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DEMOGRAPHIC ORIGINS OF THE EUROPEAN PROLETARIAT

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## A Proletarian World

We live in a proletarian world. Depending on how you classify workers in various sorts of socialist states, either a majority or a fat majority of the world's labor force are people who work for wages using means of production over whose disposition they have little or no control. They are proletarians. In this broad but authentic sense of the word, we are almost all proletarians. Yet quite recently -- only a few hundred years ago -- very few people anywhere worked for wages. Most people lived in households which exercised considerable control over their means of production, however meager those means. In the past few hundred years, the world has proletarianized.

That proletarianization was arguably the most far-reaching change in the quality of everyday life to occur in the modern era. It had a more profound impact than urbanization, secularization, bureaucratization, and any of the other "izations" which occurred in its company. The growth of wage labor at expropriated means of production transformed family life, altered the structure of local communities, created whole new varieties of politics, overturned the conditions determining the life chances of individuals and households. What is more, the process of proletarianization is continuing in the already quite proletarian western world, and accelerating outside the West. A majority of the world's physicians, for example, now work for wages in large

organizations, especially state-run organizations. Dreams and struggles about workers' control, about land reform, about the growth of alienated labor under socialism all attest to the pressure of proletarianization today.

Given all this profound transformation, it is astounding to turn to social-scientific writings on large-scale social change. For most of academic social science, proletarianization is a phantom. Amid tons of writing on industrialization and on the growth of "modern" attitudes, we are lucky to find a few ounces on the emergence of the proletariat. And those rare discussions, for the most part, treat proletarianization as a special case, or incidental consequence. Of what? Of occupational differentiation, of industrialization, or of increase in the scale of production.

Recently, it is true, students of the labor process such as Harry Braverman, Richard Edwards, and Michael Burawoy have opened up important inquiries into management's strategies of expropriation, while labor historians such as David Montgomery, Michael Hanagan, and Klaus Tenfelde have paid attention to the ways that artisans and skilled workers became increasingly subject to capitalist work-discipline. Furthermore, European agricultural historians, as well as students of cottage industry and related forms of production have for some time been enriching our understanding of expropriation and wage labor in the villages of Europe; my later discussion will draw extensively on their

research. Yet these varied inquiries focus on the experiences of workers who were (or are) already essentially proletarian: dependent for survival on the sale of their labor power to capitalists of one sort or another. In any case, social scientists lack a general analysis of proletarianization to complement and modify their many analyses of industrialization or urbanization, while historians lack a general account of the processes by which the essentially non-proletarian population of a few hundred years ago turned into the largely proletarian population of today.

The lack is visible even in the one area where we might have expected a general historical account to fall into place: the growth of the European proletariat since 1500 or so. There, the increase of landless labor has stirred recurrent concern, the relevant evidence is abundant if scattered, and bitter scholarly controversies have borne on such questions as whether English enclosures created a rural proletariat.

Adam Smith addressed the question more than two centuries ago. "The demand for those who live by wages," wrote Smith in The Wealth of Nations (Book I, chapter 8), "naturally increases with the increase of national wealth, and cannot possibly increase without it." "Those who live by wages" is a short definition of the proletariat. "The liberal reward of labor, therefore," said Smith later on, "as it is the effect of increasing wealth, so it is the cause of increasing population. To complain of it is to

lament over the necessary effect and cause of the greatest public prosperity." In Adam Smith's analysis, the increasing division of labor resulted from the rational disposition of the factors of production -- land, labor, and capital -- by those who controlled each of them. Since the increasing division of labor enhanced productivity, it increased the return to all factors of production, including labor. Indirectly, the rational disposition of resources led to the growth of that part of the population which lived from wages alone. It led to the growth of the proletariat.

But how did that growth occur? So far as I know, Adam Smith never analyzed the historical process in detail (see Coats 1967 and Spengler 1970 for indirect confirmation). Perhaps it seemed too obvious: wage-laborers multiplied because the demand for their labor increased. Parson Malthus' pessimistic gloss on Smith, after all, does little more than elaborate that basic relationship (Spengler 1945). Both Adam Smith and Thomas Malthus lived in a world in which landless laborers were already numerous. In that world, it was common bourgeois practice to wring hands over the decline of independent craftsmen and yeoman, and to deplore the reckless breeding of the poor -- without doing anything substantial to reverse either one (for a convenient review, see Jantke 1965). Smith's innovation was to treat the growth of the proletariat as an inevitable, perhaps even desirable, consequence of increasing wealth.



## Marx versus Malthus

Writing a century later, however, Karl Marx considered the historical process of proletarianization to be both fundamental and problematic. Chapters 25 to 32 of Capital discuss at length the formation of the English proletariat. Marx denied emphatically that the smooth operation of demand accounted for the proletarianization of the English labor force. "The proletariat created by the breaking up of the bands of feudal retainers and by the forcible expropriation of the people from the soil," he wrote, "this 'free' proletariat could not possibly be absorbed by the nascent manufactures as fast as it was thrown upon the world" (Capital, chapter 28).

Note that Marx concentrated on rural, and especially agricultural, workers; only since his time has the term "proletarian" taken on its current connotation of large-shop manufacturing. Although Marx did present the factory wage-slave as the extreme case of proletarianization, his own analysis of proletarianization dealt largely with rural workers.

In general, Marx portrayed proletarianization as the forcible wresting of control over the means of production away from artisans and, especially, from peasants. "In the history of primitive accumulation," he declared at the end of chapter 26:

all revolutions are epoch-making that act as levers for the capitalist class in course of formation; but, above all, those moments when great masses of men are suddenly and forcibly torn from their means of subsistence, and hurled as free and "unattached" proletarians on the labor-market. The expropriation of the agricultural producer, of the peasant,

from the soil, is the basis of the whole process.

Thus the central fact was the creation of a rural proletariat, working mainly for wages in agriculture, but available at bargain rates for industrial production.

In so far as he discussed the changing size of the proletariat at all, Marx described two contradictory processes. He followed the classical economists, including Adam Smith, in seeing a general association between capital accumulation and the growth of the proletariat. While Marx did not specify the population processes involved, a plausible reading of his text is that an increase in the total volume of wages permitted more children of existing proletarians to survive. In that reading, the death rate serves as the gatekeeper. It guards the gate both from and to the proletariat. When death relaxes its cold grip on the gate, the proletariat grows. At one point, however, Marx suggested that the substitution of child labor for adult labor encouraged the poor to marry young and to bear many children. If so, changes in the marriage and birth rates mattered as well.

Marx's main argument, in any case, ran in the other direction. Under capitalism, he argued, employers extracted surplus value from the labor power they hired, essentially by squeezing more value in production from workers than it cost to hire them. Then the capitalists reinvested their surplus in the means of production. As a result, the fixed capital represented by the means of production necessarily increased faster than the

variable capital directly committed to the employment of labor. Economies of scale alone would have produced that effect of capital accumulation. Both the centralization of capital in large firms and the imposition of more intensive labor discipline accelerated it. In consequence, according to Marx, the demand for labor power increased much more slowly than capital accumulated.

As workers became increasingly redundant, the famous Industrial Reserve Army -- whose existence presumably guaranteed the holding near subsistence of the wages for those who worked -- came into being. That was, to Marx's eyes, the central demographic process of capitalism. It was, he said, a cruel peculiarity of the system:

The laboring population therefore produces, along with the accumulation of capital produced by it, the means by which itself is made relatively superfluous, is turned into a relative surplus-population; and it does this to an always increasing extent. This is a law of population peculiar to the capitalist mode of production; and in fact every special historic mode of production has its own special laws of population, historically valid within its limits alone (Capital, chapter 25).

Later in the same chapter, Marx briefly mentioned the declining rate of growth of the whole English population as if it supported his analysis. In general, however, Marx seems to have reasoned differently: First, the important increases in the number of proletarians occurred in bursts of expropriation such as the enclosures. Second, once people were proletarians, they more or less reproduced themselves: proletarians beget proletarians, in roughly constant numbers. If that is the case, the growth of the

proletariat directly measures both the progress of expropriation and the current extent of exploitation.

In his notebooks of 1857 and 1858, the famous Grundrisse, Marx had heaped scorn upon Malthus. Malthus, Marx complained, had confused the specific conditions of capitalism with a general law of population growth: "It is Malthus who abstracts from these specific historic laws of the movement of population, which are indeed the history of the nature of humanity, the natural laws, but natural laws of humanity only at a specific historical development, with a development of the forces of production determined by humanity's own process of history" (Marx 1973: 606). In his discussion, nevertheless, Marx appeared to accept a hedged version of Malthus' thesis: that under capitalism population did, indeed, tend to grow faster than the means of subsistence, and thus to encounter devastating positive checks. If so, Marx was admitting implicitly that natural increase played a significant part in the proletariat's growth.

In any case, Marx's main argument was that "overpopulation" was not an objective external condition which somehow weighed on the system of production, but a consequence of the social organization linking different sorts of people to the existing means of production. "Never a relation to a non-existent absolute mass of means of subsistence," he wrote in his notebook,

but rather relation to the conditions of production, of the production of these means, including likewise the conditions of reproduction of human beings, of the total population. This surplus purely relative: in no way related to the means

of subsistence as such, but rather to the mode of producing them (Marx 1973).

Then he bent the discussion back to an analysis of the tendency of capitalism to separate increasing numbers of workers from the means of production. Thus Marx was clear enough about the structural conditions favoring the growth of a proletariat, but vague about the demographic processes involved.

#### A Chance for Synthesis.

Marx's analysis, and his apparent indecision about the relevant demographic mechanisms, provide a prime opportunity for complementary work by historians, demographers, and other social scientists. There is the opportunity to verify the main lines of Marx's analysis -- for example, the idea of spurts of proletarianization as the consequence of massive expropriation. There is the opportunity to specify the different paths by which people moved from artisanal or peasant production into various forms of wage labor. There is the opportunity to assign relative weights to those paths: Which ones bore the most traffic? There is the opportunity to integrate them into a general account of the flows of people by which the largely peasant and artisanal European population of 1500 or 1600 became the overwhelmingly proletarian European population of 1900 and later.

How and why did that great shift occur? Why in Europe rather than elsewhere? In the century since Marx, one version or another of that double question has dominated the agenda of modern European economic and social history. Some of the debate has

pivoted on the facts: How many yeomen, for example, did enclosures actually displace? Some of the debate has concerned the proper way to state the questions: Weber and Tawney differed over the appropriate Problemstellung as much as over the historical facts. And much of the debate has dealt with explanations: Why did capitalism flourish earlier in Britain than in Prussia?

Since the questions are vast and compelling, fragments of the debate on proletarianization -- including the debate on the population changes involved -- appear in widely scattered literatures. Historians of industrialization (especially British industrialization), for example, have carried on a long discussion of labor supply in the industrial revolution. The discussion pivots on the demographic origins of the proletariat (e.g. Chambers 1953, Cohen & Weitzman 1975, Coleman 1955-56, Cooper 1967, Eriksson & Rogers 1978, Habakkuk 1971, Hohorst 1977, Jones 1964, Kellenbenz 1975, Lazonick 1974, Lequin 1977, Martinus 1967, Matzerath 1978, Milward & Saul 1973, Saville 1969, Schofer 1975, Schon 1972, L. Tilly 1977, R. & C. Tilly 1971, Wrigley 1961).

Demographers who have looked to the European experience for guidance in understanding the transition from high to low fertility and mortality throughout the world have repeatedly asked each other whether massive proletarianization was by-product, cause, or counter-current of that transition in Europe (e.g. Berkner & Mendels 1978, Gaunt 1977, Haines 1979, Knodel & van de Walle 1979, Köllmann 1977, Kriedte, Medick, Schlumbohm 1977,

Lesthaege 1977, McKenna 1974). Local and regional historians have edged into the demographic problem by discovering, in place after place, similar transformations of the labor force: the disproportionate increase of proletarian occupations and industries (e.g. Ågren et al. 1973, Åkerman, Johansen, Gaunt 1978, Bourget 1954, Braun 1960, 1965, Chambers 1957, Corbin 1975, Deprez 1965, Foster 1974, Gschwind 1977, Hasquin 1971, Jasper 1977, Kisch 1959, 1967, 1968, Klima 1974, Levine 1977, Lundqvist 1977, Ohngren 1974, Purš 1965a, 1965b, Schneider & Schneider 1976, Scott 1974, Spufford 1976, Vilar 1962, de Vries 1975, Wrightson & Levine 1979). Students of poverty and of control over the poor have necessarily brushed against the problem of proletarianization, but have not posed the demographic changes very directly or effectively (e.g. Abel 1974, Coats 1976, Davis 1968, Deyon 1967b, Gutton 1974, Hufton 1974, Kaplow 1972, Lis & Soly 1979, Quadagno 1982, Slack 1974).

Analysts who have sought self-consciously to trace the process of proletarianization have commonly come from the ranks not of historians but of economists and sociologists. They have focused, by and large, on the expropriating and disciplining of wage-workers, rather than on the development of wage-labor itself (e.g. Aronowitz 1978, Bendix 1956, Burawoy 1979, Gallie 1978, Gartman 1978, Gintis 1976, Hardach 1969, Jantke 1965, Marglin 1974, Montgomery 1976, Moore & Feldman 1960, Mottez 1966, Pellicani 1973, Perroux 1970, Stone 1974, Thompson 1967, Vester

1970, Zwahr 1971). Finally, the builders and critics of Marxist schemata concerning the general development of capitalism have had to commit themselves to one view or another of the origins of the proletariat (e.g. Anderson 1974, Braudel 1967, Brenner 1976, 1977, Chaunu 1970, Cohen 1978, Croot & Parker 1978, Dobb 1963, Kellenbenz 1976, Landes 1969, Le Roy Ladurie 1974, Moore 1976, Redlich & Freudenberg 1964, Sereni 1948, Tortella Casares 1973, de Vries 1976, Wallerstein 1974, 1980, Wrigley 1972). These many overlapping enterprises offer the student of proletarianization a rich, broad, vigorous literature. The literature's richness, breadth, and vigor, however, make the task of synthesis mind-breaking.

I do not claim to have surveyed all the relevant sources, much less to have synthesized them. In this paper, I aim merely to tidy up a small but crucial corner of this vast space: the demographic corner. The paper discusses where population processes fit into general accounts of Europe's proletarianization. It specifies which features of those population processes have to be explained and why they are problematic. It offers a limited review of existing knowledge concerning those processes, and proposes some tentative explanations of the particular paths taken by European proletarianization. On its way, the paper spends more time on concepts and techniques than any reader will enjoy; conceptual and technical questions, it turns out, comprise a significant obstacle to understanding how



proletarianization occurred.

Nevertheless, the paper's main point is to pursue into the demographic sphere two of Marx's central insights concerning proletarianization: that the basic population processes respond to the logic of capitalism, instead of being somehow exogenous to it; that the strategies of capitalists themselves determine the form and pace of proletarianization.

### Components of Growth

A dull, routine sociological procedure promises to help the search for the origins of the European proletariat. It is to break the search into three parts: 1) analysis of components of growth, 2) explanation of individual components and their interactions, 3) integration of those partial explanations into a general account of the process. Let me stress at once that these are logical subdivisions of the task, not distinct temporal stages. If we don't begin with a piece of the third part -- with a tentative account of the entire process of proletarianization -- we are quite likely to wander through the analysis of components, and to stumble through the explanation of individual components and their interactions. The secret is to begin with a tentative account which is clearly verifiable, falsifiable, and correctible. Better yet, two or three competing accounts which are clearly verifiable, falsifiable, and correctible. Accounts built, let us say, on the arguments of Adam Smith and Karl Marx.

Components of growth? At its simplest, the analysis consists

of defining precisely the change being analyzed, preparing a logically exhaustive list of the components of that change, and estimating the contribution of each component to the change as a whole. In the case of European proletarianization, we must begin with working definitions of "Europe" and "proletarian". That means deciding what to do with Iceland, Constantinople, Malta, the Azores, and so on. It also means deciding whether it is possible to be a little bit proletarian -- for example, whether the independent weaver who hires himself out for the harvest qualifies as a proletarian, as one quarter of a proletarian, or as no proletarian at all. What about his young children? Uninteresting decisions, these, except that they significantly affect the results of the analysis.

These tedious but crucial decisions made, we can begin to ask how the absolute number and the proportion of the European population in the category "proletarian" changed from, say, 1500 to 1900. We'll come back to guesses at the real numbers later. For now, the thing to notice is that we can break down those numbers into geographic, temporal and, most important, logical components. We may ask where the transformation of non-proletarian populations into proletarian populations occurred. Did it happen mainly in areas of advanced capitalism? We may ask when the transformation occurred. Did the process accelerate greatly with the expansion of large-scale manufacturing after 1800? We may also ask how it happened. But the how, in this

case, concerns the change's logical components.

If we turn to standard demographic accounting procedures, we find three logical possibilities. Each is in turn the resultant of two possible changes. The three logical possibilities are social mobility, natural increase, and net migration. Marx stressed social mobility: the movement of a particular social unit from one category to another as a consequence of an alteration in its own characteristics or relationships. If individuals are our social units, every person who, in his/her own lifetime, loses control over his/her means of production and moves into wage labor adds to the toll of proletarianization. In fact, the same individual often oscillates between the two categories throughout his/her lifetime. The net effect of all such moves across the boundary is the component of social mobility.

**Natural increase** is the resultant of births and deaths. If I read him aright, Marx implicitly assumed that natural increase was an unimportant component of the European proletariat's growth: The deaths more or less balanced out the births, while net enlargements of the proletariat depended on new entries by people who began life as non-proletarians. This is where the components-of-growth analysis gets interesting. For several alternative possibilities exist. Given their vulnerability to infectious disease, starvation, and war, proletarians sometimes underwent a natural decrease: Deaths exceeded births. The question is: how often and how much? If natural increase were the

normal situation of proletarians, the proletarian population would be in something like the situation of most pre-industrial cities: They would have to recruit substantial numbers of newcomers merely to maintain their current size. To grow, they would have to recruit very large numbers indeed.

The birth rates of proletarians could also normally have run above their death rates. In that case, the proletarian population could grow without any new recruitment of non-proletarians. If the proletarian rate of natural increase were higher than that of the rest of the population, the proletarian share of the total population would tend to rise -- even in the absence of lifetime mobility from non-proletarian to proletarian. With additional permutations of fertility and mortality, still further alterations are quite possible. For example, the proletarian rate of natural increase could have risen over time.

The third component -- net migration -- likewise offers multiple possibilities. If we are considering the European population as a whole, the migration that matters consists of moves of proletarians into and out of the continent. Because that component, too, sums up numerous losses and gains, its overall effect may have been nil, a substantial addition to the proletariat, a substantial subtraction from the proletariat, or something else. If we start considering migration into and out of the proletarian populations of different European regions, instead of reckoning for Europe as a whole, the problem becomes more

complex and interesting.

