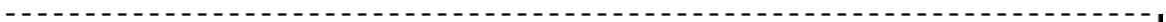
⁷⁰⁰ Cf. Steven M. Rinaldi, "Beyond the Industrial Web: Economic Synergies and Targeting Methodologies" (Thesis: School of Advanced Airpower Studies, 1995), 7-10, 25-33, 65-71; Bill Flynt, "Threat Convergence," *Military Review*, September-October 1999, 2-11; "Y2K Strategies for Managing Interdependency Among Industry Sectors," www.y2k.gov/docs/infrastructure.htm; Blaise Cronin, "Information Warfare: Peering Inside Pandora's Postmodern Box," *Library Review*, L, 6 (2001), 279-294; "Huge Power Failure Hits Major Cities In U.S. and Canada," *Wall Street Journal*, August 15, 2003, A1,

Mexican working class already has an industrially strategic alliance with substantial “hegemonic capacity,” between the Sindicato Mexicano de Electricistas, the Sindicato de Telefonistas, and the Sindicato del Seguro Social.⁷⁰¹ Its technically most strategic workers are all in electrical and electronic maintenance. If capitalism cannot avoid industrial or technical divisions of labor, if being historical, happening sequentially, in time, in consequences, it cannot avoid misfits, overlaps, or bridges, if in its hopefully algorithmic fortresses automation cannot be seamless, absolute, and continuous, endlessly evolving and profitable, if even cybernation cannot do without several algorithms (crisp or fuzzy) and their consequent intersections, connections, and interfaces, the exposure most vulnerable, if especially in colonies and neocolonies the connections between technologically old and technologically new processes of production are fragile, then the more technical complexity, but also the more the working class’s technical powers increase--especially where the matrix is international. If these powers are not more effective, as force, the reason may be less culture than calculation, which being reasonable could reasonably change to favor force.

A10; Susan Warren and Melanie Trotman, “When Plug Is Pulled On the Digital Age, The Basics Black Out,” *ibid.*, August 15, 2003, A1, A6; Douglas H. Dearth, “Critical Infrastructures and the Human Target in Information Operations,” in Alan D. Campen and Douglas H. Dearth, eds., *Cyberwar 3.0: Human Factors in Information Operations and Future Conflict* (Fairfax: Armed Forces Communications and Electronics Association, 2000), 203-209; “IWS--The Information Warfare Site,” www.iwar.org.uk.

⁷⁰¹ Jonathan Friedland, “Power Play,” *Wall Street Journal*, December 3, 1999, A1, A8. Reports on these unions often appear in the monthly *Mexican Labor News and Analysis*, at www.ueinternational.org.

Chapter X. Strategic Practice and Theory in Business, Indignation and Memorials
in Labor



In commerce, because merchants have ever used advantage to block or beat each other, the implication of strategy is ancient.⁷⁰² As the origins and etymologies of “commission,” “arsenal,” *commande*, Cadiz, “company,” *Kamerad*, “caravan,” *tovarishch*, *pochteca*, *ah ppolom*, *mindala*, *tinkuy*, *gongsi*, and *Baliya Naidu* suggest, it was strong in trading societies North, South, East, and West. To cite only a few famous cases, the Vikings, the Karimi, the merchants of Venice, the Ayyavole, the merchants of Zaitun, the Dutch East and West Indies Companies, and the Bobangi all did their business strategically. So did innumerable lesser partnerships along the way. The first point in modern commerce was always to corner the market. In the United States, whatever good they did national defense, capitalists investing in canals and turnpikes had strategic position against rival businesses in mind.⁷⁰³

At least since Americans went into the fur trade in the Rockies the notion of “strategy” in business has been explicit in print in English.⁷⁰⁴ Surveys by U.S. Army engineers of rival railroad routes westward antebellum and the success of the U.S.

⁷⁰² Karl Moore and David Lewis, *Birth of the Multinational: 2000 Years of Ancient Business History from Ashur to Augustus* (Copenhagen: Copenhagen Business School, 1999), 22-24, 27-279. Cf. Rondo Cameron, *A Concise Economic History of the World: From Paleolithic Times to the Present* (New York: Oxford University Press, 1989), 25-26, 32-37.

⁷⁰³ Albert Gallatin, “Roads and Canals,” April 4, 1808, in Walter Lowrie et al., *American State Papers: Commerce and Navigation, Military Affairs, Miscellaneous*, 38 vols. (Washington: Gales and Seaton, 1833-1861), *Miscellaneous*, I, 725, 728-729, 732-733, 737-739, 741; John C. Calhoun, “Report on Roads and Canals,” January 7, 1819, *ibid.*, II, 533-537; and Forest G. Hill, *Roads, Rails & Waterways: The Army Engineers and Early Transportation* (Norman: University of Oklahoma, 1957), 39, 41, 55, 69-70, 76-80, 91-94, 100, 109-111, 151, 165-166, 170, 178-179, 195-197, 224-225.

⁷⁰⁴ The first use recorded in the OED is Washington Irving, *The Rocky Mountains: or, Scenes, Incidents, and Adventures in the Far West; digested from the journal of Capt. B.L.E. Bonneville...*, 2 vols. (Philadelphia: Carey, Lea, and Blanchard, 1837), I, 68: “The captain had here the first taste of the boasted strategy of the fur trade.” Cf. Johann Heinrich von Thünen, *Der isolierte Staat in Beziehung auf Landwirtschaft und Nationalökonomie* [1826] (Berlin: Akademie-Verlag, 1990), 15-280, first clear grounds for a theory of strategy in business, but no such conceptual development; and Antoine A. Cournot, *Recherches sur les principes mathématiques de la théorie de richesses* (Paris: L. Hachette, 1838), the first such theory, but with the idea of strategy only implicit, despite Cournot’s services to Marshal Gouvion de Saint-Cyr.

Military Railroads during the Civil War strengthened the notion postbellum.⁷⁰⁵ Whether Daniel Drew or Cornelius Vanderbilt spoke or wrote of their “strategy” against each other in “the Erie [railroad] wars,” I do not know, but the best journalist on these wars publicized the “strategy” of Drew, Gould, Fisk, and the Erie directors.⁷⁰⁶ The president of the Louisville & Nashville in 1880 boasted to its shareholders of “the commanding and strategic position enjoyed by your company.”⁷⁰⁷ Jay Gould’s nemesis, raising capital to hold the Northern Pacific, privately bragged of “the greatest feat of strategy I ever performed....”⁷⁰⁸ Amid Teddy Roosevelt’s trustbusting a journalist repopularizing American railroad history for a mass readership praised the Pennsylvania Railroad as “a triumph of financial strategy.”⁷⁰⁹ Ida Tarbell in her instantly famous articles on Standard Oil hyperbolized “[t]he strategic importance” of Standard’s early acquisition of refineries, titled a passage “Strategic Location of Refineries,” and observed of John D. Rockefeller, “He saw strategic points like a Napoleon, and he swooped on them with the suddenness of a Napoleon.”⁷¹⁰ So far as I can tell the first professor to write “strategist”

⁷⁰⁵ Hill, *op. cit.*, 69-70, 106-152; D.C. McCallum, *United States Military Railroads: Report of Bvt. Brig. Gen. D.C. McCallum* (Washington: Government Printing Office, 1866); George E. Turner, *Victory Rode the Rails: The Strategic Place of the Railroads in the Civil War* (Indianapolis: Bobbs-Merrill, 1953). Cf. the constant military meaning of “strategic” and “strategy” in French references to railroads: “Exposés des motifs et projets de loi sur la navigation intérieure et les chemins de fer,” *Moniteur Universel*, February 16, 1838, Supplément A, vi; “Chambre des députés,” *ibid.*, May 8, May 9, May 10, May 11, 1838, pp. 1159, 1162, 1164, 1174, 1178, 1179, 1180, 1186, 1187, 1191, 1200, 1203, 1206; Léon Walras, “Cours d’économie politique appliquée [1875],” *Oeuvres*, XII, 494, 868-869 n36; idem, “Études d’économie politique appliquée (Théorie de la production de la richesse sociale) [1898],” *ibid.*, X, 196, 475 n14.