To recapitulate: As in any population change, we can break down the increase of the European proletarian population from 1500 to 1900 (or for any other interval) in terms of a standard accounting equation:

$$P_2 = P_1 + (IC - OC) + (B - D) + (IM - OM) + e$$

where  $P_1$  and  $P_2$  are the population at the beginning and end of the interval, IC and OC are the numbers of persons who make lifetime moves into the category and out of it, B and D are births and deaths of members of the category, IM and OM are in-migration and out-migration, and  $e$  is the measurement error summed over all these observations.

#### The Importance of Growth Components

Why should anyone care about these hypothetical numbers? For more reasons than one. First, if we are to attempt any general account of Europe's proletarianization, we have no choice but to formulate hypotheses about the components of growth. The hypotheses may be implicit, and they may be very crude; they may consist, for example, of assigning an indefinitely large positive value to the net effect of lifetime moves and zero values to all the other components. That is the tone of Marx's analysis. Adam Smith, on the other hand, wrote as if natural increase were the only component differing significantly from zero. Thus in the absence of any exact numbers, simple knowledge of which components were positive or negative, large or small, would give us the means

of judging whether Marx's formulation, Smith's formulation, or some modification of one or the other, was more adequate.

The choice is not merely hypothetical. Although the problem has often been badly posed, how the proletariat grew figures somehow in every account of industrialization and every history of the working class. Speaking of Sweden from 1750 to 1850, Christer Winberg points out that the peasantry increased by about 10 percent while the landless classes of the countryside more than quadrupled. "The dominant interpretation of this development," he comments,

can be summarized as follows: An important part is played by the "autonomous death-rate", i.e. a death-rate that remains relatively autonomous in relation to the economic development. Particularly from c. 1810 onwards, the decline of the death-rate was due to a series of exogenous factors, such as smallpox vaccination, the peace period from 1814 onwards and the cultivation of the potato. The result was a rapid increase in population that led to a subsequent proletarianization. According to certain authors, the population increase was "too rapid" in relation to the clearing of land and this factor should consequently have been the cause of "over-population." According to others, although the clearing of land might have been as rapid as the increase in population, the possibilities of setting up new farms did not increase to the same extent. The number of farms was restricted by different institutional factors -- village structure, the nature of inheritance, restrictive law-making, etc. (Winberg 1975: 331; cf. Utterström 1957: I, 22:68).

"This interpretation," Winberg continues, "is not based on any coherent theory." He counters with an argument having five important elements:

1. On the whole, the landless population of the early eighteenth century did not constitute a distinct social class, since it consisted largely of widowed old people and other non-producers; the separate class formed mainly

after 1750.

2. The peasant population of the eighteenth century generally maintained an implicit system of population control in which, for example, declines in mortality normally produced a visible narrowing of opportunities for employment, which in turn led young people to delay marriage and to have fewer children.
3. After 1750, widespread reorganization of rural estates by their landlords turned many peasants into landless laborers.
4. Peasant villages themselves became increasingly stratified, with many smallholders likewise becoming landless laborers.
5. In the process, the rural population as a whole broke out of the older, implicit system of population control and moved toward strategies of relatively early marriage and high fertility.

Winberg documents these generalizations by means of a close study of a sample of Swedish rural parishes. In those parishes, he finds a general tendency for the landless to marry later and have fewer children than the full-fledged peasantry. He also finds a small movement from landless labor into landholding and a very large move in the opposite direction. The bulk of the rural proletariat's increase, in his analysis, resulted from the unequal balance between these flows. Thus Winberg ends up assigning central importance to social mobility. Yet he by no means eliminates natural increase from the picture. Swedish villages, however, are not the whole of Europe. We must find out how generally Winberg's model of proletarianization applies elsewhere.

We have a second reason for concern about components of growth. The relative weight and direction of the three components

make a genuine difference to our understanding of the historical experience of proletarianization. To the extent that lifetime moves into the proletariat comprised the dominant process, we might expect a good deal of proletarian action to consist of efforts to retain or recapture individual control over the means of production. On the other hand, the same extensive recruitment through lifetime moves would make it more difficult to account for the persistence of an autonomous proletarian culture, enduring from one generation to the next.

To the extent that natural increase was the main source of growth in the proletariat, on the other hand, we would find it easy to understand autonomous, persistent proletarian culture, but hard to account for artisanal and peasant themes in that culture. To the extent, finally, that net migration was the primary source, we might expect the proletariat to be the locus not only of alienation but of aliens, and to be correspondingly resistant to unification. The contrasting portraits of proletarian experience that come to us from, say, E.P. Thompson and Louis Chevalier may result in part from their having studied populations differing significantly in these regards, or from their having implicitly assumed differing configurations of social mobility, natural increase, and net migration.

Third, the composition of each of the three major components matters as well. Zero net migration over a long period may result from no moves in either direction, from large but exactly equal



flows of definitive in-migrants and definitive out-migrants, from numerous circular migrants who spend some time at the destination and then return to their points of origin, and from a number of other equalizing migration patterns. These are very different social situations. They have very different implications for social control, proletarian culture, class conflict, and the recruitment of an industrial labor force.

Positive or negative net migration may likewise result from a wide variety of migratory patterns, each affecting life at the destination in different ways. The same observation holds for the subcomponents of social mobility: temporary or definitive moves into the proletariat. Clearly it holds for births and deaths as well. Consider the difference between:

a) slight natural increase due to high fertility almost balanced by high mortality

and

b) slight natural increase due to low fertility matched with even lower mortality.

That is the difference between the death-ridden experience of the sixteenth century and the long life of the twentieth. If we want to understand the quality of proletarian experience, we have to make that distinction **very** clearly.

Components of growth matter, finally, because their relative magnitudes bear directly on two continuing debates in European history. The two debates overlap. The first concerns the source of labor supply in the industrial revolution, the second the

reasons for Europe's rapid population growth in the eighteenth and nineteenth centuries (for summaries of the debates, see Habakkuk 1971 and McKeown 1976). The debate about labor supply echoes the differences between Smith and Marx; it pits explanations in which the expropriation of peasants and artisans figures prominently against explanations in which population growth is a relatively smooth, automatic response to new opportunities for employment (see Lazonick 1974).

The debate on population growth begins with the fact that, over Europe as a whole, natural increase accelerated markedly during the eighteenth century and continued rapid into the nineteenth. The debate pivots around the extent to which declines in mortality due to life-saving technical improvements in medicine, sanitation, or nutrition (as opposed to more general improvements in the standard of living, temporary increases in fertility, or other alternatives) explain the acceleration of natural increase.

In both debates, the places of mortality changes and fertility changes in the growth of landless labor are questions of central importance. If, for example, the growth of the proletariat was due mainly to decreasing mortality attributable to an improving standard of living, both the expropriation theory of labor supply and the fertility-increase interpretation of population growth become less credible. To make such distinctions, we do not need the precise numbers. But we do need

to consider the full set of components of growth.

It is a good thing we don't need the precise numbers. If we did, the task would be impossible in our lifetimes. Although the methods of archeology, paleobotany, and historical demography may one day converge on fine estimating procedures for the European population, at present we have only a crude sense of the grand totals.

What is more, we have no large-scale estimates of the proletarian population. We face one of those recurrent historiographical ironies: The ideas of "labor force" and "employment" are at once essential to the keeping of the sorts of statistics we need, and contingent on the very process we hope to trace, proletarianization. In the absence of capitalized firms and extensive wage-labor, no one bothers to do the requisite bookkeeping. Generally speaking, we cannot look to the statistical reports of national states before the full bloom of nineteenth-century proletarianization. For earlier periods, we must combine analysis of trends in small areas which historians have studied intensively with indirect inferences from evidence concerning other processes which are somehow connected with proletarianization.

#### Principles of Proletarianization

Before examining trends and making inferences, however, we had better get some definitions and principles straight. Definitions, to begin with. Whatever practical separation of

proletarians from non-proletarians we adopt, we must keep in mind that the process of proletarianization has two logically distinct components:

- a) separation of workers from control of the means of production: expropriation, for short;
- b) increasing dependence of workers on the sale of their labor power: wage work, for short.

To concretize these abstract components, we might imagine computing the following items for some specific population:

**T:** total hours per year spent in productive labor

**L:** hours per year spent in labor controlling the means of production

**D:** hours per year spent in dependent labor =  $T - L$

**W:** hours per year spent in labor for wages

**e:** level of expropriation =  $D/T$

**w:** wage dependence =  $W/T$

**P:** level of proletarianization =  $e \times w$

**$\dot{P}$ :** rate of proletarianization =  $\dot{e} + \dot{w}$

Thus an increase in either the proportion of all work time spent in dependent labor or the proportion of all work time spent in labor for wages raises, by definition, the level of proletarianization. Since degree of control over the means of production actually forms a continuum rather than a simple either/or, in a practical application we would no doubt have to weight D -- hours per year in dependent labor -- for the extent of control exerted by workers.

Although expropriation and wage work have a strong historical

connection -- that is, after all, one of this essay's premises -- in some important circumstances they moved in different directions. The enserfment of European peasants, for example, certainly reduced their control of the land they tilled; they spent increasing shares of their total labor time in dependent labor. But enserfment did not ordinarily increase their dependence on wages for survival. Instead, landlords commonly assigned households to subsistence plots, and forced each household to deliver some combination of monetary dues, agricultural products, and labor services. Expropriation increased, but wage work may well have declined.

In recent times, mine and factory workers who were already fully dependent on wages have often confronted bosses who were seeking to weaken the workers' control of the pace or quality of production by subdividing tasks, imposing time-discipline, or applying piece-rates. In these cases, dependent labor increased as a share of all labor; expropriation occurred without an increase in wage work.

The opposite case also occurred, although it was surely rarer: In nineteenth-century Europe, for instance, landlords frequently liquidated their rights to forced labor of villagers in the landlords' fields in favor of cash payments which they then used to hire labor in those same fields. Such a shift increases wage work without decreasing workers' control over the means of production.

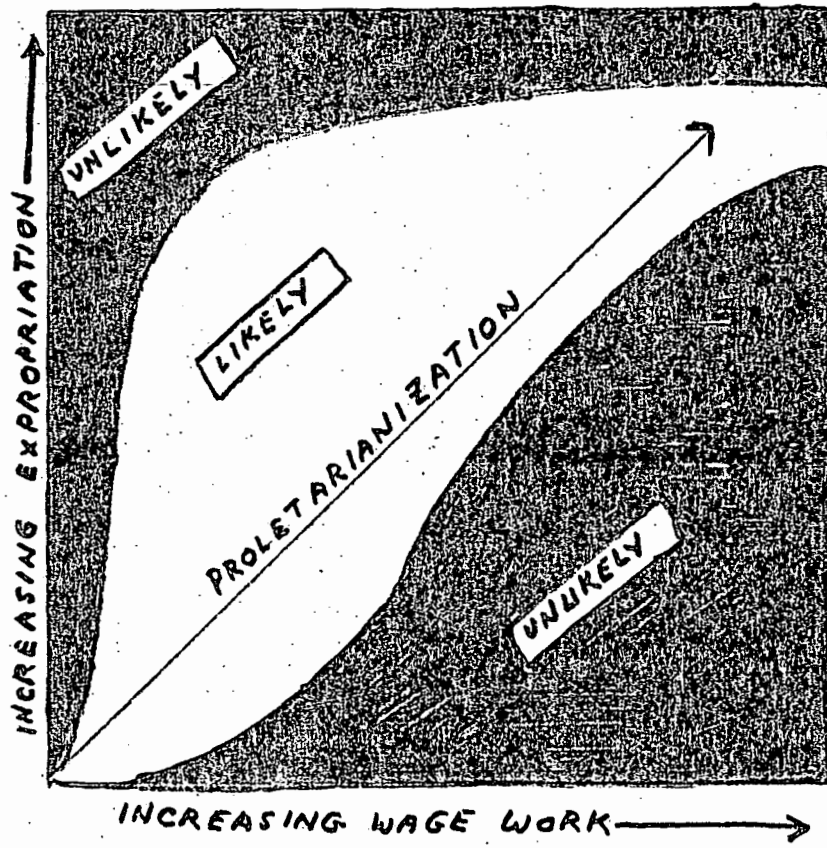
In principle, then, the two components of proletarianization -- expropriation and wage work -- vary in partial independence from each other. The extent and pace of proletarianization are, by definition, resultants of the two. Figure 1 lays out the definition schematically. It also sketches four rough hypotheses concerning the extent and character of the two components' covariation under capitalism:

1. In general, expropriation and wage work increase together.
2. However, considerable expropriation sometimes occurs without changes in wage work.
3. Except at low levels of proletarianization, wage work rarely increases [or, for that matter, decreases] without corresponding changes in expropriation.
4. At the extreme, nevertheless, it is less likely -- even under capitalism -- that workers will be completely dislodged from control over the means of production than that they will become entirely dependent on wages.

My reasoning is simple: Employers do not value wage work for its own sake. They impose wage work as a means of accomplishing expropriation, but not vice versa. To the extent that they can seize control of labor power without paying wages, they do so. The major exception to the rule comes at low levels of proletarianization, where landlords and capitalists sometimes prefer the payment of a money wage to the provision of subsistence in kind; English farmers who had live-in hands, for example, tended to expel them from bed and board when food became expensive (Kusssmaul 1981: 97-119).

The reasoning continues: Employers seek to minimize the price

Figure 1. The Components of Proletarianization and their Likely Covariation



they pay for labor power, as the standard Marxist analysis says, in order to maximize their return from the labor applied to production (Gartman 1978, Gintis 1976). But they expropriate all factors of production, including labor power, in order to control the deployment of those factors in the service of increased return. Extensive proletarianization is therefore likely to occur only where the payment of wages is a relatively attractive means of expropriating labor power -- because the need for labor is highly variable, because neither custom nor force will suffice, or for some other reason. At the extreme, however, the requirements of production themselves set greater limits on expropriation than they do on wage work: The costs of subdividing and degrading complex tasks eventually become prohibitive, and the worker whose skill and discretion make a difference to the quantity and quality of the product always has some vestige of bargaining power (see Aronowitz 1978).

Note how this approach works. Note especially how it doesn't work. It does not equate impoverishment or immiseration with proletarianization. So far as the definition is concerned, the rise or fall of real income is irrelevant to the extent of proletarianization. Nor does wealth as such figure in the definition of the proletariat; to the extent that household wealth consists of non-productive goods -- television sets, automobiles, and so on -- many households are wealthy but proletariat. Nor do style of life, education, skill, or locus of employment, in



themselves, become criteria of proletarianization. There is no requirement of consciousness: in principle, an expropriated wage worker might well think of herself as a full-time member of the bourgeoisie.

In this approach, the idea of a "new working class" consisting of skilled technicians, professionals, and researchers in science-sector industries is no contradiction in terms. The concept does not require that proletarians be factory workers, or even be producing commodities. Not that income, wealth, life style, education, skill, locus of employment, consciousness, or productive position are trivial matters; far from it. But the concepts adopted here make the relationships of these important aspects of social life to proletarianization questions of fact rather than matters of definition.

The treatment of proletarianization as a resultant of expropriation and wage work neither assumes that the process continues indefinitely in one direction nor ties the proletariat by definition to capitalism. Both the continuity of the trend and the extent of its dependence on capitalism become questions for theory and for research. Worker-participation schemes, for example, do sometimes increase workers control of production decisions somewhat, and occasionally reduce the dependence of workers on wages (see Espinosa & Zimbalist 1978, Korpi 1978, Stephens 1980). To that small extent, they move the workforce's average position toward the lower left-hand corner of our diagram;

they deproletarianize. One could reasonably argue, on the other hand, that socialist regimes such as that of the Soviet Union have adopted capitalists' methods with a vengeance, using the full power of the state to accelerate expropriation and extend wage work in the name of the workers; they have been great proletarianizers.

Proletarianization within ostensibly non-capitalist states has led many observers to conclude that proletarianization has no special tie to capitalism, but results inevitably from any form of industrialization. In my view, however,

1. Over the past few centuries, the association between the development of capitalism and the growth of proletarianization has been strong enough to indicate that, in general, one causes the other.
2. The association between capital concentration and proletarianization in agriculture as well as other forms of non-industrial production makes dubious the idea that "industrialization" is proletarianization's necessary condition.
3. On the whole, capitalists acquire a greater interest in expropriation and wage work than do other sorts of powerholders.
4. When socialists push proletarianization, they do so in imitation of capitalists.

Fortunately for the pursuit of this paper's purposes, only the first two propositions matter greatly to the search for the demographic origins of the European proletariat. During most of the European experience since 1500, capitalists have stood at the center of the proletarianizing process.

My approach, to be sure, rests on a guiding hypothesis: Over

the long run expropriation and wage work were, and are, more fundamental than income, wealth, life style, and so on. More fundamental? I mean that changes in expropriation and in dependence on wages have wider ramifications in everyday social life than changes in income, wealth, et cetera. I also mean that to an important degree changes in expropriation and wage-dependence **cause** changes in income, wealth, life style, and so on. At this point we move out of the simple, arbitrary world of concepts. We begin working with arguments which are open to empirical challenge, and to theoretical scrutiny as well.

#### Explaining Proletarianization

Remember the crude expression for the rate of proletarianization:

$$\dot{P} = \dot{w} + \dot{e} = \text{rate of change of wage-dependence plus rate of change of expropriation}$$

If the sum of the two rates is positive, the population is proletarianizing. If it is negative, the population is deproletarianizing. If it stands at or near 0, the population's structure is remaining about the same. My general argument is elementary, perhaps obvious. The rate of proletarianization is:

1. an inverse function of changes in the demand for goods and services;
2. a direct function of the cost of establishing new units;
3. a direct function of the concentration of capital;
4. a direct function of the coercive power of employers.

The mechanisms by which these variables affect the increase of

expropriation and wage-dependence are mainly matters of the number, size, and internal organization of producing units+ concentration or deconcentration of control over production decisions within producing units, growth or decline in the average size of producing units, elimination or consolidation of producing units which already exist, limits on the creation of new producing units, increases or decreases in the amount of labor drawn from the average worker.

The most obvious illustrations of these mechanisms at work come from periods and places in which a small number of producers were expanding their scale of production at the expense of their neighbors. In his old but still useful analysis of the growth of a rural proletariat in England, William Hasbach gave center stage to engrossing: the building up of large farms by a few active landlords. Here is his summary of the background conditions for engrossing:

They were, first, the more luxurious standard of life adopted by the landlord class, and their consequent need of a larger income; secondly, the enclosures, for the most part results of that need; then the increased price of provisions, to which the enclosures contributed; next the system of the large farm, pioneered about this same period; and finally the new method of cultivation, which demanded men of a different class and larger capital. But besides these there were other forces at work. There was the attraction which the great industry, then just developing, exercised on capacity, enterprise and capital. And there were the indirect taxes, imposed to pay the interest on the growing national debt rolled up by trade wars and colonial wars, which of course increased the cost of living (Hasbach 1920: 103-104).

Under these conditions, according to Hasbach, those who had the power increased their holdings, invested and reinvested their

capital, shifted to labor-efficient farming techniques. In the process, they squeezed smallholders, tenants, and squatters off the land, into agricultural or industrial wage-labor.

In our terms, then, engrossing directly and strongly reduced the number of non-proletarian positions in rural areas: The size of producing units increased, their number declined, production decisions concentrated, existing units disappeared, and the possibility of creating new units decreased. Behind these changes lay all the general conditions for proletarianization we have already reviewed: rising demand for goods and services, increasing cost of establishing new units, concentration of capital, and growing coercive power of employers.

We begin with the obvious part: Changes in the demand for goods and services directly affect the rate at which new producing units come into being. They also directly affect the rate at which existing units change scale. Changes in demand, however, likewise affect the rate of population growth, and thereby the rate of change in total labor supply. As a result, they have no necessary effects on the rate of proletarianization. Although economies of scale may well result from expanded demand, those economies have no reliable effects on the division of labor between proletarian and non-proletarian producers. All other things being equal, the system merely reproduces itself on a larger scale. In modern Europe, for example, household production proved itself enormously elastic in response to the demand for

textiles, woodworking, metalcrafting, and similar goods. Beyond some point of expansion, on the other hand, the cost of establishing new units often rises, since established producers squeeze the newcomers, the costs of materials and equipment rise, and/or the quality of available resources declines. The theorem of diminishing marginal returns in agriculture rests on just such an observation of the effects of bringing marginal land into cultivation.

From the perspective of proletarianization, however, the central process is the concentration of capital. When small producers become capitalists and when petty capitalists become big capitalists, they increase the share of all means of production they control, and expand the amount of labor power they buy from others. Enclosing landlords, manufacturers who drive artisanal competitors out of business, local authorities who restrict the number of available farms, peasants who take on additional hired hands, masters who expand the numbers of their journeymen or apprentices, and merchants who build up networks of dependent domestic producers are all agents of proletarianization.

Broadly speaking, anyone who has an interest in buying labor power also has an interest in proletarianization. Transformation of workers into proletarians serves the employer in several different ways: by expanding the employer's power to redirect the factors of production in search of maximum return; by increasing the employer's ability to capture the existing returns from labor;

by externalizing some of the costs of maintaining the workforce.

Each of these advantages to the employer, however, entails disadvantages for other parties, especially the workers themselves. Workers have investments in their skills, and therefore in allocations of production which often contradict those which most favor the employer. Political authorities often have an interest in maintaining existing uses of land, labor or commodities in order to assure their revenues from taxation. Rentiers often have an interest in reliable rents from the very same land that capitalists want to commit to new uses. Workers have a direct interest in holding on to the returns from their labor. And the externalization of maintenance costs -- supplying food, finding revenue in times of unemployment, caring for the ill, and so on -- is likely to shift the burden to workers' households as well as to the community at large. Even if a giant neo-classical cost-benefit analysis gives the net advantage to proletarianization, therefore, the immediate interests of most of the parties directly involved dictate determined resistance. The employer's interest does not automatically prevail.

As North and Thomas (who have, in fact, conducted something like a giant neoclassical cost-benefit analysis of capitalist property relations) suggest, one of the most important conditions promoting the growth of wage-labor is the emergence of a state that supports the consolidation of property into disposable bundles, and guarantees the owner a major part of the return from

that property's use (North & Thomas 1973). I am not so sure as North and Thomas that in the two leading examples, the Netherlands and England, the property-confirming state developed before capitalist property relations prevailed. Indeed, Alan Macfarlane has argued that a version of capitalist property was already quite visible in thirteenth-century England (Macfarlane 1978). Yet the Dutch and English states surely did favor the consolidation of property into disposable bundles.

More generally, any conditions that augment the coercive power of employers favor proletarianization; the coincidence of economic and political power in the same capitalist hands, the outlawing of workers' organizations, the monopolization of food or land by employers, and the presence of surplus labor all make it easier to expropriate workers. But with this last item -- the presence of surplus labor -- we pass to the other side of the dependent/independent labor ratio. We enter an area of intense controversy.

The question is: How and why does the total workforce increase? For practical purposes, we may concentrate on why the population as a whole increases. That simplification glides past several fascinating questions:

- how the changing age structure produced by alterations in fertility and mortality affects the proportion of the population in prime working ages;
- under what conditions children and old people participate in productive labor;
- what governs the extent of female labor force



participation;

- what part household strategies play in the supply of different sorts of labor;
- how employers squeeze additional labor out of a given amount of labor power.

(On these issues, see Durand 1975, Edwards 1978, Marglin 1974, Tilly & Scott 1978.) However, the largest component by far of increase in the workforce -- and the only one on which we can hope to assemble information for Europe as a whole -- is growth in the base population from which the workforce comes. Let us think about that growth.

Many students of European history have treated population change as an essentially autonomous variable, product of such "accidents" as plagues and crop failures. The rate of population growth figures as an exogenous variable -- a very important one -- in the North-Thomas account of European economic history. In his famous analysis of labor supply in the industrial revolution, J.D. Chambers proposed a general distinction between the period of slow growth before the mid-eighteenth century, and the great acceleration thereafter. Chambers allowed for the possibility that after 1750 industrial employment encouraged earlier marriage, which in turn accelerated fertility. But on the whole his analysis treated the rate of population growth as a powerful **external** determinant of labor supply. As Christer Winberg points out, a similar argument has dominated historians' thinking about changes in the Swedish labor force. Over Europe as a whole, most

historians have been willing to consider population growth a crucial but exogenous variable in economic change.

Yet we have grounds for being skeptical: for doubting that the rate of population increase was independent of the pace of proletarianization. The most important ground for skepticism is the association, in region after region of Europe, of rapid accelerations in population growth with visible increases in landless labor; we will review a number of cases later on. Such an association could, of course, result from the application, over and over again, of the rule that population pressure produces proletarians. In fact, most such regions probably did begin their proletarianization with a stock of underemployed, cheap labor; that made them attractive to entrepreneurs. But once the process had begun, rates of marriage, childbearing, and migration all seem to have responded actively to employment opportunities. By that point, the growth of the workforce was at least partly dependent on the tempo of its proletarianization.

I suggest, then, that four major variables governed the rate of increase in the total population:

1. changes in the demand for goods and services;
2. changes in the opportunity cost of childbearing;
3. previous proletarianization of the population, whose effect operated with a lag corresponding to the average age at which children began productive labor;
4. an exogenous component combining the effects of "natural" fluctuations of fertility and mortality due to alterations in disease, nutrition, disaster, and other factors external to the system.

I suggest, further, that as proletarianization proceeded, the first three variables -- the demand for goods and services, the opportunity cost of childbearing, and previous proletarianization -- became increasingly dominant. Natural fluctuations declined in importance. The portmanteau "exogenous" component, to be sure, introduces a touch of magic into the analysis; many irregularities will disappear into the portmanteau. The point of this formulation, however, is not to provide a comprehensive explanation of population growth. It is merely to indicate that with proletarianization, population growth responded increasingly to the economic situation of the proletarianized population.

Set down as lists, and marked to indicate whether the general relationship is supposed to be positive (+), negative (-), or indeterminate (+), the variables I have proposed to explain the rate of proletarianization look like this:

determinants of increase  
in wage-labor

demand for goods &  
services (-)

cost of establishing  
new production units (+)

concentration of capital (+)

coercive power of employers (+)

determinants of increase  
in potential workforce

demand for goods &  
services (+)

opportunity cost of  
childbearing (-)

existing level of prole-  
tarianization (+)

natural fluctuations (+)

Without specification of the effects of changing demand for goods and services, we have no reason to think that the growth or decline of demand will, in itself, affect the population's

proletarianization; effects on the two sides are likely to cancel each other. But the lists say that, everything else being equal, the following conditions will promote proletarianization:

1. increases in the cost of establishing new producing units;
2. concentration of capital;
3. increases in the coercive power of employers;
4. declines in the opportunity cost of childbearing;
5. previous proletarianization.

As a model of the actual process, this is very crude. As a guide to searching through the historical experience of proletarianization, however, it will serve us well. We look for times and places in which capitalists are consolidating their power over production, and in which the alternatives open to the local population are diminishing. That is, I think, a credible general description of the most common circumstances of proletarianization in Europe.

#### Where and When?

Concretely, where and when did these general conditions for proletarianization converge in modern Europe? Did they, in fact, reliably produce increases in expropriation and wage work? Despite innumerable fragments of the necessary evidence, we don't know. As a way of sorting out the evidence, we might try distinguishing some very different social settings:

estate systems (example: East Prussia), in which large landlords produced grain for the market by means of servile labor, whose subsistence came mainly from small plots

assigned to their households. The consolidation of landlord control ordinarily occurred at the expense of peasants who had been more or less independent producers; in those same areas, the nineteenth-century emancipation of servile laborers produced a temporary movement away from the proletariat, but the unfavorable conditions for access to the land pushed more and more of the freedmen into wage labor (Blum 1978).

large-farm systems (example: East Anglia), in which large landlords or their tenants likewise produced grain for the market, but with wage labor. They grew variously from estate systems, from specialized farming and from peasant farming. They expanded by adding more wage laborers. In most cases, however, small independent producers disappeared as the large farms grew (see, e.g. Habakkuk 1965).

specialized farming (example: coastal Flanders), in which peasants specialized in cash-crop production, and non-producing landlords were unimportant. It did not necessarily promote proletarianization. In the case of grain production, for instance, independent family units actually took up a larger share of the world market during the nineteenth and twentieth centuries (Friedmann 1978). Elsewhere, however, some specialists commonly expanded their holdings, accumulated capital, and hired their own wage laborers (e.g. the northern Netherlands: de Vries 1974). In those cases, specialization also proletarianized the population.

peasant farming (example: western France), in which landlords lived from rents and peasants lived from various combinations of owned, rented, and sharecropped land. Peasant farming, as such, tended to block proletarianization as long as it lasted. But peasant farming sometimes turned into specialized farming, as peasants took up more and more cash-crop production; sometimes gave way to large-farm or estate agriculture as landlords seized their advantage; sometimes succumbed to increasing subdivision of inheritances which eventually became too small to support households; and sometimes -- where the available labor was underemployed and markets for industrial products were more accessible than markets for cash crops -- hosted proletarianizing cottage industry.

cottage industry (example: Lancashire), in which petty entrepreneurs parceled out industrial production among households which also devoted some of their labor to small-scale subsistence farming and/or seasonal wage labor in agriculture. Cottage industry always grew up on an

agricultural base. It began as a complement to some sort of farming, and as an alternative to less attractive and remunerative forms of labor, such as military and domestic service. But when cottage industry flourished, it tended to squeeze out other activities, and to become an aggressive proletarianizer (e.g. Braun 1978).

urban craft production (example: north Italian cities), in which masters of small shops controlled the labor of journeymen and apprentice lodged in the masters' households. Like peasant farming, urban craft production tended to resist proletarianization so long as it retained its pure form. But masters sometimes used the structure of the craft to expand the numbers of journeymen and, especially, apprentices under their control. Where the masters succeeded, they helped to create a proletarian large-shop and factory system (e.g. Kisch 1968).

large-shop and factory production (example: the Rhineland after 1850), in which capitalists assembled and coordinated the labor of many wage-workers in the same place. This system has the reputation of being the great proletarianizer. In our time, it is no doubt the setting in which the workforce has come closest to being entirely expropriated and completely dependent on wages. Yet several features of large shop/factory production qualify its claims to being the primary site of European proletarianization. First is its tardiness: Prior to the twentieth century, large shops and factories were relatively rare; before then, most industrial expansion occurred through the proliferation of small shops, and even of household production. Second, in skilled trades the earlier grouping of workers in large shops often involved little change in the technology of production and in the relationship of the worker to the means of production, although it did eventually facilitate the owner's imposition of timing and work-discipline. Third, in many industries the large-shop and factory workforce came largely from workers who were already involved in household or small-shop production within the same industry. All three of these features mitigate the historical impact of large shops and factories as the settings of European proletarianization. Nonetheless, when large shops and factories did grow fast, they had unparalleled power to proletarianize. Only mining (which came to share many organizational features with factory production) rivaled them.

The categories are neither tight nor exhaustive. On the one hand, the types overlap. On the other, they leave out such important

configurations as the smallholding cash-crop production which commonly appeared in Europe's winegrowing areas. Still, the typology suggests the sort of variation any systematic analysis of proletarianization must take into account, and identifies the chief settings in which European proletarianization actually did take place.

Given the general conditions for proletarianization enumerated earlier -- increases in the cost of establishing new producing units, concentration of capital, increases in the coercive power of employers, declines in the opportunity cost of childbearing, and previous proletarianization -- some of these settings stand out as prime candidates. The very creation of estate systems, large-farm systems, cottage industry, and large shop/factory production entailed the creation or recruitment of local proletariats. Specialized farming, peasant farming, and urban craft production, in contrast, did not necessarily proletarianize. Which of the first four were the dominant settings for proletarianization changed over time. The two agricultural settings were probably the dominant sites of European proletarianization before the eighteenth century, while cottage industry became increasingly important after 1700, and large shop/factory production did not play the major role before the end of the nineteenth century.

In considering these alternative modes of production, let us flee from technological determinism. The seven settings did not

differ in importance as precipitators of proletarianization because expropriated wage labor was technically essential to some of them and technically incompatible with others. The settings differed because of their varying association with the proletarianizing conditions we enumerated earlier: increasing costs of new productive units, concentration of capital, growing employer coercive power, declines in the opportunity cost of childbearing, and previous proletarianization. The expansion of cottage industry, for example, favored proletarianization not because of any intrinsic affinity between expropriated wage labor and weaving or woodworking, but because:

1. the concentration of capital in the hands of entrepreneurs and the domination of access to markets by those same entrepreneurs radically narrowed workers' room for maneuver, and
2. opportunity cost of childbearing sank so dramatically -- since young children could make significant contributions to household income, and older children became less expensive to "place" in adult positions -- as to favor the production of more and more new proletarians.

Ultimately, then, the search for general explanations of European proletarianization should concentrate less on such matters as the demand for textiles or wheat than on the conditions favoring the reorganization of relations of production. Perhaps we can gain insight into those conditions by breaking with the abstract, deductive approach to the problem I have followed so far. Let us ask when, where, and in what quantities European proletarianization actually occurred.



## How Many Proletarians?

Considering how much discussion has gone into the subject, we have amazingly little knowledge of the timing and loci of European proletarianization. For Britain, John Saville has ventured this general sketch:

(1) the development of commercial farming during mediaeval times and the existence, by the beginning of the sixteenth century, of a class of capitalist farmers;

(2) the slow disappearance of the peasantry as a substantial element in rural society over the three centuries from 1500 to 1800, to the point where, in Habakkuk's words, as a significant part of the agrarian structure "the peasants had disappeared before the intensive phase of the enclosure movement of the eighteenth century";

(3) the presence in the countryside, from the sixteenth century onwards, and in substantial numbers by the time of Gregory King's estimates, of a class of landless labourers; their swelling numbers in the eighteenth century, in part the result of the further decline of the peasant class, in part the product of natural population growth;

(4) the growth of the large farm -- notably in the eighteenth century -- and the increasing proportion of the total area farmed by the large capitalist tenant farmers, renting their land from a market-oriented landlord class;

(5) the growing concentration of land in the ownership of the landlord class from the middle of the seventeenth century onwards, a process much aided by the ways in which the laws relating to real estate developed. Although there are no precise data for the distribution of landholdings in the eighteenth century, we must assume that by some date (the eve of the Napoleonic Wars? the years following the post-war agricultural depression?) the proportion of land owned by the large landlords to the total land area was roughly that indicated by the so-called New Domesday Book of the mid-1870s.

(6) accompanying the social changes in the agrarian structure went the technical transformation of farming methods. The timing of these two revolutionary changes do not coincide although it is now accepted that the seventeenth century is much more important in respect of technical change

and improvements in productivity than was formerly assumed (Saville 1969: 251-252).

Saville's lucid distillation of a murky literature suggests that the timing of the major agrarian changes -- hence the growth of an agricultural proletariat -- is well known. It is not. Think, for example, about one of the easiest numbers to establish: the proportion of landless laborers in Britain's agricultural population. Table 1 presents commonly-cited sources for estimates of the share of landless labor in the agricultural population as a whole at various times from about 1600 to 1851. A glance at the table identifies two major difficulties: **First**, the numbers oscillate implausibly from one period to the next; **second**, the categories and base populations fluctuate almost as wildly. A comparison of Gregory King's high figure for 1688 with the Census of 1831 permitted J.H. Clapham to make his notorious "demonstration" that the scale of agricultural production had only risen modestly over the period of the enclosures, and to conclude that enclosures could not have played a major part in the creation of the agricultural proletariat.

One reason why Massie's figures record an apparent drop in the proletarian share of the agricultural population between 1688 and 1760 is simply that in 1688 King saw no need to distinguish rural industrial workers from the rest of the laborers, while in 1760 Massie enumerated 100,000 families who were "Manufacturers of Wood, Iron, etc.", likewise in the country. Their inclusion in agricultural labor would bring Massie's proportion up to 66

Table 1. Estimates of the Proportion of the English, English & Welsh, British, or British and Irish Agricultural Population Consisting of Laborers

<u>date</u>	<u>per- cent</u>	<u>reference agri- cultural population</u>	<u>author of estimate</u>	<u>citation</u>
c. 1600	25-33	entire rural popula- tion, England & Wales	Alan Everitt	Everitt 1967: 398
1688	66	English families <sub>1</sub>	Gregory King	Mathias 1957: 45
1760	59	families, England & Wales <sub>2</sub>	Joseph Massie	Mathias 1957: 45
1803	62	families, England & Wales <sub>3</sub>	Patrick Colquhoun	Colquhoun 1806: 23
1812	49	males in agriculture, Great Britain & Ireland	Patrick Colquhoun	Colquhoun 1815: 124-125
1831	76	males 20 and over in agriculture, Great Britain	1831 Census	Abstract: xiii
1841	76	all persons classified	1841 Census	Spackman 1847: 143
1851	80	all persons classified <sub>4</sub>	1851 Census	Census 1851: 148
1851	79	total in agriculture <sub>5</sub>	1851 Census	Bellerby 1958: 3
1911	64	total in agriculture <sub>5</sub>	1911 Census	Bellerby 1958: 3
1931	59	total in agriculture <sub>5</sub>	1931 Census	Bellerby 1958: 3
1951	54	total in agriculture <sub>5</sub>	1951 Census	Bellerby 1958: 3

Notes for Table 1

1. Includes nobility, gentry, freeholders, farmers, labouring people, outservants, cottagers and paupers. I have taken "labouring people, outservants, cottagers and paupers" as laborers. From the total for those categories I have subtracted my best estimate of the proportion of the total population of England and Wales in places of 20,000 or more -- 11.0 percent in 1688 -- to allow for the urban location of that share of general laborers.