⁷⁰⁶ Charles F. Adams, Jr., “A Chapter of Erie,” *North American Review*, July 1869, 31, 52, 91, 100.

⁷⁰⁷ H. Victor Newcomb, quoted in Maury Klein, “The Strategy of Southern Railroads,” *American Historical Review*, LXXIII, 4 (April 1968), 1059.

⁷⁰⁸ Henry Villard, quoted in Julius Grodinsky, *Transcontinental Railway Strategy, 1869-1893: A Study of Businessmen* (Philadelphia: University of Pennsylvania, 1962), 185.

⁷⁰⁹ E.J. Edwards, “The Great Railroad Builders,” *Munsey’s Magazine*, February 1903, 645. The first “10-cent magazine,” *Munsey’s* then had a circulation of some 700,000.

⁷¹⁰ Ida M. Tarbell, “The History of the Standard Oil Company,” *McClure’s Magazine*, March 1903, 496, July 1903, 316, 320. Her articles ran in three series, November 1902-July 1903, December 1903-May 1904, October 1904; *McClure’s* then had a circulation of some 500,000. Tarbell had already published a popular biography of Napoleon. Cf. idem, *The History of the Standard Oil Company*, 2 vols. (New York: McClure, Phillips, 1904), I, xiv (a subtitle, “Rockefeller outgenerals his opponents”), 146 (like N, putting pins in a

(once) for a businessman acting strategically against other businessmen (all in the abstract) was the German social philosopher Franz Oppenheimer.⁷¹¹ But the first economist I believe to have adopted the popular usage, to describe entrepreneurs, trusts, and monopolies, was the American John Bates Clark.⁷¹²

The first economist I know to have used the notion and the word “strategic” for theorizing about business rivalries was Veblen, in 1904. His sources were superb, the testimony the new Captains of American Industry had themselves lately given before the U. S. Industrial Commission; and his Social Darwinism was ruthless. “With a fuller

map), 148 (the quote on “strategic importance”), II, 12 (“Mr. Rockefeller...is like all great generals: he never fails to foresee where the battle is to be fought; he never fails to get the choice of positions.”), 63-64 (people in Oil Region thought of him as N), and 241 (“With Mr. Rockefeller’s genius for detail, there went a sense of the big and vital factors in the oil business, and a daring in laying hold of them which was very like military genius. He saw strategic points like a Napoleon, and he swooped on them with the suddenness of a Napoleon.”).

⁷¹¹ Franz Oppenheimer, “Käufer und Verkäufer: Ein Beitrag zur wirtschaftlichen Collectivpsychologie,” *Jahrbuch für Gesetzgebung, Verwaltung und Volkswirtschaft im Deutschen Reich*, new ser., XXIV, 4 (1900), 145.

⁷¹² John B. Clark, “Review: *Untersuchungen über das Kapital, seine Natur und Funktion... Von Otto Wittelshöfer...*,” *Political Science Quarterly*, VI, 1 (March 1891), 175; idem, *The Control of Trusts: An Argument in Favor of Curbing the Power of Monopoly by a Natural Method* (New York: Macmillan, 1901), 33, 61, 67. See also idem, *The Problem of Monopoly: A Study of a Grave Danger and of the Natural Mode of Averting It* (New York: Columbia University, 1904), 116; and idem and John M. Clark, *The Control of Trusts*, rev. and enl. (New York: Macmillan, 1912), 35, 85, 97, 116, 129. Cf. Henry C. Adams, “Trusts,” *Publications of the American Economic Association*, 3rd ser., V, 2 (May 1904), 97, 103; Marshall, in 1907, *Principles*, 9th ed., I, 494; and Rothschild, *op. cit.*, 19, 54, 57, 60-61, 71, 124. Among European economists of this period who wrote of powerful, calculated conflicts between businesses, but without “strategy,” were Carl Menger, *Grundsätze der Volkswirtschaftslehre* (Vienna: Wilhelm Braumüller, 1871), 177, 195-200, 206-207; Carl Wilhelm Friedrich Launhardt, “Kommerzielle Trassierung der Verkehrswege,” *Zeitschrift des Architekten- und Ingenieur-Vereins zu Hannover*, XVIII, 4 (1872), 521-525; Walras, “Études d’économie politique appliquée [1875],” 200, 247-248; Friedrich Kleinwächter, *Die Kartelle: Ein Betrag zur Frage der Organisation der Volkswirtschaft* (Innsbruck: Wagner’schen Universitäts, 1883), 126-143; Böhm-Bawerk, *Kapital*, II (1889), 216-218, 228-233; Pareto, *Cours* (1896), I, 324-327, II, 79-80, 87-88, 193-198, 248-254, 268-270; *Manuel* (1909), 163-164, 166-167, 210-211, 321, 335, 463, 594-605, 613-617, 628-632, 634-635; F. Y. Edgeworth, “La teoria pura del monopolio,” *Giornale degli economisti*, 2nd ser., XV, 1, 4, 5 (July, October, November 1897), 13-32, 307-320, 405-414; Liefmann, *Unternehmerverbände*, 177-185; Maffeo Pantaleoni, “An Attempt to Analyse the Concepts of ‘Strong and Weak’ in Their Economic Connection,” *Economic Journal*, VIII, 30 (June 1898), 183-205; Schmöller, *Grundriss* (1900-04), I, 450-457, 520, 537-543, II, 12, 57-59, 114-122, 409, 494; A.C. Pigou, “Monopoly and Consumers’ Surplus,” *ibid.*, XIV, 55 (September 1904), 388-394; idem, “Equilibrium” (1908), 205-213; Alfred Weber, “Reine Theorie des Standorts [1909],” in idem et al., *Über den Standort der Industrien*, 2 vols. (Tübingen: J.C.B. Mohr (Paul Siebeck), 1909-1931), I, 121-163; Joseph Schumpeter, *Theorie der wirtschaftlichen Entwicklung* (Leipzig: Duncker & Humblot, 1912), 138-141, 149, 171-198; Wieser, “Theorie der gesellschaftlichen Wirtschaft [1914],” 249-250, 274-286, 341-342, 352, 356, 404-410.

development of the modern close-knit and comprehensive industrial system,” he wrote, “the point of chief attention for the business man has shifted...to a strategic control of the conjunctures of business through shrewd investments and coalitions with other business men.” It deserves notice that Veblen applied the idea not simply to “business enterprise,” but to a particular “concatenation of processes” and “the great business men who with force and insight swing the fortunes of civilized mankind.”⁷¹³ Moreover Veblen’s is the sense in (I believe) the first economics-textbook reference to “strategic” business.⁷¹⁴ Veblen did not develop the idea then, seldom even repeating it in his next major study.⁷¹⁵ During World War I he wrote of “strategy” as much in a literal, military sense as in terms of “competitive enterprise.”⁷¹⁶ Nor did other economists adopt the idea, much less explore it, or expand upon it. John Maurice Clark did not call “acceleration” in demand a “strategic factor,” as he well could have; he and almost every other economist then wrote of “strategy” only in terms of war.⁷¹⁷ The only two who continued to write “strategic” microeconomically were still writing about railroads.⁷¹⁸ But three years after the war Veblen recovered the idea, and integrated it into his analysis of modern capitalist