2. Reference population includes nobility, gentry, freeholders, farmers, husbandmen and laborers. In this case, I have counted all "husbandmen and labourers" as agricultural laborers.

3. Reference population includes nobility, gentry, freeholders, farmers, labourers in husbandry, pauper labourers, pensioners who work. Here, "labourers in husbandry, pauper labourers, and pensioners who work" count as agricultural laborers. I have, however, subtracted my best estimate of the proportion of the total population of England and Wales in places of 20,000 or more -- 17.4 percent in 1803 -- from the total for pauper laborers and pensioners, to allow for the urban location of that share of general laborers.

4. Excluding persons listed as wives, children and relatives of farmers and graziers.

5. Excluding "relatives occupied on the farm".

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percent: exactly the same as King's. But that correction would be risky; after all, the differences between Massie's estimates and King's could have registered a genuine increase in rural industry.

Again, Massie mentioned no "vagrants" in 1760; he was estimating the likely return from taxes on chocolate, and vagrants mattered little for that purpose. Gregory King, on the other hand, listed 30,000 vagrants for 1688, and Patrick Colquhoun counted a full 234,000 of them in 1803. Many "vagrants" were indubitably unemployed agricultural laborers on the road. Should they, too, be included in the agricultural proletariat? Judgments on such matters depend on knowledge of the very trends and processes one might have hoped to derive from the comparison of Everitt, King, Massie, and Colquhoun.

We can, I fear, draw no more than a few tentative, meager conclusions from the series:

1. During most of the seventeenth and eighteenth centuries a large share -- most likely a majority -- of Britain's agricultural labor force consisted of landless laborers.
2. Since the population of England and Wales may well have risen from 4 to 5 million people during the seventeenth century, and from 5 to 9 million during the eighteenth, even a relatively constant proportion of proletarians implies a substantial increase in their absolute number.
3. During the early nineteenth century, both the absolute number and the proportion of agricultural laborers grew considerably.
4. After the middle of the nineteenth century, laborers left British agriculture so rapidly that the total agricultural labor force contracted, and the share of farmers rose significantly.

As Deane and Cole put this last point:

Apart from a fall of about 8 1/2 per cent in the 1870's, and a rise of about 13 per cent between 1911 and 1921, the number of British farmers has shown remarkably little tendency to vary. Farmers (excluding relatives) thus accounted for about 15 per cent of the occupied population in agriculture in 1851, about 20 per cent in 1911 and about 27 per cent in 1951 (Deane & Cole 1967: 143-144).

Thus the century after 1851 witnessed a deproletarianization of British agriculture, at a time when the industrial labor force was proletarianizing rapidly. But when and how the earlier proletarianization of agriculture occurred does not leap out at us from the available national figures.

To locate any figures on proletarianization at a regional or national scale, we must cross over to the Continent. In his survey of changes in agrarian class structure at a number of locations across the continent, Slicher van Bath (1977) offers multiple examples of disproportionate growth of smallholders, cottars, and laborers. (Slicher himself, I hasten to add, interprets the changes as illustrating "the influence that a rise in population had on the distribution of the various groups in rural society": Slicher van Bath 1977: 127.) In the Dutch province of Overijssel, he reports a pattern of increase among heads of household that runs as follows:

<u>category</u>	<u>base period</u>	<u>annual rate of growth</u>
total population	1675-1795	0.7
non-agricultural population	1675-1795	0.9
agricultural population	1602-1795	0.3
farmers on family-sized farms	1602-1795	0.1
cottars on smallholdings	1601-1795	0.2
cottars and day-laborers	1602-1795	0.4

(computed from Slicher van Bath 1977: 130)

Two things were happening in Overijssel: First, a great expansion of cottage textile production was swelling the number of weavers and spinners in the countryside. Second, the agricultural population itself was proletarianizing. The net effect of the two was a substantial proletarianization of Overijssel's population in the seventeenth and, especially, the eighteenth century.

We have already noticed the changes in Sweden's rural population -- a full nine tenths of the total population -- between 1750 and 1850. There, the rural proletariat grew more than thirty times as fast as the peasantry. (One consequence of that expansion was an overall decline in real wages for Swedish agricultural workers over the century after 1750: Jorberg 1972a.) From about 30 percent of the rural population in 1750, the proletariat grew to about 60 percent in 1850. If we were to extrapolate that sort of change to the European scale, it would imply an increase from about 35 million rural proletarians in 1750 to about 90 million in 1850; the increase rate for the whole

continent would be lower than that for Sweden because in Europe as a whole the rural population only increased by about a third, while in Sweden it doubled. Still, an increase of 55 million rural proletarians would represent the great majority of the continent's total population increase (which was on the order of 85 million people) between 1750 and 1850.

Now, Sweden is most likely an extreme case because of its large rural population, its relative lack of rural manufacturing, and its fairly late industrialization. However, a similar computation based on one of Europe's old industrial areas, the Kingdom of Saxony, produces an estimate in the same general range: about 51 million of the total 85 million increase in population consisting of expansion in the continent's rural proletariat (computed from Blaschke 1967: 190-191, Bairoch 1977: 42).

Let us look more closely at Saxony, since it is the only large area of Europe for which have reliable estimates of the proletarian population running back to the sixteenth century. For the years 1550, 1750, and 1843, Karlheinz Blaschke provides us with counts of the following categories of the Saxon population:

URBAN	RURAL
<u>Bürger</u> (full citizens)	<u>Bauern</u> (peasants)
<u>Inwohner in Städten</u> (dependent urban workers)	<u>Gärtner und Häusler</u> (gardeners, cottars)
<u>Geistlichkeit</u> (professionals, intellectuals, etc.)	<u>Inwohner in Dörfern</u> (village labor)



Grundherren (noble landlords)

The classification into "urban" and "rural" is my own, but aside from the rural residence of a few parsons and professionals (Geistlichkeit) and the urban residence of a few noble landlords (Grundherren) it looks like a fairly accurate division. On the urban side, the Inwohner, or in-dwellers, were essentially proletarians: servants, journeymen, apprentices, and others. On the rural side, the Gärtner and Häusler (gardeners and cottars) join the Inwohner in the proletarian category. Gärtner had their own garden-plots, Häusler nothing but their dwellings. Gärtner is sometimes translated as "smallholder" -- but in either translation designates a worker who had to sell a substantial part of his labor power to survive.) Table 2 gives Blaschke's counts of the numbers of workers in each of these categories from 1550 to 1843.

Blaschke's figures tell an important story. Throughout the three centuries after 1550, according to this classification, the Saxon countryside was more proletarian than the cities; even in 1550, gardeners, cottars, and village labor made up 25.6 percent of the rural workforce, while dependent workers comprised 15.5 percent of the urban total. Within both the urban and the rural sectors, the proletarian share rose dramatically. Both from 1550 to 1750 and from 1750 to 1843, gardeners and cottars -- the all-purpose wage-workers of the countryside -- grew fastest. Translated into annual rates of increase, the comparison runs like this:

<u>CATEGORY</u>	<u>1550-1750</u>	<u>1750-1843</u>
full citizens	0.2	0.4
dependent urban workers	1.0	0.7
professionals, etc.	0.1	0.0
peasants	0.1	0.0
gardeners, cottars	1.4	1.1
village labor	0.2	0.2
noble landlords	0.4	0.1
total	0.4	0.6

The numbers of professionals and of peasants hardly increased over three centuries, a fact which probably reflects the implicit fixing of quotas for each of them. Full-fledged burghers, regular village labor, and landlords did not increase much faster. The dynamic categories were the proletarian ones. In terms of rates alone, those categories grew faster before 1750 than after. The fact that they made up an increasing share of the total, however, meant that their impact on total growth grew larger later; as a result, the overall rate of growth in the workforce accelerated after 1750: 0.6 percent per year from 1750 to 1843, as opposed to 0.4 percent from 1550 to 1750.

We are not staring at the ripples of a backwater. The Kingdom of Saxony contained such major industrial centers as Leipzig and Dresden. With 46 percent of its labor force in manufacturing by 1849, and 53 percent in manufacturing by 1861, the Kingdom of Saxony moved at the leading edge of German

Table 2. Distribution of the Workforce of Saxony in 1550, 1750 and 1843, According to Karlheinz Blaschke

CATEGORY	YEAR		
	<u>1550</u>	<u>1750</u>	<u>1843</u>
<u>Urban</u>			
full citizens	82.0	54.0	47.5
dependent workers	15.5	44.8	51.7
professionals etc.	<u>2.5</u>	<u>1.2</u>	<u>0.7</u>
total	100.0	100.0	99.9
number	141500	370500	631000
<u>Rural</u>			
peasants	73.5	38.6	20.4
gardeners, cottars	6.8	47.9	70.9
village labor	18.8	12.7	8.2
noble landlords	<u>0.8</u>	<u>0.8</u>	<u>0.5</u>
total	99.9	100.0	100.0
number	292400	647500	1225000

Source: Blaschke 1967: 190-191. The 1550 figures omit the region of Oberlausitz.

industrialization (Kollmann 1974: 88-90). The Kingdom's "potential labor force" (the population 15 and over, less housewives, dependent daughters, students, invalids, and certain other categories) grew by an average of 1.5 percent per year between 1822 and 1849, by 1.2 percent per year between 1849 and 1864; those rates were higher than elsewhere in Germany (Kollmann 1974: 74). The Kingdom was the only major region of Germany gaining from migration more or less continuously from 1817 to 1865 (Kollmann 1974: 70). In fact, Wolfgang Kollmann offers the Kingdom of Saxony as a principal example of the overrunning of employment opportunities by population growth -- in his view, the crucial process that depressed wages in the old crafts, drove workers out of those old crafts, and provided a labor force for expanding large-scale industry. We do not have to accept Kollmann's whole analysis of proletarianization to recognize Saxony as a good base for the analysis of European proletarianization as a whole.

Table 3 shows the results of imagining that the entire European population (except for Russia) behaved like Saxony. The procedure is simple: Adopt Paul Bairoch's estimates of rural and urban population, interpolate values for 1550, 1750, and 1843, then apply the percentages of proletarians Blaschke finds in Saxony's rural and urban sectors to the whole European population. While this approach multiplies suppositions by approximations, it suggests orders of magnitude for the growth of the European

Table 3. Estimates of the European Proletarian Population in 1550, 1750 and 1843, Based on Blaschke's Figures for Saxony (in Thousands)

CATEGORY	TOTAL POPULATION	PROLETARIAN POPULATION	NON-PROLETARIANS	PERCENT PROLETARIAN
<u>1550</u>				
Rural	61175	15661	45514	25.6
Urban	10325	1600	8725	15.5
Total	71000	17261	54239	24.3
<u>1750</u>				
Rural	113100	68539	44561	60.6
Urban	18150	8131	10019	44.8
Total	131250	76670	54580	58.4
<u>1843</u>				
Rural	146453	115844	30609	79.1
Urban	63194	32671	30523	51.7
Total	209647	148515	61132	70.8

Sources: Blaschke 1967: 190-191; Bairoch 1977: 42. I have changed Bairoch's estimate of total population for 1500 (85 million), which is implausibly high, to a more conventional 56 million. The adjustment diminishes the estimate of the proletarian population in 1550 from 24.5 to 24.3 percent.

proletariat.

If Europe behaved like Saxony, both rural and urban proletarianization were massive. The totals show the proletarian population more than octupling while the non-proletarian population increased by a mere 13 percent, and while the population as a whole rose from 71 million to 210 million people. The estimated absolute increase in the proletarian population from 1550 to 1843 was 131 million: nearly equivalent to the total increase in Europe's population; the computations suggest that the non-proletarian population hardly increased at all. Of the 131 million increase, furthermore, the estimates show 100 million as occurring within the rural sector, only 31 million in the cities. That was especially true for the period before 1750, when only a small share of Europe's proletarianization could have occurred in the cities. After 1750 (and, in fact, especially after 1800) the balance shifted toward urban proletarianization. In short, a massive proletarianization of the population, occurring first and foremost in the countryside.

No one region can sum up the experience of the whole continent. Yet, in the absence of other series as ample in space and time, we have no reason to shrug off the experience of the region of Leipzig, Chemnitz and Dresden as an inappropriate model for Europe. The orders of magnitude are likely to be correct. If so, we can reasonably adopt three working hypotheses:

1. that the increase in Europe's proletarian population was on the order of its total population increase; the

non-proletarian population barely increased;

2. that over the sixteenth to mid-nineteenth centuries, most of the Europe's proletarianization took place in village and country;
3. that with the nineteenth century cities became increasingly important as the sites of proletarianization.

These hypotheses call for careful verification.

Given a broad definition of the proletariat, the second and third hypotheses become more plausible as we examine the temporal pattern of Europe's urbanization. Figure 2 graphs Paul Bairoch's estimates of changes in the European population by size of place since 1500. It reminds us that the great majority of the population lived in rural areas until quite recently. More important, it shows that Europe did not urbanize significantly between 1500 and 1800. Indeed (if you accept my reduction of Europe's total population in 1500 from 85 million to a more plausible 56 million), the estimates suggest that Europe as a whole de-urbanized slightly over those three centuries. Here are the percentages:

1500	16.1
1700	13.0
1800	14.4
1900	41.3
1970	62.4

Only after 1800, according to these figures, did the frenzied urbanization with which we are familiar begin.

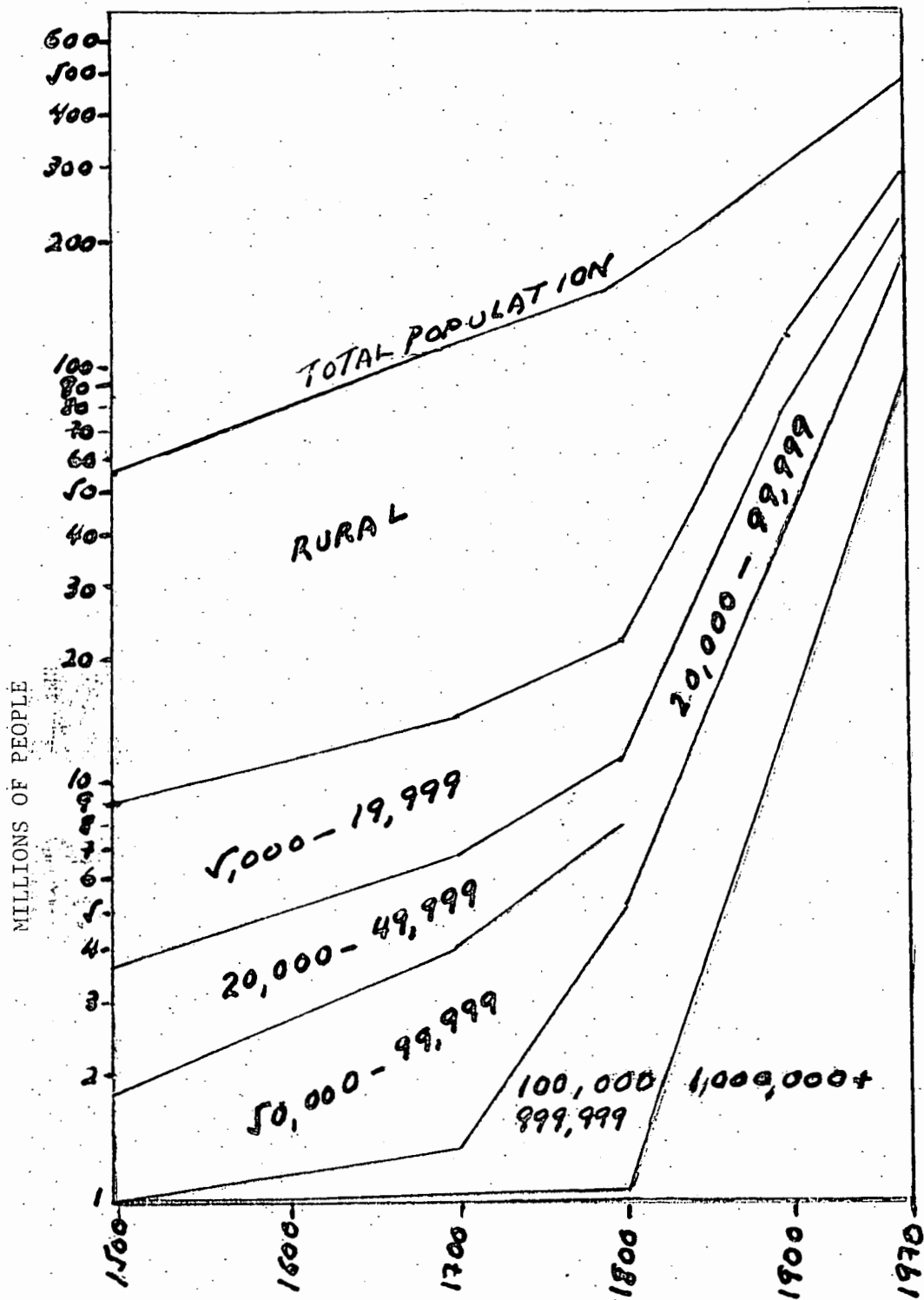


Figure 2. Paul Bairoch's Estimates of the European Population by Size of Place, 1500-1970

Note: "Europe" excludes Russia and Turkey. Source: Bairoch 1977: 42.



My own compilation of urban populations from a variety of sources -- notably Chandler and Fox's mammoth enumeration of Europe's cities -- singles out the seventeenth century as the time when urban growth slowed, and the eighteenth century as a period of mild acceleration. In a private communication, Paul Bairoch has told me that revised figures, compiled after the publication of his book, do suggest a seventeenth-century decline in the urban share of the European population -- especially outside of England. On the other hand, Jan de Vries' as yet unpublished compilation of European urban populations describes a slight increase in the proportion urban during the seventeenth century, coupled with a small decline in the number of cities of 10,000 or more inhabitants.

The surprising seventeenth-century de-urbanization may therefore fade away in the light of fuller evidence. Nevertheless, it is not so implausible on a second look as it is on the first. If the figures are correct, Europe de-urbanized because urban growth slowed while total growth continued. To put it another way, the rural and small-town population grew faster than the population in cities. It is possible that the normal natural decrease of cities grew larger as sanitation, nutrition, and health care declined, that the normal natural increase of rural areas increased as fertility rose or mortality declined, and that the normal rural-to-urban flow of migrants diminished. All three may well have happened.