⁷¹³ Thorstein Veblen, *The Theory of Business Enterprise* (New York: Charles Scribner’s Sons, 1904), 24-25, 29-30, 49. For other references to “strategic,” “strategy,” “strategist,” and “strategically,” *ibid.*, 22, 31-32, 38-39, 43, 56 n2, 90, 121, 123-124, 161. The second such economist, I believe, was Marshall’s student David H. MacGregor, *Industrial Combinations* (London: George Bell & Sons, 1906), 15, 45, 70, 93, 181. Cf. Rothschild, *op. cit.* (1912), vii, 19, 54, 65, 71, 73, 101, 124.

⁷¹⁴ Clark, *Essentials of Economic Theory* (1907), 543, 549-550.

⁷¹⁵ Thorstein Veblen, *The Instinct of Workmanship and the State of the Industrial Arts* (New York: Macmillan, 1914), 151, 193, 217.

⁷¹⁶ Idem, *The Nature of Peace* (New York: Macmillan, 1917), 17-18, 25, 168-169, 309, 338; and idem, “Outline of a Policy for the Control of the ‘Economic Penetration’ of Backward Countries and of Foreign Investments [1917],” in his *Essays In Our Changing Order* (New York: Viking, 1934), 372. Cf. idem, “The Economic Consequences of the Peace [1920],” *ibid.*, 456, 463, 468.

⁷¹⁷ John Maurice Clark, “Business Acceleration and the Law of Demand: A Technical Factor in Economic Cycles,” *Journal of Political Economy*, XXV, 3 (March 1917), 217-235; idem et al., eds., *Readings in the Economics of War* (Chicago: University of Chicago, 1918), xii, 99, 120-126, 128, 131, 134, 149, 371.

⁷¹⁸ Frank H. Dixon, “Public Regulation of Railway Wages,” *American Economic Review*, V, 1 (March 1915), 249-251, 254, 256, 259; and Homer B. Vanderblue, “Railroad Evaluation by the Interstate Commerce Commission,” *Quarterly Journal of Economics*, XXXIV, 1 (November 1919), 40-41, 80.

production and business.⁷¹⁹ Two years later the book where he had first “sketched” his theory received a second, more influential printing. Most significant was his new study of American “business enterprise,” or the “business strategy” of corporate “salesmanship and sabotage.”⁷²⁰ All through the 1920s more sociable economists and professors of business administration mentioned “strategy” and its branches as if they were common in the market.⁷²¹ At least once that decade “strategic points” in marketing appeared in an officially approved national economic report.⁷²²

Economists of various schools then, Marshall’s, Schmoller’s, Walras’s and Pareto’s intellectual heirs, might have framed theories of “business strategy.” Taking (as they did) statistical mechanics for their explanatory model, concentrating variously on “bilateral monopoly,” “duopoly,” *Macht, polipolio, unvollständiges Monopol, quasi-monopole, monopole incomplet, beschränkter Wettbewerb, Magtpaavirkning, mehrfaches Monopol*, “monopolistic competition,” “oligopoly,” “imperfect competition,” they need

⁷¹⁹ Thorstein Veblen, *The Engineers and the Price System* (New York: B.W. Huebsch, 1921), 2-4, 53, 89, 99, 108, 116-118, 120, 122-123, 127, 129.

⁷²⁰ Idem, *Absentee Ownership: Business Enterprise in Recent Times: The Case of America* (New York: B.W. Heubsch, 1923), 98, 108, 110 n5, 192, 210, 216-217, 220 n11, 231-232, 240, 247, 250, 278, 285-287, 338-339, 341, 353, 380-383, 390, 402-404, 407, 409, 415-418, 421, 423, 436-437, 444-445.

⁷²¹ E.g., John M. Clark, *Studies in the Economics of Overhead Costs* (Chicago: University of Chicago, 1923), 128, 256; John F. Crowell, “Business Strategy in National and International Policy,” *Scientific Monthly*, June 1924, 596-601, 603-604; Lewis H. Haney, “Advantages and Disadvantages of Railway Consolidation,” *American Economic Review*, XIV, 1 (March 1924), 91, 96; Lawrence K. Frank, “The Significance of Industrial Integration,” *Journal of Political Economy*, XXXIII, 2 (April 1925), 182, 189; C.H. Markham, “The Development, Strategy and Traffic of the Illinois Central System,” *Economic Geography*, II, 1 (January 1926), 1, 4, 9, 12, 15; Harald S. Patton, “The Market Influence of the Canadian Wheat Pool,” *Journal of the American Statistical Association*, XXIV (March 1929), 212, 215; and from a hurried scan of one periodical important in “the management movement,” Harry R. Tosdal, “The Field Organization of the Sales Department,” *Harvard Business Review*, I, 3 (April 1922), 320; idem, “Operating Problems of Branch Sales Organizations,” *ibid.*, II, 1 (October 1923), 75; William J. Cunningham, “A Cadet System in Railroad Service,” *ibid.*, III, 4 (July 1925), 404; Clare E. Griffin, “Wholesale Organization in the Automobile Industry,” *ibid.*, III, 4 (July 1925), 427; William Z. Ripley, “The Problem of Railway Terminal Operation,” *ibid.*, IV, 4 (July 1926), 391; Kenneth Dameron, “Cooperative Retail Buying of Apparel Goods,” *ibid.*, VI, 4 (July 1928), 446.

⁷²² Melvin T. Copeland, “Marketing,” in President’s Conference on Unemployment, Committee on Recent Economic Changes, *Recent Economic Changes in the United States*, 2 vols. (New York: McGraw-Hill, 1929), I, 361, 369.

only have formalized current business notions into a concept of business position, communications, objective, and timing--and called it "strategy."⁷²³ For various reasons through the 1920s none did.⁷²⁴ Only two briefly came close. Revising his almost 15-year-old study of entrepreneurs and "economic development," Schumpeter added a couple of military similes: entrepreneurial "carrying through of new combinations," like a *Feldherr's* "conception and carrying through of strategic decisions," and entrepreneurial action "in economic life," like that in "a given strategic position."⁷²⁵ And a young French economist noted an entrepreneurial *stratagème*.⁷²⁶

⁷²³ Cf. Crowell, *op. cit.*, 597-601.