These hypothetical changes are thinkable for several reasons. First, Europe's larger cities were unhealthy places, and may well have gotten unhealthier as they grew. Second, the food supply of large cities was growing increasingly problematic in the seventeenth and eighteenth centuries despite modest increases in agricultural productivity. Urban growth may well have overrun the general capacity of European agriculture to support non-producers, surpassed the abilities of merchants and officials to extract whatever surplus did exist, strained the limits to shipping of food set by reliance on navigable waterways, and exceeded the possibility that particular cities and their immediate hinterlands could produce enough to sustain their own non-agricultural populations.

In such circumstances we would expect the cost of food to rise prohibitively -- and disproportionately -- in urban areas. The rise of the food riot and the elaboration of municipal and national controls over food supply suggest a sharpening struggle over the disposition of food during the period of apparent deurbanization. Third, as we shall see, there are reasons for thinking that natural increase rose in important parts of rural and small-town Europe during the seventeenth and eighteenth centuries. Whether such increases resulted from declining mortality, rising fertility, or both, remains debatable. We shall return to that problem, too.

The final possible source of de-urbanization connects the

most directly with our inquiry into the origins of the proletariat. Two kinds of employment were growing rapidly in the Europe of 1600 to 1800; they were surely growing more rapidly in small towns and rural areas than in big cities. They were the same forms of employment that were growing in Saxony from 1550 to 1750. One was wage-labor in agriculture. The other was cottage industry. The expansion of agricultural wage-labor proletarianized, almost by definition; it was the chief case Marx had in mind. Growth of cottage industry did not necessarily proletarianize; that depended on who held control of the means of production. But in fact the major European forms of cottage industry created a workforce which depended for survival on the sale of its labor power. Thus it is plausible (although far from established) that a temporary de-urbanization did occur between 1500 and 1800, and that the growth of a rural proletariat contributed significantly to that de-urbanization.

After 1800 Europe felt the quickening urbanization with which we are familiar; the population was, by my estimates, 14.4 percent urban in 1800, 41.3 percent in 1900, 62.4 percent in 1970. In absolute terms, the rural population never actually declined. But by the middle of the nineteenth century, with about 150 million people, it had come close to its limit. From that point on, almost the whole of European population increase occurred in urban areas.

The site of proletarianization shifted as the locus of

population growth changed. Blaschke's figures simply show that shift to have occurred a bit earlier in relatively industrial Saxony than in Europe as a whole. My grafting of Blaschke's figures onto Bairoch's estimates of urban and rural population adjusts for the difference in timing. But both sets of figures indicate that the nineteenth century swung the active loci of European proletarianization toward the cities.

If we start our inquiry at 1500, we are dealing with a total of about 56 million people. If we end it in 1900, we arrive at a total around 285 million people. That is an increase of some 230 million people in the four centuries. At the beginning (to extrapolate from the estimates we have squeezed from the combination of Blaschke with Bairoch), perhaps 17 million of the 56 million total were proletarians of one kind or another. By 1900, on the order of 200 million out of the 285 million total were proletarians. That gives us an increase of around 180 million proletarians to account for. It also gives us a smaller increase -- perhaps 45 million -- of non-proletarians to explain. If those are the numbers, we must ask when, where, and how the increase occurred.

The timing of population growth sets important limits on the possible timetable of proletarianization. Since the population of Europe (not including Russia and Turkey) rose from about 150 million to 285 million during the nineteenth century, a large part of the net increase in the proletariat just also have occurred in

the nineteenth century. Nevertheless, given the significant eighteenth-century expansion of wage labor in such widely scattered areas as England, Poland, and Spain, it is quite possible that by 1800 something like 100 million Europeans were already proletarians and their households. Notice again the implications of Bairoch's estimates for 1800: only 20 million Europeans or so then lived in urban areas. At least three quarters of the proletariat must have lived in small towns, villages, and open countryside. In tracing the proletarianization of Europe before 1800, we have to give priority to farms and villages. From the nineteenth century onward, cities start occupying our attention.

Let me sum up these speculations and approximations. We are thinking of components of growth within a population that broke down something like this:

	(millions of persons)		
	<u>1500</u>	<u>1800</u>	<u>1900</u>
total population	56	150	285
non-proletarians	39	50	85
proletarians in cities	1	10	75
rural proletarians	16	90	125

to avoid any misunderstanding, let me repeat: These numbers are no more than thoughtful guesses, orders of magnitude, hypotheses to verify. Their revision stands high on the agenda of historical demography. If they hold up to further investigation, the numbers have important implications. They suggest a seventy-five fold

increase in the proletarian population of European cities from 1500 to 1900, an octupling of the rural proletariat during the same period. They concentrate the great bulk of European proletarianization in rural areas before 1800, and in cities after then. With these orders of magnitude in mind, let us return to the components of growth: social mobility natural increase, and net migration.

### Social Mobility

Speaking of the sixteenth- and seventeenth-century Netherlands, Jan de Vries distinguishes between two models of rural social organization: a peasant model and a specialization model. Peasants produce enough to survive at a conventional level of well-being and to meet their basic outside obligations. They work to insulate themselves from the market's volatility while avoiding purchases of goods and services as much as possible. They seek, in general, to maintain all their offspring on the land. With natural increase, that strategy produces subdivision of holdings and intensified cultivation of the available land. The result is that per capita income almost never rises; it remains constant or declines.

Specialists, on the other hand, exploit the market by concentrating on profitable crops. They specialize in agricultural production, and purchase goods and services they cannot produce profitably. They accumulate capital, and reinvest it in land and equipment. Such children as they cannot profitably

employ on the land they place in other forms of enterprise. Over the long run, their per capita income tends to rise. Specialists are capitalists, peasants non-capitalists. In fact, the peasants are often anti-capitalists.

The two models identify two quite different exits from the peasantry. The peasant path leads eventually to wage-labor in agriculture or in industry. The specialization path leads to cash-crop farming. The peasant strategy proletarianizes, while the specialization strategy -- if successful -- capitalizes. The peasant strategy leads to wage labor for two reasons: first, because its internal logic results sooner or later in the overrunning of the household's capacity to support itself from the land it controls; second, because in the meantime capitalists are expanding their control over the land and over other means of production. English enclosures and Polish "refeudalization" are variants of that second pattern.

Whether the new proletarians remained in agricultural wage labor, moved into manufacturing, or took up some combination of the two varied significantly as a function of the local labor requirements of agriculture and the market for local manufactures. In the Swiss mountain areas studied by Rudolf Brun, cottage textile manufacturing oriented toward Zurich displaced the subsistence agriculture of the highlands. In the Leicestershire agricultural villages studied by David Levine, cottage industry provided the context for proletarianization where the landlord

tolerated it, but dairy farming produced a later, slower, and more subtle form of proletarianization where the landlord would not tolerate manufacturing. In the Flanders studied by Franklin Mendels, the proletarianizing populations of the coast moved into agricultural wage labor, while those of the interior moved into a mixture of agriculture and textile industry, and shifted their weight from one to the other as a function of the available wage.

This last example serves as a reminder that the specialists' strategy also fostered a certain amount of proletarianization. Although those who succeeded in specializing became petty capitalists, those who failed moved into the proletariat. Moreover, the more successful cash-crop farmers became employers of wage laborers from among their skidding neighbors and from nearby regions of mixed agriculture and industry. Franklin Mendels has pointed out, in fact, that small-scale industrial production tended to expand especially in regions having nearby sources of part-time and seasonal agricultural employment, which reduced the industrial employer's minimum maintenance costs for labor. The interdependence of Flanders' coastal cash-crop areas and internal cottage-industry areas illustrates the point very well (Mendels 1978).

Parallel paths to those of peasants and specialists led away from the world of artisans. Artisans slipped into the proletariat as cheaper production processes reduced the demand for their wares, and as entrepreneurs assumed control over the means of



production. But a few artisans climbed into the bourgeoisie by becoming successful entrepreneurs. Herbert Kisch gives us the contrast between Silesia and the Rhineland (Kisch 1959, 1965, 1968). In both places the growth of rural textile production undercut the urban craft guilds. But in Silesia the process was one of almost pure proletarianization: A small number of chartered merchants worked with large landlords who were happy to have weaver-serfs contributing to the incomes of their estates. In the Rhineland proletarianization was likewise the main trend, but a few master craftsmen in Cologne, Barmen, Aachen, and elsewhere accumulated capital and made themselves pivotal figures in textile production. Although Kisch does not give us the details of labor force recruitment, lifetime movement from artisan to proletarian must have been a common experience in both regions. In neither case, however, is it likely that social mobility was the main component of the proletariat's growth. Natural increase and migration must have been important in both Silesia and the Rhineland.

#### Natural Increase

Natural increase or decrease is the net effect of births and deaths. The proletariat grows through natural increase when, in any given period, more proletarians are born than die. Perhaps we should distinguish between the proletarian children of non-proletarian parents and the proletarian children of proletarians. In the first case we stand midway between social

mobility and natural increase: If at a given succession a peasant holding fragments into pieces too small to support the heirs, we may debate how much of that family's move into the proletariat is due to natural increase. The same is true of the "extra" child of a peasant family who spends life as a servant or day-laborer. Yet at least some of the resulting expansion of the proletariat is attributable to natural increase.

The least ambiguous, and most important, case is somehow the most ignored. It is the natural increase of full-fledged proletarians. If, on the average, the natural increase of wage laborers were greater than that of peasants and artisans, that fact alone would suffice to produce a relative growth of the proletariat without any skidding of peasants or artisans and without any in-migration of proletarians. I suggest that differential natural increase was the principal component in the relative growth of the European proletariat from 1500 to 1900. More precisely, I suggest that the principal component was natural increase resulting from the difference between fairly high mortality and very high fertility.

To be even more exact (and at the risk of being ponderous), I propose the following hypothesis: on the average, proletarians responded to economic expansion with greater declines in mortality and greater increases in fertility than non-proletarians, and responded to economic contraction with greater increases in mortality but no greater declines in fertility than

non-proletarians. The consequence was disproportionate natural increase of proletarians in good times, not completely compensated by the natural decrease of bad times. Since the period we are considering was on the whole an era of economic expansion, such a system would have produced a significant tendency for the proletariat to increase more rapidly than the rest of the population. My hypothesis is that it did.

In its main lines, the hypothesis generalizes to the entire proletarian population the model of demographic change which Franklin Mendels developed to deal with the "proto-industrialization" of Flanders and elsewhere (for an extensive review of the evidence on protoindustrial demography, see Kriedte, Medick & Schlumbohm 1977, especially pp. 155-193; for an empirical challenge, see Hohorst 1977, especially pp. 208:227). The hypothesis does not mean that proletarians always had higher fertility than non-proletarians. We have already seen that the opposite was true among the Swedish villagers studied by Christer Winberg, and can find similar evidence elsewhere. The hypothesis does mean that the demographic responses of proletarians and non-proletarians to economic expansion and contraction differed significantly. To put it schematically, non-proletarians responded to changing opportunities for the placement of their household capital, while proletarians responded to changing opportunities for wage labor.

In one muted form or another, the hypothesis has been around

a long time. In his pioneering study of the Vale of Trent, J.D. Chambers noted the higher natural increase of parishes with rural industry during the years from 1670 to 1800. Although they lack crucial evidence concerning the components of growth, Blaschke's analysis of Saxony, Klima's discussion of Bohemia and Braun's portrayal of the Zurich highlands all bring out a similar contrast between slow-growing regions of peasant agriculture and fast-growing regions of rural industry. In his direct attack on the problem, David Levine identifies a relationship between rising natural increase and rural industrial growth in eighteenth-century Shepshed, between rising natural increase and agricultural proletarianization in nineteenth-century Bottesford. Levine also provides a plausible interpretation of the demographic ups and downs of the famous village of Colyton, Devon, as a consequence of the rise and fall of rural industry (Levine 1977: 103-115). Following the same line of inquiry, Wrightson and Levine trace the population growth of Terling, Essex, to the proletarianizing effects of a large-farm system (Wrightson & Levine 1979, esp. pp. 43-72). Ann Kussmaul has made a good case for a sequence in which English farmers expelled live-in servants during periods of rising food prices, servants became day-laborers, day-laborers married younger and in greater numbers, and fertility rose (Kussmaul 1981). Elsewhere, and with very fine evidence, David Gaunt has argued for a similar tuning of natural increase to opportunity among Swedish rural proletarians (Gaunt 1977).

If such a relationship holds, it reverses conventional wisdom. We commonly think of rural proletarianization as a consequence of rapid population growth -- too many people for the available land. But the possibility we see here is that proletarianization may induce rapid population growth. Of course, both may be true. Then a process of proletarianization initiated by some such action as enclosure will tend to perpetuate itself up -- or, rather, down -- to the limit set by starvation. At the limit and in this special case, Malthusian models begin to work fairly well. (Even in the case of widespread famine, however, the usual circumstance is not usually an absolute shortfall in available food per capita, but a maldistribution due to the lack of fit between needs and entitlements: see Sen 1981).

How and why would the natural increase of proletarians tend to exceed that of non-proletarians? The critical relationships link fertility, marriage, and the availability of employment. In a world in which most households control their own means of production, the chief opportunities for young adults are to inherit positions within their own households, or to enter other households. In the world of European artisans and peasants, the capital of a household set stringent limits on the number of persons it could sustain; household capital thereby limited the number of children who could remain home into adulthood, and especially into marriage and parenthood. The only way to enter another household as a full-fledged adult was to marry in.

Persons who entered as servants, apprentices, day-laborers and the like ordinarily acquired no control over the household means of production, and no right to marry or to procreate. Opportunities to marry, to have children, and to place one's children in full-fledged adult positions thus depended on the rate at which senior positions in households were opening up. Mortality was the chief determinant of that rate. But sometimes out-migration or the putting of new land into cultivation also provided adult opportunities. To an important degree, the system regulated itself: Nuptiality and fertility adapted to changing opportunity, and total population remained fairly constant over the medium run (see Lee 1978, Smith 1977, Wrigley 1978).

Under these circumstances, couples adjusted both their marriages and their childbearing to the probable availability of adult positions and to the probability that their newborn children would survive to adulthood. As a result, marriage and fertility surged after famine or pestilence wiped out many adults, and slowed when mortality declined. Or so it seems. In the present state of our knowledge, any hypothesis implying widespread, deliberate fertility control before the nineteenth century and outside of westernized industrial countries is controversial (see Caldwell 1976, Knodel 1978, Knodel & van de Walle 1979).

The idea of deliberate fertility control of any great extent before the nineteenth century counters a set of ideas demographers cherish:

- \* that in general human populations have lived under a regime of "natural" fertility, without imposing deliberate, self-conscious controls over conception;
- \* that variations in the fertility of populations outside the wealthy nations of our own era have resulted from differences over which people did not exert deliberate control, at least not for the purpose of controlling conception: marriage customs, sexual taboos, breast-feeding practices, nutrition, illness, and so on;
- \* that once the members of a population do begin to control births, they keep at it, with the consequence that a fertility decline begun in earnest leads unerringly to stable low fertility;
- \* that such a decline requires a fundamental shift in attitudes away from ignorance, passivity and short-run gratification.

Students of European population changes who subscribe to these views point to several different sorts of evidence. First, following Louis Henry, they commonly insist that deliberate fertility control will show up in the record as differential age-specific fertility: At a given age, women who have been married longer and/or who have had more children will bear children at a lower rate than other women in the same population; solid evidence of those age-specific differentials is, in fact, quite rare for periods before the nineteenth century. Second, they draw attention to the fact that where strong evidence of deliberate fertility control does appear, it tends to increase irreversibly with time. Third, the broad similarity in the timing of fertility decline in different parts of Europe, despite drastic differences in levels of income, urbanization, and industrialization couples with an apparent tendency of culturally

homogeneous regions to behave as units within the fertility decline; some sort of diffusion and cultural change suggests itself.

Yet there is evidence on the other side. First, there are well-documented "preindustrial" cases that meet the stringent tests of parity-dependence (e.g. Andorka 1979, Gaunt 1977, Levine 1977, Wrigley 1966). Second, there are many more cases in which the evidence is less direct and compelling, but in which differentials in nuptiality and fertility by class and time period correspond closely to variations in economic interest (see Tilly 1978a for a review of many such cases). Third, Ronald Lee's exacting time-series analyses of the best national data available for the long run of English history display a significant tendency for both nuptiality and fertility to rise and fall as a function of real wages (Lee 1976, 1978; Wrigley & Schofield 1981).

The main relationships are hard to disentangle empirically from the contrary effects. It is likely, for example, that improvements in nutrition boosted fertility and depressed mortality simultaneously (McKeown 1976, Lee 1978). It is quite possible, as William Langer has suggested, that the expanding cultivation of American plants such as the potato significantly improved life expectancy, and thus contributed to natural increase without any necessary rise in fertility. Yet the general hypothesis that people adjusted marriage and fertility to the availability of adult places in crafts and on the land is not



absurd. In one form or another, it has been around since Malthus. And it is compatible with many forms of fertility control short of the self-conscious efficacy of twentieth-century contraception.

Proletarians faced a different set of circumstances from peasants and artisans. To the extent that the world around them was proletarian, they had both the incentive and the opportunity to marry and form their own households early. They could acquire the means of survival as adults at quite a young age. The characteristic organization of work and the characteristic lifetime curve of earnings -- rising rapidly with adolescence, falling steadily from young adulthood -- provided further encouragements to marriage and fertility.

On balance, these generalizations hold more clearly for employment in rural industry than for employment in agriculture. In agriculture, landlords' great control over opportunities for wage-labor, coupled with their characteristic political authority, gave them strong influence over the possibility that young people could settle, marry, and bring up children. The rise of wage-labor in agriculture -- as rural Sweden has already taught us -- sometimes diminished opportunities for marriage. Industrial employment, mediated by small merchants, gave householders more independence. Indeed, it sometimes promoted marriage.

Especially in the many variants of domestic industry, the standard labor unit was not a single individual but a household: for example, a weaver plus several spinners and tenders (see Tilly

& Scott 1978, chapter 2). To work in these arrangements, it was almost essential to form a household. Speaking of the region of Charleroi (now in southern Belgium) during the eighteenth century, Hervé Hasquin declares:

Thus, in these working-class settings, all members of the family worked, since all wages were welcome. The women and girls made spun goods; at a very young age, the boys were pushed hard; they were not spared the most demanding work (Hasquin 1971: 292-293).

Hasquin shows that birth rates rose in the towns in which industry was expanding -- by now, a classic finding. He concludes that "having children resulted increasingly from deliberate intention" (Hasquin 1971: 292).

In his more general analysis of the Belgian fertility decline, Ron Lesthaeghe adopts a similar argument:

with the accelerated growth of employment outside the family-related artisanal workshops or agricultural enterprises during the Industrial Revolution, an even larger section of the population became both economically independent and capable of establishing a household at an earlier age. The precariousness of the wage-earners' sustenance ceased to be related to their age, and they had no more grounds for postponing their marriages (Lesthaeghe 1977: 69, citing Hofstee as the source of the argument).