⁷²⁴ E.g., none of the following: Arthur C. Pigou, *The Economics of Welfare*, 2nd ed. (London: Macmillan, 1920), 173-181, 238; Carl Landauer, *Grundprobleme der funktionellen Verteilung des wirtschaftlichen Wertes* (Jena: Gustav Fischer, 1923), 3-55; A. L. Bowley, *The Mathematical Groundwork of Economics: An Introductory Treatise* (Oxford: Clarendon, 1924), 5-9, 20-25, 58-62; idem, "Bilateral Monopoly," *Economic Journal*, XXXVIII (December 1928), 651-659; Piero Sraffa, "Sulle relazioni fra costo e quantità prodotta," *Annali di economia*, II, (1925-26), 303-312, 317, 322 n1; idem, "The Laws of Returns under Competitive Conditions," *Economic Journal*, XXXVI (December 1926), 539-550; Umberto Ricci, *Dal protezionismo al sindacalismo* (Bari: Giuseppe Laterza & Figli, 1926), 131-145, 165; Gaston Leduc, *La théorie des prix de monopole* (Aix-en-Provence: Paul Roubaud, 1927), 107-225, 250-403; Kurt Wicksell, "Mathematische Nationalökonomie," *Archiv für Sozialwissenschaft und Sozialpolitik*, LVIII, 2 (1927), 262-275; Joseph Schumpeter, *Theorie der wirtschaftlichen Entwicklung: Eine Untersuchung über Unternehmergeinn, Kapital, Kredit, Zins und den Konjunkturzyklus*, 2nd ed. (Munich: Duncker und Humblot, 1926), 88-139, 251-256, 304-314; idem, "The Instability of Capitalism," *Economic Journal*, XXXVIII (September 1928), 364-365, 369-372, 376-385; Frederik Zeuthen, *Den økonomiske Fordeling* (Copenhagen: Arnold Busck, 1928), 67-71, 76, 95-109; idem, *Problems of Monopoly and Economic Warfare*, tr. Else Zeuthen (London: George Routledge & Sons, 1930), 1-6, 15-103; Harold Hotelling, "Stability in Competition," *Economic Journal*, XXXIX (March 1929), 44, 48-52, 56; Jan Tinbergen, "Bestimmung und Deutung von Angebotskurven: Ein Beispiel," *Zeitschrift für Nationalökonomie*, I, 5 (April 1930), 675-679; Erich Schneider, "Zur Theorien des mehrfachen Monopols, insbesondere der des Duopols," *Archiv für Sozialwissenschaft und Sozialpolitik*, LXIII, 3 (1930), 550-555; idem, *Reine Theorie monopolistischer Wirtschaftsformen* (Tübingen: J.C.B. Mohr (Paul Siebeck), 1932), 5-175; Kurt Sting, "Die polypolitische Preisbildung," *Jahrbücher für Nationalökonomie und Statistik*, CXXXIV, 5 (May 1931), 761-789; Heinrich von Stackelberg, "Grundlagen einer reinen Kostentheorie, Zweiter Teil," *Zeitschrift für Nationalökonomie*, III, 4 (May 1932), 564-569, 575; idem, *Marktform und Gleichgewicht* (Vienna: Julius Springer, 1934), 14-67, 110-135; Bertil Ohlin, *Interregional and International Trade* (Cambridge: Harvard University, 1933), 112-113, 253, 285-297; Edward H. Chamberlin, *The Theory of Monopolistic Competition: A Re-orientation of the Theory of Value* (Cambridge: Harvard University, 1933), 30-116; Joan Robinson, *The Economics of Imperfect Competition* (London: Macmillan, 1933), 51-82, 179-202, 218-228, 302-326.

⁷²⁵ Schumpeter, *Theorie*, 104-115, 125. Cf. idem, *Theorie der wirtschaftlichen Entwicklung* (Leipzig: Duncker & Humblot, 1912), 103-198. His description of the money market as "so to speak the headquarters of the capitalist economy" is in both editions: *Theorie* (1912), 276; *Theorie* (1926), 204-205.

⁷²⁶ Leduc, *op. cit.*, 268; for a government "stratagem," *ibid.*, 308.

In 1933 the economist by then maybe the most able to theorize “business strategy,” Ragnar Frisch, seemed about to do it. For a theoretical “polypoly [$n > 3$ firms *en combat*],” he formalized “strategic situation,” “economic communication,” and a “parametric regime” of profits. That year in another paper he formalized a “determinate macro-dynamic analysis” of business cycles, essential for strategic business timing.⁷²⁷ If Frisch had connected these models, they might well have given (among other results) a theory of capitalist generalship. Instead he pursued his high ideal, a macroeconomics of dynamic equilibrium.⁷²⁸

The very next year, Commons, by then pope of American Institutionalism, tried to conceptualize “strategic transactions” in business. Drawing on the old Austrians, he had some sharp insights into the question. “Economics,” he argued, meaning capitalism mainly, was ultimately “transfers of ownership,....functionally interdependent....bargaining, managerial, and rationing transactions.” Such deals comprised two radically different kinds of “factors,” each kind with its “objective side” and its “volitional side.” One kind of factor was objectively “complementary,” volitionally “contributory”; the other kind, objectively “limiting,” volitionally “strategic.” “Complementary” and “contributory factors” issued in “routine transactions”; “limiting” and “strategic factors,” in “strategic transactions,” the purest of which was either “bankruptcy or revolution.” Commons laid down the law. “The most important of all investigations in...economic affairs..., and the most difficult,” he emphasized, was that

⁷²⁷ Ragnar Frisch, “Monopole--polypole--La notion de force dans l'économie,” *Nationaløkonomisk Tidsskrift, Tillaegshefte: Til Harald Westergaard, 19 April 1933*, No. 71 (1933), 243-253; and idem, “Propagation Problems and Impulse Problems in Dynamic Economics,” in *Economic Essays in Honour of Gustav Cassel, October 20th 1933* (London: George Allen & Unwin, 1933), 181-205.

⁷²⁸ He did not, however, forget his “strategic” point: idem, “Annual Survey of General Economic Theory: The Problem of Index Numbers,” *Econometrica*, IV, 1 (January 1936), 14; and idem, *Theory of Production*, tr. R.I. Christophersen (Chicago: Rand McNally, 1965), ???.

of the volitional factors, “contributory” and “strategic.” He waxed quite Archimedean: “By operating upon, or furnishing a supply, or withholding supply, of what--at the particular time, place, or quantity--is the limiting factor in obtaining what one wants in the future, the whole complex of the universe may be brought under command of a physically puny [but strategic] human being.” This was way too much, a Theory of Commercial Relativity, if not a Philosophy of Economic Functionalism.⁷²⁹

Not nearly enough was J.M. Clark’s casual usage in his new book that year, where, from title to text, without definition or analysis, “strategic” meant no more than “really, really important.”⁷³⁰ Negligible except for the fact that their author had moved to Harvard’s Economics Department were Schumpeter’s earlier military references appearing that same year in English translation.⁷³¹ The first “strategic competition” appeared in “location theory,” but the concept went undeveloped.⁷³² No more than suggestive were the “strategic” allusions by various other economists through the 1930s.⁷³³ The great Keynes would not stoop so far; he stopped at the vulgarity, which he quoted to show it was not his usage, ““bottlenecks.””⁷³⁴

⁷²⁹ John R. Commons, *Institutional Economics: Its Place in Political Economy*, 2 vols. (New York: Macmillan, 1934), I, 55 n81, 58, 89-90, 91, 92, 296-297, II, 627-628, 630, 632-634, 644, 649, 736, 867-870. On “strategic transaction,” cf. Wieser, *Über den Ursprung*, 170-179; Böhm-Bawerk, *Kapital*, II, Part I, 276-286, Part 2, 173-220; and Horace M. Kallen, “Functionalism,” in Edwin R.A. Seligman, ed., *Encyclopaedia of the Social Sciences*, 15 vols. (New York: Macmillan, 1930-35), VI, 523-526.

⁷³⁰ John Maurice Clark, *Strategic Factors in Business Cycles* (New York: National Bureau of Economic Research, 1934), x, 7, 43, 89, 160, 190-191, 209-210, 214, 218-219.