So long as employment opportunities, however marginal, were expanding, a proletarian strategy of early marriage and high fertility made sense. At least it made sense in the short run.

Findings from Wrigley and Schofield's reconstruction of English population dynamics from 1541 to 1871 deserve special attention. The English evidence shows clearly that well before the decisive nineteenth-century decline in fertility, rates of

marriage and of birth had risen and fallen significantly, more than once. In general, nuptiality and fertility rose with real wages, at a lag of about forty years. That relationship grew stronger over time, as the link between aggregate population growth and food prices grew weaker. In the medium and long runs, furthermore, death rates did not depend on real wages. The results strike a blow against a strict Malthusian interpretation of English experience, since the English seem to have avoided the Positive Check of heightened mortality in response to excessive population growth. They strike a blow against the notion of population pressure, since the rate of population growth apparently had little independent effect on mortality, fertility, or nuptiality. They are at least compatible with the emergence of a wage-driven demographic system. David Weir (1982) has shown that similar dynamics operated in France as a whole from 1740 to 1829. Both countries give evidence of having tuned marriage and childbirth to employment opportunities.

#### Net Migration

Migration figured in the formation of the European proletariat in two rather different ways. From the perspective of Europe as a whole from 1500 to 1900, migration's chief contribution was negative: The continent shipped out many more migrants than it took in, and the bulk of the out-migrants were proletarian (for a general review, see Tilly 1978b). Before 1750 the net outflows were small: colonists to the Americas, Slavs into

continental Asia, trickles of settlers into other parts of the world. With the accelerating population growth of the later eighteenth century, out-migration speeded up as well. A plausible estimate for the period from 1800 to World War I is a net loss of 50 million Europeans to extracontinental migration. Before 1900, those out-migrants came disproportionately from the British Isles. From 1846 to 1890, for example, an estimated 48 percent of all European out-migrants came from England, Scotland, Wales, or Ireland (Kosínski 1970: 57). The loss of migrants was equivalent to a fifth or a sixth of the continent's entire nineteenth-century population growth.

Most of those millions were proletarians. A prototype of the transatlantic migration was the outflow from seventeenth-century Tourouvre-au-Perche (Charbonneau 1974). The roughly 300 migrants from Tourouvre and vicinity and their numerous descendants played a major part in the settlement of Quebec. Labor recruiters intervened in a local but very active system of migration, in which wage-laborers already predominated. The recruiters drew a high proportion of young men in their twenties, most of them apparently servants and day-laborers. In Canada, to be sure, their grants of land transferred them out of the proletariat. In the European reckoning, nevertheless, they amounted to a loss of a few hundred proletarians.

Or take one of the best-documented flows after 1800: from Denmark to America (Hvidt 1975). Denmark's nineteenth-century

population ran in the vicinity of two million people. That small country sent almost 300 thousand migrants to North America between 1840 and 1914. The bulk of the migrants were servants, wage-laborers and other proletarians. The ideal candidates for emigration seem to have been young people who had already made the move from farms and villages to a nearby, slow-moving regional center. Many -- probably the great majority -- moved within chains of friends, neighbors, and kinsmen who kept information about American opportunities flowing back to Denmark, and who helped the migrants find the passage money, jobs, and housing. The chains also made it easier for those who disliked America to return home; almost 100 thousand emigrants went back to Denmark. But their main effect was to facilitate the flow of emigrants from Denmark. Their demographic consequence was a net loss of some 200 thousand Danish proletarians.

Migration also influenced the growth of the proletariat indirectly through its effect on social mobility and natural increase. One of the most valuable by-products of recent European historical demography has been the accumulating evidence of high mobility levels before the period of large-scale industrialization. Contrary to the idea of an immobile preindustrial world, historians of many different parts of Europe turn up village after village with annual migration rates of 10 percent or more (e.g. Bukatzsch 1951, Cornwall 1967, Eriksson & Rogers 1978, Hamner 1976, Hollingsworth 1971, Martinius 1967, Patten 1973,

Poussou 1974, Sabeau 1971). Americans of the last century have considered themselves exceptionally mobile because in the average year about 20 percent of the population changed residence -- and a great many of them have moved within the same community. Comparable levels of mobility are showing up in many parts of Europe before massive industrialization.

That high preindustrial mobility, however, requires several qualifications. First, that earlier Europe was not pre-industrial in any strict sense of the term. Dispersed, small-scale manufacturing played an important part in rural and small-town life, occupying a significant share of the population at least part-time. People working in small-scale industry were a relatively mobile segment of the population. They also comprised an important fraction of the European proletariat. Second, most of the moves were quite local. They consisted largely of exchanges of labor among nearby villages, and of a small city's recruitment of youngsters from its immediate hinterland. Third, the most active migrants were proletarians. Proletarianization itself produced migration, as when a household displaced by enclosures left the land or when an extra child of a peasant family trudged off to work as a mercenary soldier or domestic servant. In addition, the proletarian worker had the least to tie him to any particular locality, the greatest incentive to follow the scent of better wages into a new labor market. The local authorities of seventeenth-century England considered the

ever-present wanderers as potential workers in good times, but "vagrants" in bad times (Slack 1974). In good times or bad, they were quintessential proletarians.

Long-distance migration probably became an increasingly common context of proletarianization during the nineteenth century. Average distances moved increased, the definitiveness of departure from home probably increased as well, and the growth in scale of production diminished the likelihood that an expanding firm could draw its new workers from its region's existing proletarians. Furthermore, as Abel Châtelain has pointed out, the innumerable circuits of seasonal migration that permitted people to lead a non-proletarian existence at least part of the year finally began to disintegrate during the nineteenth century. Two opposite movements -- short-distance commuting and definitive long-distance migration -- began replacing them. Nevertheless, even during the nineteenth century the new industrial labor force came largely from small towns and rural areas in which small-scale industrial production was declining (see, e.g., Braun 1965, Kellenbenz 1975, Lequin 1977, L. Tilly 1973). If so, small towns and rural areas continued to serve as important way-stations on the road to the proletariat.

The pattern of proletarian geographic mobility affected the way social mobility and natural increase performed as component of the proletariat's growth. The existence of well-established flows of migrants probably facilitated the proletarianization of the

population in two ways. First, it helped produce a whole series of intermediate positions between the full artisan or peasant and the full proletarian -- the Alpine peasant who walked off to be a peddler in the winter, the weaver who followed the harvest in the fall, and so on (see Chatelain 1976 for multiple examples). Temporary expedients imperceptibly became a proletarian life. Second, the existence of well-established migratory flows withdrew the proletarianizing populations from the communities in which they had rights and solidarity, and placed them in communities in which they had neither.

If the choice had been sharper and more dramatic in either regard, one might suppose that the proletarians would have resisted their fate with greater determination and effectiveness. When the choice was sharp and the proletarianizing populations were still embedded in their communities, they did often fight back against expropriation. They fought by attacking others who were seizing control of the means of production. They also fought by adopting family strategies that limited the strain on household resources: strategies of late marriage, low fertility, regrouped inheritance, and so on. That fight against proletarianization pervades eighteenth-century peasant struggles against enclosures and alienation of common rights, nineteenth-century artisanal struggles against work discipline, twentieth-century winegrowers' struggles against big producers. It was a losing battle, but passionately fought.



## Weighing the Components

Anyone who has watched how the evidence has leaked into and out of this discussion will realize that I am in no position to build estimates of the components of proletarianization that will hold water. For the sake of refocusing the inquiry, however, we may as well speculate about the relative weights of social mobility, natural increase, and net migration. Remember first the approximations of the European proletariat's size. In millions, the numbers run:

	<u>1500</u>	<u>1800</u>	<u>1900</u>
total population	56	150	285
non-proletarians	39	50	85
proletarians	17	100	200

Remember also that the likely effect of net migration on the proletarian population of the continent was a small loss before 1800, and a large loss -- on the order of 50 million -- during the nineteenth century. If we set the loss from 1500 to 1800 at a modest 10 million (a mere 33 thousand per year) and retain the estimate of 50 million for 1800-1900, we arrive at guesses of the amounts of change attributable to the sum of social mobility and natural increase:

	<u>1500-1800</u>	<u>1800-1900</u>
total population	+104 (0.3)	+185 (0.8)

non-proletarians	+11 (0.1)	+35 (0.5)
proletarians	+93 (0.6)	+150 (0.9)

(The figures in parenthesis represent the implied annual rates of growth.) For the three centuries from 1500 to 1800, the figures indicate a mild increase for the non-proletarian population, a significant increase for the proletarians. In the nineteenth century, they indicate substantial increases in both categories, with the proletariat growing almost twice as fast as the non-proletarian population.

Imagine a non-proletarian population with zero natural increase: a population which simply reproduced itself over the four centuries under examination. That would be consistent with the models of peasant and artisanal demographic behavior reviewed earlier. With zero natural increase in the non-proletarian population, the figures would imply that a) the net increase of 11 million non-proletarians between 1500 and 1800 was entirely due to social mobility out of the proletariat; b) the European proletariat added 104 million via natural increase, and lost 11 million of them to social mobility. Those implications are, to say the least, unconventional. For the nineteenth century, the same assumption of zero natural increase among non-proletarians would suggest an even more surprising pair of conclusions: that c) from 1800 to 1900 the net effect of social mobility was not to create massive numbers of new proletarians, but to move 35 million people out of the proletariat into non-proletarian positions; d)

the natural increase of the proletarian population was on the order of 185 million people: about 1.1 percent per year over the century as a whole.

Note that we are imagining net effects. For example, a net gain of 11 million non-proletarians via social mobility could easily mean that 25 million proletarians moved into non-proletarian positions while 14 million non-proletarians moved into the proletariat. Likewise, the nineteenth-century transfer from proletariat to non-proletariat could result from, say, 60 million moves out of the proletariat balanced by 25 million moves into the proletariat. From a technical point of view, there is nothing implausible about the levels of natural increase the figures suggest; for example, an average crude birth rate of 35 coupled to an average crude death rate of 24 would produce the sort of natural increase indicated for proletarians in the nineteenth century.

For the sake of a contrasting argument, let us imagine equal rates of natural increase among proletarians and non-proletarians. The rates of natural increase are equal to the annual rates of growth of the total European population plus the migration rate: 0.4 percent per year from 1500 to 1800, 0.8 percent per year from 1800 to 1900. Again, these figures are perfectly acceptable from a strictly technical point of view. Under the assumption of equal natural increase, our general figures imply an accounting of the following order: a) that between 1500 and 1800 non-proletarians

Table 4. Components of Growth in the Total, Non-Proletarian and Proletarian Population of Europe, 1500-1900, under Alternative Assumptions (millions of people)

	<u>total</u>	<u>non-proletarian</u>	<u>proletarian</u>
number in 1500	56	39	17
number in 1800	150	50	100
change, 1500-1800	+94	+11	+83
estimate of net migration, 1500-1800	-10	0	-10
estimated sum of social mobility, natural increase, 1500-1800	+104	+11	+93
implied annual percent increase	0.4	0.1	0.6
natural increase under Zero Hypothesis	+104	0	+104
social mobility under Zero Hypothesis	0	+11	-11
natural increase under Equal Hypothesis	+104	+72	+32
social mobility under Equal Hypothesis	0	-61	+61
number in 1900	285	85	200
change, 1800-1900	+135	+35	+100
estimate of net migration, 1800-1900	-50	0	-50
estimated sum of social mobility, natural increase, 1800-1900	+185	+35	+150
implied annual percent increase	0.8	0.5	0.9
natural increase under Zero Hypothesis	+185	0	+185
social mobility under Zero Hypothesis	0	+35	-35
natural increase under Equal Hypothesis	+185	+62	+123
social mobility under Equal Hypothesis	0	-27	+27

Zero Hypothesis: Non-proletarians have 0 natural increase (fertility = mortality)

Equal Hypothesis: Non-proletarians and proletarians have equal rates of natural increase ( = rate of increase of total population, net of migration).

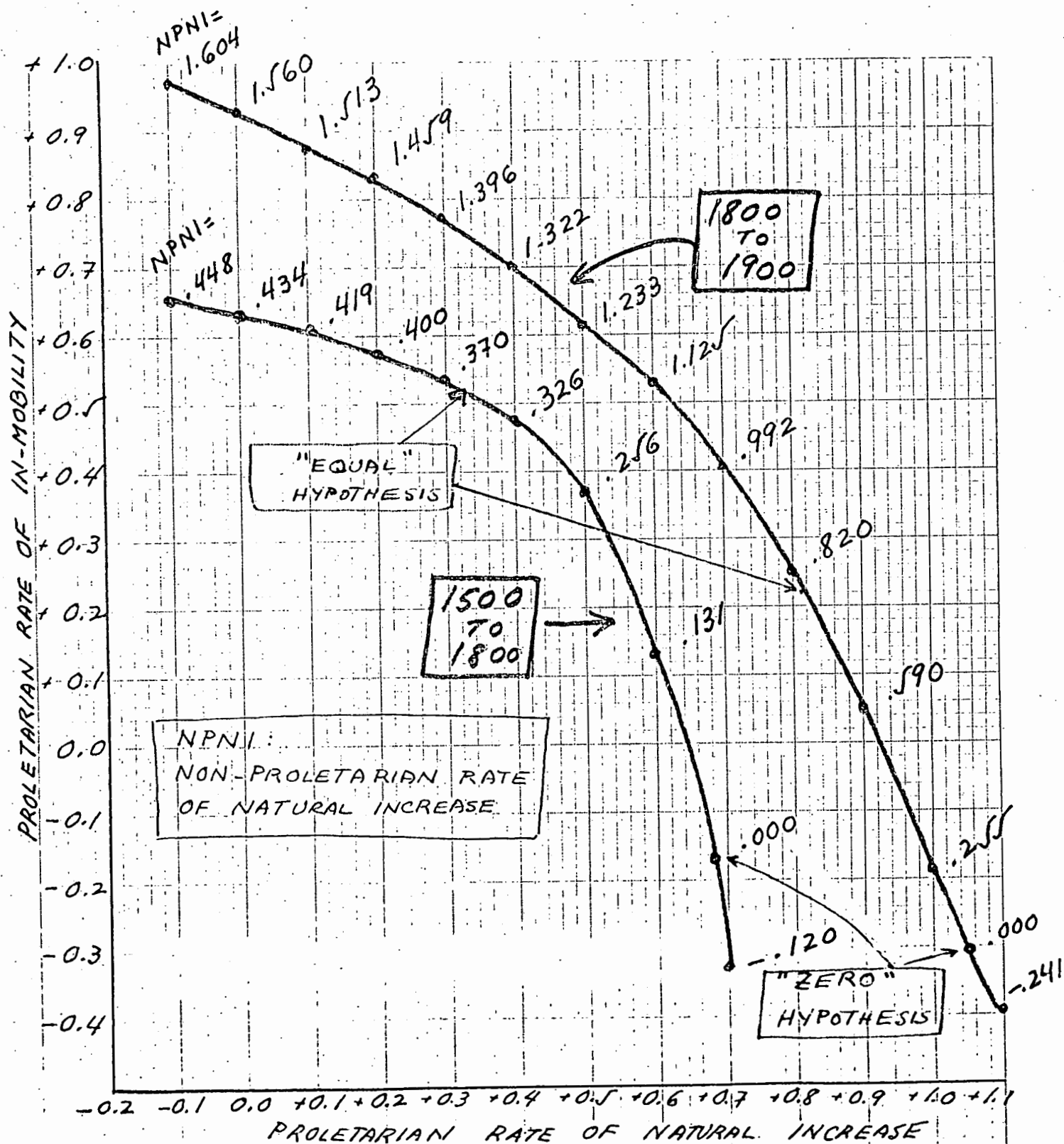
had a natural increase of 72 million people, counterbalanced by social mobility into the proletariat of 61 million; b) that in the same period proletarians experienced a natural increase of 32 million people, received 61 million newcomers via social mobility, and lost 10 million through migration from Europe; c) that during the nineteenth century the non-proletarian population added 62 million people through natural increase, and lost 27 million to social mobility; d) that during the same century the proletariat augmented its 27-million-person gain from social mobility with a natural increase of 123 million people, but exported 50 million of its members overseas.

We have, then, two extreme models: one with zero natural increase for non-proletarians, the other with non-proletarians experiencing the same natural increase as proletarians. The Zero Increase model suggests some departure of proletarians from the proletariat before 1800, a massive movement out of the proletariat during the nineteenth century. The Same Increase model suggests a huge transfer of non-proletarians into the proletariat before 1800, and a more modest transfer in the same direction from 1800 to 1900.

Figure 3 locates the Zero and Equal hypotheses within the range of likely combinations of natural increase and social mobility. Using Figure 3, we can construct any number of other hypotheses. Yet the graph makes clear that if my assumptions about net migration and about the magnitude of increase in the

Figure 3. Proletarian Rate of In-Mobility and Non-Proletarian Rate of Natural Increase as a Function of Proletarian Rate of Natural Increase for Europe as a Whole, 1500-1800 and 1800-1900

(All rates in percent change per year.)



proletariat are correct, plausible hypotheses all lie within a fairly narrow range. The Zero Hypothesis, as the graph shows, marks an extreme; it requires exceptional rates of proletarian natural increase and of mobility out of the proletariat, especially after 1800. The Equal Hypothesis positions itself on more plausible terrain. Before 1800, however, it requires a very high rate of social mobility into the proletariat: about 0.5 percent per year. If we were willing to contemplate even higher rates of social mobility, the graph shows the possibility of a **truly** extreme hypothesis: that non-proletarian natural increase ran substantially ahead of proletarian natural increase.

The reality and all useful models of it lie between the two extremes. We could, for example, reasonably argue that natural increase declined earlier among non-proletarians than among proletarians, and that we should therefore shift from the Same Increase model toward the Zero Increase model as time moves on; that suggests, however, a zigzag: huge moves into the proletariat before 1800, large moves out of the proletariat between 1800 and 1900. Unconventional? Yes. Absurd? Perhaps. Yet that very absurdity has its value. For it clears the way to the real challenge: to fashion these crude estimates and fragile models into genuine portrayals of the proletariat's growth. The speculative reasoning we have just gone through actually imposes serious constraints on those portrayals. For instance:

1. By any reasonable argument, natural increase must have played the major role in the growth of the European

proletariat since 1500, and especially since 1800.

2. Well-grounded estimates of fertility, mortality, and their trends among specific European populations will set serious limits on the part that social mobility could have played in the proletarianization of those populations; to the extent that the patterns and trends are similar from one population to another, they will set limits on the possible role of social mobility in the growth of the whole European proletariat.
3. Earlier, I sketched the argument that non-proletarians tend to adjust their fertility to the availability of land and capital, while proletarians adjust their fertility to the availability of wages. That argument can be verified, modified, and refined through the examination of local populations. To the extent that it applies in a similar fashion throughout Europe, it limits the assumptions we can plausibly make concerning the trends in natural increase among proletarian and non-proletarian populations from 1500 to 1900.