⁷³¹ Joseph A. Schumpeter, *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle*, tr. Redvers Opie (Cambridge: Harvard University Press, 1934), 77, 85.

⁷³² Tord Palander, *Beiträge zur Standortstheorie* (Uppsala: Almqvist & Wiksell, 1935), 249-250, 389, 394. Cf. Edgar M. Hoover, Jr., *Location Theory and the Shoe and Leather Industries* (Cambridge: Harvard University, 1937), 58, 99; idem, *Economía geográfica* (Mexico City: Fondo de Cultura Económica, 1942), 267-268; August Lösch, *Die räumliche Ordnung der Wirtschaft* [1940], 2nd ed. (Jena: Gustav Fischer, 1944), 113.

⁷³³ E.g., Harold W. Stoke, “Economic Influences Upon the Corporation Laws of New Jersey,” *Journal of Political Economy*, XXXVIII, 5 (October 1930), 551, 565; Charles R. Whittlesey, “The Stevenson Plan: Some Conclusions and Observations,” *ibid.*, XXXIX, 4 (August 1931), 522, 524; Abram L. Harris, “Economic Evolution: Dialectical and Darwinian,” *ibid.*, XLII, 1 (February 1934), 46, 48; Leo Rogin, “The New Deal: A Survey of the Literature,” *Quarterly Journal of Economics*, XLIX, 2 (February 1935), 327,

But the recognition that firms needed “strategies” against each other continued to spread among businessmen and business journalists. When New Jersey Bell’s President Chester Barnard, encouraged by the Harvard Business School’s dean, rewrote Commons on “strategic” in 1938, in a book as didactic as Commons’s was convoluted, businessmen found in print the words they already knew in practice, and seized upon them as their own, or to dignify their own. Barnard’s “theory of opportunism” was perfect. The only economist who reviewed the book then ignored “strategic,” and lamented the book’s “excessive conceptualism.”⁷³⁵ But Schumpeter caught the popular response. In the middle of World War II, in his first volume for the educated (though not necessarily economics-trained) American public, he flaunted “price strategy,” “business strategy,” “industrial strategy,” and “monopolistic strategy,” making his adoption of the notion and the word powerfully clear.⁷³⁶ Probably it was the war: Younger economists who wanted to understand “spatial competition” made “strategic” language their own, to build a theory of capitalist exchange and conflict.⁷³⁷

347; Melchior Palyi, “Bank Portfolios and the Control of the Capital Market,” *Journal of Business of the University of Chicago*, XI, 1 (January 1938), 91.

⁷³⁴ John Maynard Keynes, *The General Theory of Employment, Interest, and Money* (London: Macmillan, 1936), 300-301.

⁷³⁵ Chester I. Barnard, *The Functions of the Executive* (Cambridge: Harvard University Press, 1938), 51, 60, 139, 158, 202-211, 236, 248-249, 251, 253, 256-257, 282, 288. Cf. Charles S. Ascher, in “Book Reviews,” *Journal of Political Economy*, XLVIII, 4 (August 1940), 612-613. Despite the review, despite the war, the book received three printings by 1946.

⁷³⁶ Cf. Joseph A. Schumpeter, *Business Cycles: A Theoretical, Historical, and Statistical Analysis of the Capitalist Process*, 2 vols. (New York: McGraw-Hill, 1939), I, 59, 66; and idem, *Capitalism, Socialism, and Democracy* (New York: Harper & Brothers, 1942), 79-80, 83, 87-91, 93, 96, 102, 105-106.

⁷³⁷ Arthur Smithies and L.J. Savage, “A Dynamic Problem in Duopoly,” *Econometrica*, VIII, 2 (April 1940), 131; Arthur Smithies, “Optimum Location in Spatial Competition,” *Journal of Political Economy*, LXIX, 3 (June 1941), 428, 431-432; Walter Isard, “Transport Development and Building Cycles,” *Quarterly Journal of Economics*, LVII, 1 (November 1942), 93, 95-96, 98, 101, 109; idem and Caroline Isard, “Economic Implications of Aircraft,” *Quarterly Journal of Economics*, LIX, 2 (February 1945), 146-148, 165-166, 168.

Through the golden age of post-war capitalism economic discourse on “strategic” and “strategy” in business expanded, but remained largely indefinite.⁷³⁸ Economists by the score then wrote of businesses in “strategic” positions, at “strategic” action, committed to a “strategy,” meaning (like J.M. Clark) only that such firms were somehow important, deliberate, and consistent.⁷³⁹ Even so, within this fog, several familiar lines of usage were clear. One was old-fashioned Institutionalism.⁷⁴⁰ Another, almost as old, was Location Theory.⁷⁴¹ More recent was the Monopolistic Competition line.⁷⁴² New Keynesians also picked up “strategic” and “strategy” for their analyses of coercive structures or disturbances of the market.⁷⁴³ Likewise neo-Walrasians from Marschak onward used the ideas and words in developing their economics of organization,

⁷³⁸ From 1838 (foundation of the *Journal of the Statistical Society of London*) through 1945 JSTOR under Business, Economics, Finance, and Statistics, henceforth JSTOR-BEFS, all told 87 journals, shows 94 articles, reviews, opinion pieces, and other items containing both “strategic” and “strategy,” 948 containing only “strategic,” 518 containing only “strategy,” in military, labor, business, or other specific or indefinite references. From 1946 through 1960 there were 274 articles, reviews, opinion pieces, and other items with both “strategic” and “strategy,” 1,512 with only “strategic,” 1,349 with only “strategy,” E.g., in references other than to labor or business, Lawrence R. Klein, “Theories of Effective Demand and Employment,” *Journal of Political Economy*, LV, 2 (April 1947), 109, 114, 120-121; J. K. Galbraith, “The Strategy of Direct Control in Economic Mobilization,” *Review of Economics and Statistics*, XXXIII, 1 (February 1951), 12-13, 15-17; Edith Tilton Penrose, “Profit Sharing Between Producing Countries and Oil Companies in the Middle East,” *Economic Journal*, LXIX (June 1959), 239.

⁷³⁹ E.g., T. Wilson, “Cyclical and Autonomous Inducements to Invest,” *Oxford Economic Papers*, V, 1 (March 1953), 66-67, 71, 88.

⁷⁴⁰ E.g., Robert A. Gordon, *Business Leadership in the Large Corporation* (Washington: Brookings Institution, 1945), 80-81, 135, 147 n1, 189, 194-195, 200 n23, 248-249, 264, 328-329, 334; George W. Stocking and Willard F. Mueller, “The Cellophane Case and the New Competition,” *American Economic Review*, XLV, 1 (March 1955), 30-32, 34, 42, 44, 54, 63.

⁷⁴¹ Walter Isard, “The General Theory of Location and Space-Economy,” *Quarterly Journal of Economics*, LXIII, 4 (November 1949), 504; Douglass C. North, “Location Theory and Regional Economic Growth,” *Journal of Political Economy*, LXIII, 3 (June 1953), 250 n37.

⁷⁴² Robert P. Terrill, “Cartels and the International Exchange of Technology,” *American Economic Review*, XXXVI, 2 (May 1946), 745-746, 760; Robert F. Lanzillotti, “Multiple Products and Oligopoly Strategy: A Development of Chamberlin’s Theory of Products,” *Quarterly Journal of Economics*, LXVIII, 3 (August 1954), 461-465, 467-474; and Robert L. Bishop, “Duopoly: Collusion or Warfare?” *American Economic Review*, L, 5 (December 1960), 936-937, 940, 944, 950-951, 933, 955, 959, 961.