Thus reasoning about the broad trends for Europe as a whole clarifies what sorts of conclusions we need to draw from the local studies of demographic processes that are now proliferating.

Let me stress that outcome. The numbers with which we have been working are temporary constructions, useful mainly as shelter while we catch our bearings. In the long run, they will not withstand the historical wind. Two sorts of new building are essential. First, the broad estimates must be verified, revised, and refined. Even if the numbers I have proposed were precise and reliable, they would leave us far from the historical reality we are trying to understand. Most pressing is the need to specify the actual flows into and out of the proletariat which leave the net effects we have been discussing. How many people, for example, spent their lives straddling the line between proletarian



and non-proletarian existence by alternating between wage labor and independent production? How many proletarian emigrants actually realized the recurrent migrant dream: to accumulate capital at their destinations, then return home as peasants, artisans, rentiers, or capitalists?

Second, the sharp distinctions among migration, natural increase and social mobility will eventually have to give way. We must examine their combinations and interactions. How often were the people who made the lifetime move from non-proletarian to proletarian households "extra" children of peasants and artisans, thus in some sense creatures of natural increase? How frequently did social mobility occur as a correlate or consequence of long-distance migration? Was exclusion of squatters and tenants from common rights, and thus from the village, the potent proletarianizer it seems to have been? For such questions, more reliable estimates of the components of growth at a continental scale will be of little help. We need precise, textured local analyses.

### Conclusions

In hacking out the contours of this massive problem, then, I have neglected all the graceful refinements that make the problem interesting. For example, the detailed timetable of proletarianization matters a good deal. Cottage industry and agricultural wage-labor seem to have expanded much more rapidly in the seventeenth and, especially, the eighteenth century than

before. Yet there was a good deal of population increase in Europe during the sixteenth century. Is it possible that during the sixteenth century peasants, artisans, and other non-proletarians increased more rapidly than the general population, and that it was therefore a century of de-proletarianization?

The geography of proletarianization likewise cries out for attention. At a minimum we need contrasts among the legal enserfment of essentially landless laborers on the large estates of eastern Europe, the creation of a legally free proletarian labor force in England, and the emergence of landowning peasants and cash-crop farmers in important parts of western Europe.

Finally, an historically useful portrayal cannot stop with the tabulation of social mobility, natural increase, and net migration as separate components. It must specify their interplay. All this requires a more refined analysis than I have provided here.

Qualifications, hesitations, and apologies duly registered, what provisional conclusions may we draw? Where **did** the European proletariat come from? One answer recurs through the arguments and evidence of this paper: Cherchez le capitaliste. The activity of capitalists, not the abstract mechanics of population growth, lay behind all the components of the proletariat's growth. On the side of social mobility, we have encountered the old processes of capitalist expropriation, although less frequently than the

simplest Marxist accounts lead us to expect. More often, the piece-by-piece consolidation of land and capital by small producers gradually but inexorably edged their neighbors into the proletariat.

In migration, the capitalist's hand is gloved, but no less powerful: To the extent that capitalists accomplished expropriation and the imposition of control over labor by transferring capital from one worksite to another, and thus attracted proletarianizing flows of migrants, they did the work more subtly and effectively.

The most surprising implication of this paper's analysis, however, is the importance of capitalists in natural increase. Perhaps there was some "exogenous" decline in mortality due to climatic shifts, extinction of the natural carriers of the plague, and so on. But the alterations in nutrition which are the strongest candidates for explanations of involuntary long-term changes in fertility and mortality before the nineteenth century surely depended to an important degree on the activities of merchants and agricultural capitalists. And -- most important -- the pattern of proletarian natural increase in response to the availability of wage labor we have encountered depended entirely on the capitalists' provision of employment. Specialist farmers who offered work to day-laborers and petty entrepreneurs who built cottage industry thereby incited the disproportionate natural increase of the proletariat. Not that they plotted to do so, or

ceased to condemn the heedless breeding of their workers. The power of a system like capitalism is that it does not require malevolent, or even self-conscious, agents to do its work.

Back at the start of this long discussion I said there were three steps to the appropriate sociological procedure: the delineation of the components of growth, the separate explanation of each of the components, and the integration of those explanations into a comprehensive account of the whole process. We have not, by any means, completed that entire program. Yet the fragmentary observations we have made point to the utility of a modified Marxist account of European proletarianization. The most important modification consists of the large significance attributed to natural increase within the existing proletariat. Marx implicitly made lifetime entries of non-proletarians -- that is, social mobility -- the major component of the proletariat's increase. The modification fits nicely with that brand of Marxist analysis, typified by E.P. Thompson, which emphasizes the continuity of working-class culture from one generation to the next.

**APPENDIX: The Rate of Proletarianization, its Components, and its Likely Determinants**

**T:** total hours per year spent in productive labor

**L:** hours per year spent in labor controlling the means of production

**D:** hours per year spent in dependent labor =  $T - L$

**W:** hours per year spent in labor for wages

**e:** level of expropriation =  $D/T$      $\dot{e}$ : rate of change in e

**w:** wage dependence =  $W/T$      $\dot{w}$ : rate of change in w

**P:** level of proletarianization =  $e \times w$

$\dot{P}$ : rate of proletarianization =  $\dot{e} + \dot{w}$

Determinants of Increase  
in Wage Labor

demand for goods and services (-)

cost of establishing new  
production units ((+)

concentration of capital (+)

coercive power of employers (+)

Determinants of Increase  
in Potential Workforce

demand for goods and services (+)

opportunity cost of  
childbearing (-)

existing level of prole-  
tarianization (+)

natural fluctuations (+)

Hence Proletarianization is Likely to Occur under These Conditions:

1. increases in the cost of establishing new producing units;
2. concentration of capital;
3. increases in the coercive power of employers;
4. declines in the opportunity cost of childbearing;
5. previous proletarianization.

## GENERAL NOTE

Previous versions of this paper have taken shape as an address to the American Historical Association (1976); as "Sociology, History and the Origins of the European Proletariat" (CRSO Working Paper 148, 1976), and as "Demographic Origins of the European Proletariat" (CRSO Working Paper 207, 1979). The reactions of audiences at the University of Michigan, the University of Missouri, the University of Utah, Emory University, California Institute of Technology and a number of other places have stimulated some of that incessant revision. Searching criticism, coupled with encouragement to keep on revising, have come from Ron Aminzade, Rod Aya, John Knodel, David Levine, Franklin Mendels, Richard Tilly, Jan de Vries, and David Weir. I am especially grateful to Knodel for challenging my demographic thinking, and to Mendels, de Vries, and Weir for saving me from technical blunders. A major part of the formalization derives from advice given me by Mendels; I have not, however, adopted his intriguing idea of incorporating the intensity of work directly into the definition of proletarianization. I owe thanks to Martha Guest, Cecilia Brown, Joan Skowronski, Dawn Hendricks, and Phil Soergel for help with bibliography, to Rose Siri and Sheila Wilder for help in producing the paper. The Horace Rackham School of Graduate Studies (University of Michigan) and the National Science Foundation have supported the work on European social change which lies behind this paper.

## BIBLIOGRAPHY

NOTE: In addition to each item cited in the text, I have included a number of historical surveys which shed light on the creation of the European proletariat, a few relevant theoretical essays, and a great many local or regional studies which contain evidence on one aspect of proletarianization or another. For syntheses and bibliographies of major literatures on which the paper draws, see especially Blum 1978, Braverman 1974, Cipolla 1976, Goody, Thirsk and Thompson 1976, Kellenbenz 1976, Kriedte, Medick and Schulumbohm 1977, Landes 1969, Lis and Soly 1979, McKeown 1976, Milward and Saul 1973, Slicher van Bath 1977, C. Tilly 1975, 1978a, 1978b, 1979, 1982, L. Tilly and J. Scott 1978, R. and C. Tilly 1971, de Vries 1976.

Wilhelm Abel

1974 Massenarmut und Hungerkrisen im Vorindustriellen Europa. Hamburg/Berlin: Paul Parey.

Gerhard Adelman

1979 "Die landlichen Textilgewerbe des Rheinlandes vor der Industrialisierung," Rheinische Vierteljahrsblätter 43: 260- 288.

Kurt Ågren et al.

1973 Aristocrats, Farmers, Proletarians. Essays in Swedish Demographic History. Uppsala: Almqvist & Wiksell. Studia Historica Upsaliensia, 47.

Sune Åkerman, Hans Christian Johansen, and David Gaunt, eds.

1978      Chance and Change: Social and Economic Studies in Historical Demography in the Baltic Area. Odense: Scandinavian Universities Press.

Eric L. Almqvist

1979      "Pre-Famine Ireland and the Theory of European Proto-industrialization: Evidence from the 1841 Census," *Journal of Economic History* 39: 699-718.

Perry Anderson

1974      Lineages of the Absolutist State. London:NLB.

Rudolf Andorka

1979      "Family Reconstitution and Types of Household Structure," in Jan Sundin and Eric Soderlund, eds., *Time, Space and Man*. Stockholm: Almqvist & Wiksell International.

Stanley Aronowitz

1978      "Marx, Braverman, and the Logic of Capital," *Insurgent Sociologist* 8: 126-146.

Lothar Baar

1968      "Probleme der industriellen Revolution in grosstädtischen Industriezentren. Das Berliner Beispiel," in Wolfram Fischer, ed., *Wirtschafts- und sozialgeschichtliche Probleme der frühen Industrialisierung*. Berlin: Colloquium Verlag.

Klaus J. Bade

1982      "Transnationale Migration und Arbeitsmarkt im Kaiserreich. Vom Agrarstaat mit starker Industrie zum Industriestaat mit starker agrarischen Basis," in Toni Pierenkemper & Richard Tilly, eds., *Historische Arbeitsmarktforschung. Entstehung, Entwicklung und Probleme der Vermarktung von Arbeitskraft*. Göttingen: Vandenhoeck & Ruprecht.

Paul Bairoch

1977      Taille des villes, conditions de vie et développement économique. Paris: Ecole des Hautes Etudes en Sciences Sociales.

Paul Bairoch & J.-M. Limbor

1968 "Changes in the Industrial Distribution of the World Labour Force, by Region, 1880-1960," International Labor Review 98: 311-336.

A.L. Beier

1978 "Social Problems in Elizabethan London," Journal of Interdisciplinary History 9: 203-221.

J.R. Bellerby

1958 "The Distribution of Manpower in Agriculture and Industry 1851-1951," The Farm Economist 9: 1-11.

Reinhard Bendix

1956 Work and Authority in Industry. Ideologies of Management in the Course of Industrialization. New York: Wiley.

Lutz Berkner

1977 "Peasant Household Organization and Demographic Change in Lower Saxony (1668-1766)," in Ronald Lee, ed., Population Patterns in the Past. New York: Academic Press.

Lutz Berkner and Franklin F. Mendels

1978 "Inheritance Systems, Family Structure, and Demographic Patterns in Western Europe, 1700-1900," in Charles Tilly, ed., Historical Studies of Changing Fertility. Princeton: Princeton University Press.

Karlheinz Blaschke

1967 Bevölkerungsgeschichte von Sachsen bis zur industriellen Revolution. Weimar: Böhlhaus.

Grethe Authén Blom, ed.

1977 Industrialiseringens første fase. Oslo: Universitetsforlaget. Urbaniseringsprosessen i Norden, 3.

Jerome Blum

1978 The End of the Old Order in Rural Europe. Princeton: Princeton University Press.

Willi A. Boelcke

1967 "Wandlungen der dorflichen Sozialstruktur während Mittelalter und Neuzeit," in Heinz Haushofer & Willi A. Boelcke, eds., Wege und



Forschungen der Agrargeschichte. Frankfurt a/Main: DLG Verlag.

Ingomar Bog

- 1975 "Über Arme und Armenfürsorge in Oberdeutschland in der Eidgenossenschaft im 15. und 16. Jahrhundert," Jahrbuch für frankische Landesforschung 34/35: 983-1001.

Douglas E. Booth

- 1978 "Karl Marx on State Regulation of the Labor Process: The English Factory Acts," Review of Social Economy 36: 137-158.

Peter Borscheid

- 1978 Textilarbeiterschaft in der Industrialisierung. Soziale Lage und Mobilität in Württemberg (19. Jahrhundert). Stuttgart: Klett-Cotta.

J. Bourget

- 1954 "Prolétarianisation d'une commune de l'agglomération parisienne: Colombes," La Vie Urbaine. Urbanisme et Habitation n.s.nos. 3 et 4: 185-194.

Samuel Bowles & Herbert Gintis

- 1975 "Class Power and Alienated Labor," Monthly Review 26: 9-25.

Robert Boyer

- 1979 "Wage Formation in Historical Perspective: The French Experience," Cambridge Journal of Economics 3: 99-118.

Fernand Braüdel

- 1979 Civilisation matérielle, économie et capitalisme, XVe-XVIIIe siècles. Paris: Colin. 3 vols.

Rudolf Braun

- 1960 Industrialisierung und Volksleben. Zurich: Rentsch.
- 1965 Sozialer und Kultureller Wandel in einem ländlichen Industriegebiet. Zurich: Rentsch.
- 1978 "Early Industrialization and Demographic Change in the Canton of Zurich," in Charles Tilly, ed., Historical Studies in Changing Fertility. Princeton: Princeton University Press.

Harry Braverman

- 1974 Labor and Monopoly Capital. The Degradation of Work in the Twentieth Century. New York: Wiley.

Robert Brenner

- 1976 "Agrarian class Structure and Economic Development in Pre-Industrial Europe," Past and Present 70: 30-75.
- 1977 "The Origins of Capitalist Development. A Critique of Neo-Smithian Marxism," New Left Review 104: 25-92.

John D. Buissink

- 1971 "Regional Differences in Marital Fertility in the Netherlands in the Second Half of the Nineteenth Century," Population Studies 25: 353-374.

C.J. Bukatsch

- 1951 "The Constancy of Local Population and Migration in England before 1800," Population Studies 5: 62-69.

Larry L. Bumpass

- 1969 "Age at Marriage as a Variable in Socio-economic Differentials in Fertility," Demography 6: 45-54.

Michael Burawoy

- 1979a "Towards a Marxist Theory of the Labor Process: Braverman and Beyond," Politics and Society 8 (3-4):247-312.
- 1979b Manufacturing Consent. Changes in the Labor Process under Monopoly Capitalism. Chicago: University of Chicago Press.

John C. Caldwell

- 1976 "Towards a Restatement of Demographic Transition Theory," Population and Development Review 2: 321-366.
- 1981 "The Mechanisms of Demographic Change in Historical Perspective," Population Studies 35: 5-27.

Gösta Carlsson

- 1970 "Nineteenth century fertility oscillations," Population Studies 24: 413-422.

N. Caulier-Mathy

- 1963-64 "La composition d'un prolétariat industriel. Les cas de l'entreprise Cockerill." *Revue d'Histoire de la Sidérurgie* 4: 207-222.
- Pierre Cayez
- 1981 "Une proto-industrialisation décalée: la ruralisation de la soierie lyonnaise dans la première moitié du XIXème siècle," *Revue du Nord* 63: 95-104.
- J.D. Chambers
- 1953 "Enclosure and the Labour Supply in the Industrial Revolution," *Economic History Review*, 2d series, 5: 319-343.
- 1957 *The Vale of Trent, 1670-1800. A Regional Study of Economic Change.* Cambridge: Cambridge University Press. *Economic History Review Supplements*, 3.
- 1965 "Three Essays on the Population and Economy of the Midlands," in D.V. Glass and D.E.C. Eversley, eds., *Population in History.* Chicago: Aldine.
- J.D. Chambers and G.E. Mingay
- 1966 *The Agricultural Revolution, 1750-1880.* London: Batsford.
- Hubert Charbonneau
- 1974 *Tourouvre-au-Perche aux XVIIe et XVIIIe siècles.* Paris: Presses Universitaires de France. Institut National d'Etudes Démographiques, *Travaux et Documents*, cahier 55.
- Serge Chassagne
- 1981 "Aspects des phénomènes d'industrialisation et de désindustrialisation dans les campagnes françaises au XIXème siècle," *Revue du Nord* 63: 35-58
- Abel Châtelain
- 1976 *Les migrants temporaires en France de 1800 à 1914: Histoire économique et sociale des migrants temporaires des campagnes françaises du XIXe siècle au début du XXe siècle.* Lille: Publications de l'Université de Lille. 2 vols.
- Pierre Chaunu
- 1970 *La civilisation de l'Europe classique.* Paris: Arthaud.
- A.V. Chayanov

- 1966 The Theory of Peasant Economy. Homewood, Illinois: Richard C. Irwin.
- Louis Chevalier
- 1958 Classes laborieuses et classes dangereuses. Paris: Plon.
- Helena Chojnacka
- 1976 "Nuptiality Patterns in an Agrarian Society," Population Studies 30: 203-226.
- Carlo Cipolla
- 1976 Before the Industrial Revolution. European Society and Economy, 1000-1700. New York: Norton.
- J.H. Clapham
- 1923 "The Growth of an Agrarian Proletariat, 1688-1832, A Statistical Note," Cambridge Historical Journal 1: 92-95
- L.A. Clarkson
- 1971 The Pre-Industrial Economy in England 1500-1750. London: Batsford.
- Hugh D. Clout
- 1977 "Industrial Development in the Eighteenth and Nineteenth Centuries," in Hugh D. Clout, ed., Themes in the Historical Geography of France. New York: Academic Press.
- Ansley Coale
- 1969 "The Decline of Fertility in Europe from the French Revolution to World War II," in S.J. Behrman et al., Fertility and Family Planning. Ann Arbor: University of Michigan Press.
- A.W.Coats
- 1967 "The Classical Economists and the Labourer," in E.L. Jones and G.E. Mingay, eds., Land, Labour and Population in the Industrial Revolution. Essays Presented to J.D. Chambers. London: Arnold.
- 1976 "The relief of poverty, attitudes to labour and economic change in England, 1660-1782," International Review of Social History 21: 98-115.
- Jon S. Cohen and Martin L. Weitzman

- 1975 "Enclosures and Depopulation: A Marxian Analysis," in William N. Parker and Eric L. Jones, eds., *European Peasants and their Markets*. Princeton: Princeton University Press.
- D.C. Coleman
- 1955-56 "Labour in the English Economy of the Seventeenth Century," *Economic History Review*, 2d series, 8: 280-295.
- E.J.T. Collins
- 1969 "Labour supply and demand in European agriculture 1800-1880," in E.L. Jones and S.J. Woolf, eds., *Agrarian Change and Economic Development. The Historical Problems*. London: Methuen.
- Patrick Colquhoun
- 1806 *A Treatise on Indigence*. London: J.Hatchard.
- 1815 *Treatise on the Wealth, Power and Response of the British Empire*. London: Joseph Mawman.
- J.P. Cooper
- 1967 "The Social Distribution of Land and Men in England, 1436-1700," *Economic History Review*, 2d series, 20: 419-440.
- Julian Cornwall
- 1967 "Evidence of Population Mobility in the Seventeenth Century," *Bulletin of the Institute of Historical Research* 40: 143-152.
- Alain Corbin
- 1975 *Archaïsme et modernité en Limousin au XIXe siècle*. Paris: Marcel Rivière: 2 vols.
- Marcel Couturier
- 1969 *Recherches sur les structures sociales de Châteaudun*. Paris: SEVPEN.
- Patricia Croot and David Parker
- 1978 "Agrarian Class Structure and Economic Development," *Past and Present* 78:37-46.
- Herman E. Daly

- 1971 "A Marxian-Malthusian View of Poverty and Development," *Population Studies* 25: 25-37.
- Mike Davis
- 1975 "The Stop Watch and the Wooden Shoe: Scientific Management and the Industrial Workers of the World," *Radical America* 9: 69-85.
- Natalie Zemon Davis
- 1968 "Poor relief, humanism and heresy: The case of Lyon," *Studies in Medieval and Renaissance History* 5: 217-275.
- Alan Dawley
- 1976 *Class and Community. The Industrial Revolution in Lynn.* Cambridge: Harvard University Press.
- Phyllis Deane and W.A. Cole
- 1967 *British Economic Growth, 1688-1959. Trends and Structure.* Cambridge: Cambridge University Press.
- Paul Deprez
- 1965 "The Demographic Development of Flanders in the Eighteenth Century," in D.V. Glass and D.E.C. Eversley, eds., *Population in History.* Chicago: Aldine.
- Bernard Desrouet
- 1980 "Une démographie différentielle: Clés pour un système auto-régulateur des populations rurales d'Ancien Régime," *Annales; Economies, Sociétés, Civilisations* 35: 3-41.
- Pierre Deyon
- 1967a *Amiens capitale provinciale. Etude sur la société urbaine au 17e siècle.* Paris: Mouton.
- 1967b "A propos du paupérisme au milieu du XVIIe siècle: Peinture et Charité chrétienne," *Annales: Economies, Sociétés, Civilisations* 22: 137-153.
- 1979a "L'Enjeu des discussions autour du concept de 'protoindustrialisation'," *Revue du Nord* 61: 9-15
- 1979b "La diffusion rurale des industries textiles en Flandre française à la fin de l'Ancien Régime et au début du XIXe siècle," *Revue du Nord* 61: 83-95.