⁷⁴³ K. W. Rothschild, “Price Theory and Oligopoly,” *Economic Journal*, LVII, 227 (September 1947), 305-307, 310-312, 314-316; Don Patinkin, “Involuntary Unemployment and the Keynesian Supply Function,” *Economic Journal*, LIX (September 1949), 372-376, 383. Cf. William J. Fellner, *Competition among the Few: Oligopoly and Similar Market Structures* (New York: Knopf, 1949), not once.

uncertainty, and information.⁷⁴⁴ Maybe most attractive then was the new Game Theory, where in “general non-zero-sum games,” on questions of “the familiar economic type....bilateral monopoly, oligopoly, markets, etc.,” “strategic” applied only to action according to “strategy,” and “strategy” meant a firm’s “set of rules for...how to behave in every possible situation of the game,” or “a complete plan of action” for “all possible contingencies...in conformity with the pattern of information which the rules of the game provide [the firm] for that case”; probably because he wrote mainly of war, Schelling most effectively spread this idea among economists.⁷⁴⁵ More influential was the not yet so-called New Institutional Economics. Drawing more than he recognized from Commons’s “strategic transactions” and Barnard’s “theory of opportunism,” Herbert Simon offered his “theory of [executive] decisions in terms of alternative behavior possibilities and their consequences.” So he theorized, “The series of such decisions

⁷⁴⁴ J. Marschak, “Neumann’s and Morgenstern’s New Approach to Static Economics,” *Journal of Political Economy*, LIV, 2 (April 1946), 97-115 (particularly 106-107, 109-110, 112); and e.g., J. Fred Weston, “Some Theoretical Aspects of Formula Timing Plans,” *Journal of Business of the University of Chicago*, XXII, 4 (October 1949), 250-251, 255-256, 267-270; Joel Dean, “Product-Line Policy,” *Journal of Business of the University of Chicago*, XXIII, 4 (October 1950), 249-253, 258; H. Neisser, “Oligopoly as a Non-Zero-Sum Game,” *Review of Economic Studies*, XXV, 1 (October 1957), 1-7, 9-10, 12-18, 20; Kenneth J. Arrow, “Utilities, Attitudes, Choices: A Review Note,” *Econometrica*, XXVI, 1 (January 1958), 6-7, 14, 20; Julius Margolis, “Sequential Decision Making in the Firm,” *American Economic Review*, L, 2 (May 1960), 527-530; William Vickrey, “Utility, Strategy, and Social Decision Rules,” *Quarterly Journal of Economics*, LXXIV, 4 (November 1960), 516-519, 521-522, 529.

⁷⁴⁵ E.g., John Von Neumann and Oskar Morgenstern, *Theory of Games and Economic Behavior* (Princeton: Princeton University Press, 1944), 44, 79-80, 504, 517, 540-541; Leonid Hurwicz, “The Theory of Economic Behavior,” *American Economic Review*, XXXV, 5 (December 1945), 909-917, 919, 925; A. Wald, “Book Reviews,” *Review of Economic Statistics*, XXIX, 1 (February 1947), 47-49, 52; Oskar Morgenstern, “Oligopoly, Monopolistic Competition, and the Theory of Games,” *American Economic Review*, XXXVIII, 2 (May 1948), 10, 12-13, 17; John Nash, “Two-Person Cooperative Games,” *Econometrica*, XXI, 1 (January 1953), 129-130, 136, 138-139; M. Shubik, “A Comparison of Treatments of a Duopoly Problem (Part II),” *Econometrica*, XXIII, 4 (October 1955), 417-418, 423, 426-431; idem, *Strategy and Market Structure: Competition, Oligopoly, and the Theory of Games* (New York: John Wiley & Sons, 1959), passim; idem, “Games Decisions and Industrial Organization,” *Management Science*, VI, 4 (July 1960), 455, 457-459, 461-466, 469, 471-474; Lawrence Friedman, “Decision Making in Competitive Situations,” *Management Technology*, I, 2 (December 1960), 85-86, 89-93; Thomas Schelling, *The Strategy of Conflict* (Cambridge: Harvard University Press, 1960), passim, especially 3-6, 35 n6.

which determines behavior over some stretch of time may be called a *strategy*.”⁷⁴⁶ Most important was the first public mark of another new, not yet named institutionalism, eventually Entrepreneurial Institutionalism, or Innovative Institutionalism. Following Barnard, Schumpeter, and his own research on modern American business history, Alfred Chandler made “strategic” and “strategy” more current than ever before among American businessmen.⁷⁴⁷

As the usage spread in economics and business, so did its diversity, inconsistency, and confusion.⁷⁴⁸ One line remaining clear, however, was traditional Institutionalism.⁷⁴⁹ A line coming clear when its champion named it was the New Institutionalism.⁷⁵⁰ And from Barnard’s inspiration and on Chandler’s lead another line soon appeared that

⁷⁴⁶ Herbert A. Simon, *Administrative Behavior: A Study of Decision-Making Processes in Administrative Organization* (New York: Macmillan, 1947), 66-69, 71, 73; idem, “A Comparison of Organisation Theories,” *Review of Economic Studies*, XX, 1 (1952-53), 40; Richard M. Cyert et al., “Observation of a Business Decision,” *Journal of Business*, XXIX, 4 (October 1956), 238; Harold Koontz, “A Preliminary Statement of Principles of Planning and Control,” *Journal of the Academy of Management*, I, 1 (April 1958), 53-54, 56-58. Meanwhile Barnard had ascended from president of New Jersey Bell to president of the Rockefeller Foundation (1948) to chairman of the National Science Foundation (1952), and retired in 1954; he died in 1961.

⁷⁴⁷ Alfred D. Chandler, Jr., *Strategy and Structure: Chapters in the History of the Industrial Enterprise* (Cambridge: M.I.T., 1962), passim, especially v, 11, 13-16, 383, 394-395. Cf. Edith T. Penrose, *The Theory of the Growth of the Firm* (Oxford: Blackwell, 1959), 40, 167n2, 189. Another highly innovative economist on “strategy” had a different object: Albert O. Hirschman, *The Strategy of Economic Development* (New Haven: Yale University, 1958).

⁷⁴⁸ From 1961 through 1970 JSTOR-BEFS shows 489 articles, reviews, opinion pieces, and other items containing both “strategic” and “strategy,” 1,417 containing only “strategic,” 3,222 only “strategy.” From 1971 through 1980 it shows 1,206 returns for both “strategic” and “strategy,” 2,291 for only “strategic,” 6,759 for only “strategy.” Cf. Harold Koontz, “The Management Theory Jungle Revisited,” *The Academy of Management Review*, V, 2 (April 1980), 175-187.

⁷⁴⁹ E.g., John Kenneth Galbraith, *The New Industrial State* (Boston: Houghton-Mifflin, 1967), 32, 36-39, 50, 71-82, 213-217, 225 n4; Robert T. Averitt, *The Dual Economy: The Dynamics of American Industry Structure* (New York: W.W. Norton, 1968), 3, 30-32, 36-44, 137-140.

⁷⁵⁰ E.g., Oliver E. Williamson, “Selling Expense as a Barrier to Entry,” *Quarterly Journal of Economics*, LXXVII, 1 (February 1963), 112, 114, 116, 123, 125, 127; idem, *Markets and Hierarchies, Analysis and Antitrust Implications: A Study in the Economics of Internal Organization* (New York: Free Press, 1975), passim, especially xi, 25-27, 122-125, 133-137, 143-154; Richard R. Nelson and Sidney G. Winter, *An Evolutionary Theory of Economic Change* (Cambridge: Harvard University, 1982), 31-33, 36-40, 133, 277-289.

company executives “at least ideally” were “deciding” on “corporate strategy.”⁷⁵¹ From a different source (international trade theory, at first including location theory), came a line clearly connecting “corporate strategy” and “organizational structure” for a new theory of “industrial organization,” and an extension into the idea of “competitive strategy.”⁷⁵² Starting in a different discipline (engineering), following a pragmatic, evolutionary logic (like Veblen’s), a new line in “management science” showed that managerial “strategy-making” was not prescriptive, but what “organizations” making “strategic decisions” did.⁷⁵³ By 1982 (thanks to another engineer) the ideas of “business strategy” and “corporate strategy” had traveled to Japan, and back to the United States in translation.⁷⁵⁴

Through the last 20 years two considerable schools of business strategy have formed. One, the more famous, is that of “competitive strategy.” The principal there is Michael Porter. Having produced a huge, cosmically successful trilogy on strategic advantage among firms and national economies (harking back to international trade), co-

⁷⁵¹ Kenneth R. Andrews, *The Concept of Corporate Strategy* (Homewood: Dow Jones-Irwin, 1971), passim, especially 4, 19, 26-41, 80-89.

⁷⁵² Richard E. Caves and Richard H. Holton, *The Canadian Economy: Prospect and Retrospect* (Cambridge: Harvard University, 1959), 30-78, 120-140, 408-431; Richard E. Caves, *Trade and Economic Structure: Models and Methods* (Cambridge: Harvard University, 1960), 3, 10-14, 182-185, 281; R.E. Caves and M.E. Porter, “From Entry Barriers to Mobility Barriers: Conjectural Decisions and Contrived Deterrence to New Competition,” *Quarterly Journal of Economics*, XCI, 2 (May 1977), 241-262; A. Michael Spence, “Investment Strategy and Growth in a New Market,” *Bell Journal of Economics*, X, 1 (Spring 1979), 1-19; Richard E. Caves, “Industrial Organization, Corporate Strategy and Structure,” *Journal of Economic Literature*, XVIII, 1 (March 1980), 64-92; and Michael E. Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitors* (New York: Free Press, 1980).

⁷⁵³ Henry Mintzberg, “Managerial Work: Analysis from Observation,” *Management Science*, XVIII, 1 (October 1971), B101-109; idem, *The Nature of Managerial Work* (New York: Harper and Row, 1973), 77-96, 129-131, 145, 152-164, 191-192, 256-257; idem et al., “The Structure of ‘Unstructured’ Decision Processes,” *Administrative Science Quarterly*, XXI, 1 (June 1976), 246-275; Henry Mintzberg, “Policy as a Field of Management Theory,” *Academy of Management Review*, II, 1 (January 1977), 89-103; idem, “Patterns in Strategy Formation,” *Management Science*, XXIV, 9 (May 1978), 934-948. Mintzberg took his B.Eng. in Mechanical Engineering from McGill in 1961; his Ph.D. from M.I.T.’s Sloan School of Management in 1968, where his dissertation committee was Donald Carroll, James Hekimian, and Charles A. Myers, none an economist. In *Managerial Work*, 20, he expressed particular respect for (the Dunlopian) approach by an earlier student of Myers’s, Leonard Sayles.

⁷⁵⁴ Kenichi Ohmae, *The Mind of the Strategist: The Art of Japanese Business [Kigyo Sanbo, “The Corporate Strategist,” more literally “The Company General Staff,” 1975; for the latter translation I thank Daniel V. Botsman]* (New York: McGraw-Hill, 1982), passim, especially 36-41, 91-98, 136-162. Ohmae took his B.S. from Waseda University ca. 1964; his Ph.D. in Nuclear Engineering from M.I.T. in 1970.

chaired the World Economic Forum's annual Global Competitiveness Reports, and lately edited a volume on "the latest breakthroughs in strategic planning," including his prize-winning article on the internet, Porter now directs the Harvard Business School's Institute for Strategy and Competitiveness; he and his disciples look ever outward to calculate "strategic positioning."⁷⁵⁵ The second school, originally an inversion of the first, now much more sophisticated, is that of "resource-based" strategizing. It has no principal, but a variety of professors on business faculties at several major universities in the United States, Canada, and Europe. Each professor is trying to reconcile business analysis, vision, imagination, learning, culture, context, and rhythm in a distinctive theory or compelling message; among themselves they agree at least that strategy is the process of using a firm's unique resources for unique powers to dominate its field.⁷⁵⁶

⁷⁵⁵ Porter's first book, *Competitive Strategy* (1980), must now be in its 60th printing in English, let alone in numerous translations. The other two in the trilogy are *Competitive Advantage: Creating and Sustaining Superior Performance* (New York: Free Press, 1985), now probably in its 35th printing in English, and *The Competitive Advantage of Nations* (New York: Free Press, 1990), now reprinted with a new introduction (1998). For the latest, Michael E. Porter, "Strategy and the Internet," in *Harvard Business Review on Advances in Strategy* (Boston: Harvard Business School, 2002), 1-50. The institute's web-site is www.isc.hbs.edu. Porter too began as an engineer, taking a B.S.E. in Aerospace and Mechanical Engineering from Princeton in 1969, but he took his Ph.D. from Harvard in 1973 in Business Economics; the director of his dissertation was Richard Caves. For "an interview with michael e porter," Toby Harfield, "Strategic Management and Michael Porter: A Postmodern Reading," *Electronic Journal of Radical Organisation Theory*, IV, 1 (August 1998), www.mngt.waikato.ac.nz/depts/sml/journal/ejrot.htm.

⁷⁵⁶ E.g., Birger Wernerfelt, "A Resource-Based View of the Firm," *Strategic Management Journal*, V, 2 (April 1984), 171-180; Richard P. Rumelt, "Towards a Strategic Theory of the Firm," in R.B. Lamb, ed., *Competitive Strategic Management* (New York: Prentice-Hall, 1984), 556-570; idem et al., "Strategic Management and Economics," *Strategic Management Journal*, XII, Special Issue (Winter 1991), 5-29; Jay B. Barney, "Strategic Factor Markets: Expectations, Luck, and Business Strategy," *Management Science*, XXXII, 10 (October 1986), 1231-1241; Kathleen R. Conner, "A Historical Comparison of Resource-based Theory and Five Schools of Thought Within Industrial Organization Economics: Do We Have a New Theory of the Firm?" *Journal of Management*, XVII, 1 (March 1991), 121-154; idem and C.K. Prahalad, "A Resource-Based Theory of the Firm: Knowledge versus Opportunism," *Organization Science*, VII, 5 (September 1996), 477-501; Henry Mintzberg, *The Rise and Fall of Strategic Planning* (New York: Free Press, 1994); David Collis and Cynthia A. Montgomery, "Competing on Resources: Strategy in the 1990s [1995]," in *Harvard Business Review on Corporate Strategy* (Boston: Harvard Business School, 1999), 33-62; David J. Teece et al., "Dynamic Capabilities and Strategic Management," *Strategic Management Journal*, XVIII, 7 (August 1997), 509-533; and John Mills et al., *Strategy and Performance: Competing through Competences* (Cambridge: Cambridge University, 2002). For a review of both schools in all variants (then), including his own, Henry Mintzberg et al., *Strategy Safari: A Guided Tour Through the Wilds of Strategic Management* (New York: Free Press, 1998), passim, especially 3-21, 302-347, 352-373.

Meanwhile two projects by economists on the main issues in modern capitalism promise more interesting discussion. One project has resulted in a textbook on “endogenous growth theory,” in which its two now leading exponents, boosted by a game theory of industrial organization, have brought Schumpeter’s metaphor of “creative destruction” into “the mainstream of macroeconomic theory.”⁷⁵⁷ Philippe Aghion and Peter Howitt pay little attention to Porter or other business professors on business strategy (the business professors paying none to them). They would rather explain “endogenous technological change and innovation within a dynamic general equilibrium setting.” In “mainstream” economese (unlike in some of Aghion’s earlier articles) they here make only a few idiomatic references to “strategy” or “strategic,” but they do treat “industrial policy,” “Bertrand competition,” “comparative advantage,” “bargaining power,” and “coalition.”⁷⁵⁸ This is theory extraordinarily useful for understanding corporate rivalries and international contests over productivity, whatever the problems of aggregating production functions. The other project is not so “mainstream,” but just as ambitious, probing, and incisive. It began in research on “sustainable prosperity: industrial innovation, international competition, and the development of the American economy,” and now heads toward a theory of “corporate governance,” “innovative enterprise,” and socially transformable markets. Its two leading exponents pay much attention to business professors, but much attention as well to certain economists, above

⁷⁵⁷ Jean Tirole, *The Theory of Industrial Organization* (Cambridge: MIT, 1988), especially 205-208, 245-253, 311-314, 323-330, 380; Philippe Aghion et al., “Optimal Learning by Experimentation,” *Review of Economic Studies*, LVIII, 4 (June 1991), 621-654; Philippe Aghion and Jean Tirole, “The Management of Innovation,” *Quarterly Journal of Economics*, CIX, 4 (November 1994), 1185-1209; Philippe Aghion and Peter Howitt, “A Model of Growth Through Creative Destruction,” *Econometrica*, LX, 2 (March 1992), 323-351; idem, *Endogenous Growth Theory* (Cambridge: MIT, 1998), xi-xii, 1.

⁷⁵⁸ *Ibid.*, on “strategy” and “strategic,” 230-232, 491; on other points, 2, 3, 205, 208, 214-215, 368, 375-376, 382-383, 386-388, 394-395, 397, 410, 449 n2, 450, 453 n9, 454 n10, 455, 456 n13, 459, 468, 482, 484.

all Schumpeter (although they ignore the new “endogenous growth” theorists, who ignore them too). William Lazonick and Mary O’Sullivan want primarily to explain “how enterprises...can be organized to support skill formation and technological change,” making markets that provide greater welfare in more equality, and why, if it could happen, it does not. Unlike “mainstream” economists, they write seriously about “strategic management” with “investment strategies” yielding higher real wages and a broader distribution of income worldwide.⁷⁵⁹ This project too is a source extraordinarily useful for understanding corporate and international contention, whatever the problems of counting on reason alone to reform so much interested power.

As businessmen have always known, a business strategy is no good without a labor strategy. Since the invention of “industrial relations,” business’s conflicts are publicly on both external and internal lines, “competition” and “personnel.” Corporations in strategic contests with each other are also strategically struggling each with its own means of production and “human resources,” using them as they are, increasing them,

⁷⁵⁹ E.g., William Lazonick, *Business Organization and the Myth of the Market Economy* (Cambridge: Cambridge University, 1991), 49-50, 78-79, 84-91, 95-111, 132-136, 192-206, 213-227, 242-261, 283-289; idem and Mary O’Sullivan, “Corporate Governance and Corporate Employment: Is Prosperity Sustainable in the United States? [1997],” *Working Paper* No. 183, Jerome Levy Economics Institute, www.levy.org, 4-6, 12-14, 19-21, 24-39, 42-54, 60-74; idem, “Perspectives on Corporate Governance, Innovation, and Economic Performance [2000],” Targeted Socio-Economic Research, Fourth Programme, European Commission, www.insead.edu/cgep, 3-12, 17-20, 24, 56-59, 62-72, 91-96, 99-121; Mary O’Sullivan, *Contests for Corporate Control: Corporate Governance and Economic Performance in the United States and Germany* (New York: Oxford, 2000), 11-22, 59-69, 122-144, 151-152, 196-202, 230-231, 250-258, 289-297; idem, “The Innovative Enterprise and Corporate Governance,” *Cambridge Journal of Economics*, XXIV, 4 (July 2000), 394, 406-414; William Lazonick, “Organizational Learning and International Competition: The Skill-Base Hypothesis,” in William Lazonick and Mary O’Sullivan, eds., *Corporate Governance and Sustainable Prosperity* (Houndsmill: Palgrave, 2002), 39-52, 65-66; Mary O’Sullivan, “Corporate Control,” in Malcolm Warner, ed., *International Encyclopedia of Business and Management*, 8 vols., 2nd ed. (London: Thomson Learning, 2002), II, 1068-1094; William Lazonick, “The Theory of Innovative Enterprise,” *ibid.*, IV, 3055-3076; and idem, “The Theory of the Market Economy and the Social Foundations of Innovative Enterprise,” *Economic and Industrial Democracy*, XXIV, 1 (February 2003), 23-38.

decreasing them, driving them harder, improving them, replacing them, even while the workers strategically quit, cope, resist. About corporate contests and about this productive struggle, general and continual, in other, old words the class struggle, business's strategic thought is now much more comprehensive, acute, sophisticated, and dynamic, even dialectical, than labor's is. And business history is ever better than labor history, more interesting, significant, analytical, critical, and explanatory. Why not? After all, business rules. But it rules in part by labor's leave, because modern labor strategists (with lonely exceptions) dwell on markets or moral politics, forgo labor's industrial and technical strength, think only of resistance, and have no industrial or technical strategy or program, defensive or offensive. Likewise, labor historians (with lonely exceptions) forget their working subject's industrial and technical positions, and treat modern labor movements without regard to labor's power at work, treat them simply as moral protests, so that labor history is now (usually) only "an assertion of the dignity of defiance."⁷⁶⁰ If this were all labor history could do, it would never be more than a memorial. But this is not all it has done, or can do. Among its several uses it can explain past movements' weaknesses and strengths, not only in the market, in culture, in politics, but also in production, especially in the complexes of modern production. Labor history would be much more interesting than assertions of dignity are now if it included labor's powers of industrial and technical coercion in explaining why modern movements have gone as far as they have, but no farther. It would be most interesting if its lessons helped labor regain the capacity to tell how much farther (if at all) its movements now could go than they do,

⁷⁶⁰ J.M. Winter, "Webb, Beatrice and Sidney," in John Eatwell et al., eds., *The New Palgrave: A Dictionary of Economics*, 4 vols. (London: Macmillan, 1987), IV, 885. E.g., a recent old-fashioned moral call, Sam Luebke and Jennifer Luff, "Organizing: A Secret History," *Labor History*, XLIV, 4 (Fall 2003), 421-432.

how much harder it could press the class struggle, even how to turn its powers into an offensive.