- 1981 "Un modèle à l'épreuve, le développement industriel de Roubaix de 1762 à la fin du XIXème siècle," *Revue du Nord* 61: 59-66.
- H. van Dijk
- 1980 *Wealth and Property in the Netherlands in Modern Times.* Rotterdam: Centrum voor Maatschappijgeschiednis.
- Maurice Dobb
- 1963 *Studies in the Development of Capitalism.* London: Routledge & Kegan Paul; rev. edn.
- Folke Døving
- 1969 "Eighteenth-Century Changes in European Agriculture: A Comment," *Agricultural History* 43: 181-186.
- Michael Drake
- 1969 *Population and Society in Norway, 1735-1865.* Cambridge: Cambridge University Press.
- Robert S. DuPlessis & Martha C. Howell
- 1982 "Reconsidering Early Modern Urban Economy: The Cases of Leiden and Lille," *Past & Present* 94: 49-84.
- John D. Durand
- 1975 *The Labor Force in Economic Development. A Comparison of International Census Data 1946-1966.* Princeton: Princeton University Press.
- Stale Dyrvik
- 1972 "Historical Demography in Norway, 1660-1801: A Short Survey," *Scandinavian Economic History Review* 20: 27-44.
- Richard A. Easterlin
- 1978 "The Economics and Sociology of Fertility: A Synthesis," in Charles Tilly, ed., *Historical Studies of Changing Fertility.* Princeton: Princeton University Press.
- Richard Edwards
- 1978 "Social Relations of Production at the Point of Production," *The Insurgent Sociologist* 8: 109-125.

Mohamed El Kordi

1970 Bayeux aux XVIIe et XVIIIe siècles. Paris: Mouton.

Rudolf Endres

1975 "Das Armenproblem im Zeitalter des Absolutismus," Jahrbuch für Frankische Landesforschung 34-35: 1003-1020.

Ingrid Eriksson and John Rogers

1978 Rural labor and Population Change. Social and Demographic Development in East-central Sweden during the Nineteenth Century. Stockholm: Almqvist & Wiksell; Studia Historica Upsaliensia, 100.

Juan G. Espinosa and Andrew S. Zimbalist

1978 Economic Democracy. Workers' Participation in Chilean Industry 1970-1973. New York: Academic Press.

Alan Everitt

1967 "Farm Labourers," in H.P.R. Finberg, ed., The Agrarian History of England and Wales IV. 1500-1640. Cambridge: Cambridge University Press.

J.A. Faber et al.

1965 "Population Changes and Economic Developments in the Netherlands: A Historical Survey," A.A.G. Bijdragen 12: 47-114.

Wolfram Fischer

1963 "Soziale Unterschichten im Zeitalter der Frühindustrialisierung," International Review of Social History, 8:415-435.

Michael W. Flinn

1970 British Population Growth, 1700-1850. London: Macmillan.

1981 The European Demographic System, 1500-1820. Baltimore: Johns Hopkins University Press.

Michael Fores

1981 "The Myth of a British Industrial Revolution," History 66: 181-198.

John Foster



1974 Class Struggle and the Industrial Revolution. Early Industrial Capitalism in Three Towns. London: Weidenfeld & Nicolson.

Etienne Francois

1975 "Unterschichten und Armut in rheinischen Residenzstädten des 18. Jahrhunderts," Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte, 62: 433-464.

Gunther Franz

1970 Geschichte des deutschen Bauernstandes vom frühen Mittelalter bis zum 19. Jahrhundert. Stuttgart: Ulmer. Deutsche Agrargeschichte (Gunther Franz, ed.), IV.

Rainer Fremdling & Richard Tilly

1979 eds., Industrialisierung und Raum. Studien zur regionalen Differenzierung im Deutschland des 19. Jahrhunderts. Stuttgart: Klett-Cotta.

Herman Freudenberger

1960 "Industrialization in Bohemia and Moravia in the Eighteenth Century," Journal of Central European Affairs 19: 347-356.

1968 "Die Struktur der frühindustriellen Fabrik im Umriss (mit besonderer Berücksichtigung Böhmens)," in Wolfram Fischer, ed., Wirtschafts- und sozialgeschichtliche Probleme der frühen Industrialisierung. Berlin: Colloquium Verlag.

Gunnar Fridlitzius

1975 "Some New Aspects on Swedish Population Growth," Economy and History 18: 3-33, 126-154.

Dov Friedlander

1973 "Demographic Patterns and Socioeconomic Characteristics of the Coal-Mining Population in England and Wales in the Nineteenth Century," Economic Development and Cultural Change 22: 39-51.

Harriet Friedmann

1978 "World Market, State, and Family Farm: Social Bases of Household Production in the Era of Wage Labor," Comparative Studies in Society and History 20: 545-586.

Fridolin Furger

- 1927 Zum Verlagssystem als Organisationsform des Frühkapitalismus im Textilgewerbe. Stuttgart: W. Kohlhammer. Beihefte zur Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte, XI.
- Giorgio Gagliani
- 1981 "How Many Working Classes?" American Journal of Sociology 87: 259-285.
- D. Gallie
- 1978 In Search of the New Working Class. Automation and Social Integration within the Capitalist Enterprise. Cambridge: Cambridge University Press.
- Maurice Garden
- 1970 Lyon et les Lyonnais au XVIIIe siècle. Paris: Les Belles Lettres.
- David Gartman
- 1978 "Marx and the Labor Process: An Interpretation," The Insurgent Sociologist 8:97-108.
- David Gaunt
- 1976 Familj, Hushall och arbetsintensitet," Scandia 42: 32-59.
- 1977 "Pre-Industrial Economy and Population Structure: The Elements of Variance in Early Modern Sweden," Scandinavian Journal of History 2: 183-210.
- B. Geremek
- 1968 "La popolazione marginale tra il medioevo e l'era moderne," Studi Storici 9: 623-640.
- Herbert Gintis
- 1976 "The Nature of Labor Exchange and the Theory of Capitalist Production," Review of Radical Political Economy 8: 36-54.
- Jack Goody
- 1973 "Strategies of Heirship," Comparative Studies in Society and History 15:3-20.
- Jack Goody, Joan Thirsk, and E.P. Thompson, eds.

- 1976 Family and Inheritance: Rural Society in Western Europe 1200-1800. Cambridge: Cambridge University Press.
- David M. Gordon, Richard Edwards & Michael Reich
- 1982 Segmented work, divided workers. The historical transformation of labor in the United States. Cambridge: Cambridge University Press.
- Pierre Goubert
- 1968 Cent mille provinciaux au XVIIe siècle. Beauvais et le Beauvaisis de 1600 à 1730. Paris: Flammarion.
- 1969 L'Ancien Régime. I. La Société. Paris: Colin.
- Franz Gschwind
- 1977 Bevölkerungsentwicklung und Wirtschaftsstruktur der Landschaft Basel im 18. Jahrhundert. Liestal: Kantonal Drucksachen- und Materialzentrale.
- Philippe Guignet
- 1979 "Adaptations, mutations et survivances proto-industrielles dans le textile du Cambrésis et du Valenciennois du XVIIIème au début du XXème siècle," Revue du Nord 61: 27-59.
- Gay L. Gullickson
- 1981 "The Sexual Division of Labor in Cottage Industry and Agriculture in the Pays de Caux: Auffay, 1750-1850," French Historical Studies 12: 177-199.
- 1982 "Proto-industrialization, Demographic Behavior and the Sexual Division of Labor in Auffay, France, 1750-1850," Peasant Studies 9: 106-118.
- Myron P. Gutmann & René Leboutte
- 1979 "Early Industrialization and Population Change. Rethinking Proto-industrialization and the Family," Austin, Texas: Texas Population Research Center, Papers.
- Jean-Pierre Gutton
- 1974 La société et les pauvres en Europe, XVIe-XVIIIe siècles. Paris: Presses Universitaires de France.
- H.J. Habakkuk

- 1955 "Family Structure and Economic Change in Nineteenth-Century Europe," *Journal of Economic History* 15: 1-12.
- 1965 "La disparition du paysan anglais," *Annales; Economies, Sociétés, Civilisations* 20: 649-663.
- 1971 *Population Growth and Economic Development since 1750*. Leicester: Leicester University Press.

Michael Haines

- 1979 *Fertility and Occupation. Population Patterns in Industrialization*. New York: Academic Press.

John Hajnal

- 1982 "Two Kinds of Preindustrial Household Formation System," *Population and Development Review* 8: 449-494.

Carl Hammer

- 1976 "The Mobility of Skilled Labour in Late Medieval England. Some Oxford Evidence," *Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte* 63: 194-210.

Michael Hanagan

- 1980 *The Logic of Solidarity. Artisans and Industrial Workers in Three French Towns, 1871-1914*. Urbana: University of Illinois Press.

Gerhard Hanke

- 1969 "Zur Sozialstruktur der ländlichen Siedlungen Altbayerns im 17. und 18. Jahrhundert," in *Gesellschaft und Herrschaft. Forschungen zu sozial- und landgeschichtlichen Problemen vornehmlich in Bayern*. Munich: C.H. Beck.

Gerd H. Hardach

- 1969 *Der soziale Status des Arbeiters in der Frühindustrialisierung*. Berlin: Duncker & Humblot.

Hartmut Harnisch

- 1975 "Bevölkerung und Wirtschaft. Über Zusammenhänge zwischen sozialökonomischer Struktur und demographischer Entwicklung in Spätfeudalismus," *Jahrbuch für Wirtschaftsgeschichte* 1975 (II): 57-87.

1978 "Produktivkräfte und Produktionsverhältnisse in der Landwirtschaft der Magdeburger Börde von der Mitte des 18. Jh. bis zum Beginn der Zuckeruberanbaus in der Mitte der dreissiger Jahre des 19. Jh.," in Hans-Jürgen Rach & Bernhard Weissel, eds., Landwirtschaft und Kapitalismus. Berlin: Akademie Verlag.

William Hasbach

1920 A History of the English Agricultural Labourer. London: P.S. King.

Herve Hasquin

1971 Une mutation. Le "Pays de Charleroi" aux XVIIe et XVIIIe siècles. Brussels: Editions de l'Institut de Sociologie, Université Libre de Bruxelles.

Friedrich-Wilhelm Henning

1977 "Der Beginn der modernen Welt im agrarischen Bereich," in Reinhart Koselleck, ed., Studien zum Beginn der modernen Welt. Stuttgart: Klett-Cotta.

1978 "Humanisierung und Technisierung der Arbeitswelt. Über den Einfluss der Industrialisierung auf die Arbeitsbedingungen im 19. Jahrhundert," in Jürgen Reulecke & Wolfhard Weber, eds., Fabrik, Familie, Feierabend. Wuppertal: Peter Hammer.

David G. Hey

1969 "A Dual Economy in South Yorkshire," The Agricultural History Review 17: 108-119.

Christopher Hill

1952 "Puritans and the Poor," Past and Present 2: 32-50.

1967 "Pottage for Freeborn Englishmen: Attitudes to Wage Labour in the Sixteenth and Seventeenth Centuries," in C.H. Feinstein, ed., Socialism, Capitalism and Economic Growth. Essays Presented to Maurice Dobb. Cambridge: Cambridge University Press.

R.H. Hilton

1975 The English Peasantry in the Later Middle Ages. Oxford: Oxford University Press.

Kurt Hinze

1963 Die Arbeiterfrage zu Beginn des modernen Kapitalismus in Brandenburg-Preussen, 1685-1806. Berlin: Walter de Gruyter. 2d.

edn.

E.J. Hobsbawm

- 1980 "Scottish Reformers of the Eighteenth Century and Capitalist Agriculture," in E.J. Hobsbawm et al., eds., *Peasants in History. Essays in Honour of Daniel Thorner*. Calcutta: Oxford University Press.

E.W. Hofstee

- 1968 "Population Increase in the Netherlands," *Acta Historiae Neerlandica* III: 43-125.

Erland Hofsten & Hans Lundstrom

- 1976 *Swedish Population History. Main Trends from 1750 to 1970*. Stockholm: Statistiska Centralbyran Urval. no. 8.

Gerd Høhorst

- 1977 *Wirtschaftswachstum und Bevölkerungsentwicklung in Preussen 1816-1914*. New York: Arno Press.

- 1982 "Protoindustrialisierung in Übergang zum industriellen Kapitalismus: Die demoökonomische Entwicklung im Kreis Hagen 1817 bis 1863," in Pierre Deyon & Franklin Mendels, eds., *Protoindustrialisation: Théorie et réalité*. Lille: Université des Arts, Lettres, et Sciences Humaines.

B.A. Holderness

- 1972 "'Open' and 'Close' Parishes in England in the Eighteenth and Nineteenth Centuries," *Agricultural History Review* 22: 126-138.

T.H. Hollingsworth

- 1971 "Historical Studies of Migration," *Annales de demographie Historique* 1970: 87-96.

David W. Howell

- 1978 *Land and People in Nineteenth-Century Wales*. London: Routledge & Kegan Paul.

Olwen H. Hufton

- 1974 *The Poor of Eighteenth-Century France, 1750-1789*. Oxford: Clarendon Press.

Volker Hunecke

- 1978        Arbeiterschaft und Industrielle Revolution in Mailand 1859-1892.  
Göttingen: Vandenhoeck & Ruprecht.

James P. Huzel

- 1980        "The Demographic Impact of the Old Poor Law: More Reflexions on  
Malthus," Economic History Review n.s. 33: 367-381.

Kristian Hvidt

- 1975        Flight to America. The Social Background of 300,000 Danish  
Emigrants. New York: Academic Press.

V.K. Iatsunsky

- 1965        "Formation en Russie de la grande industrie textile sur la base de  
la production rurale," Second International Conference of Economic  
History. Aix-en-Provence 1962. Paris: Mouton. Vol. II: 365-376.

- 1971        "Le role des migrations et de l'accroissement naturel dans la  
colonisation des nouvelles régions de la Russie," Annales de  
Démographie Historique 1970: 302-312.

Arthur Erwin Imhof

- 1976        Aspekte der Bevölkerungsentwicklung in den nordischen Ländern  
1720-1750. Bern: Francke Verlag. 2 vols.

Maths Isacson

- 1979        Ekonomisk tillvaxt och social differentiering 1680-1860.  
Bondeklassen i By socken, Kopparbergs lan. Stockholm: Almqvist &  
Wiksell International.

Carl Jantke

- 1965        Der Urbanisierungsprozess dargestellt am Beispiel der Stadt Köln.  
Cologne: Rheinisch-Westfälischen Wirtschaftsarchiv zu Köln.  
Schriften zur Rheinisch-Westfälischen Wirtschaftsgeschichte, 30.

Hans Christian Johansen

- 1975        Befolkningsudvikling og familie Struktur: Det 18. arhundrede.  
Odense: Odense University Press.

Arthur Henry Johnson

- 1909        The Disappearance of the Small Landowner. Oxford: The Clarendon

Press.

Robert Eugene Johnson

- 1979 Peasant and Proletarian. The Working Class of Moscow in the Late Nineteenth Century. New Brunswick: Rutgers University Press.

E.L. Jones

- 1964 "The Agricultural Labour Market in England, 1793-1872," Economic History Review 17: 322-338.

- 1968 "The Agricultural Origins of Industry," Past and Present 40: 58-71.

Lennart Jörberg

- 1972a "The Development of Real Wages for Agricultural Workers in Sweden During the 18th and 19th Centuries," Economy and History 15: 41-57.

- 1972b A History of Prices in Sweden 1732-1914. Lund: Gleerup. 2 vols.

Etienne Juillard, ed.

- 1976 Apogée et crise de la civilisation paysanne. Paris: Seuil. Histoire de la France rurale (Georges Duby and Armand Wallon eds.), t. 3.

Eino Jutikkala

- 1975 "Large-Scale Farming in Scandinavia in the Seventeenth Century," The Scandinavian Economic History Review 23: 159-166.

Ann-Sofie Källemark

- 1977 "The Country that Kept Track of Its Population," Scandinavian Journal of History 2: 211-230.

Jeffrey Kaplow

- 1972 The Names of Kings. The Parisian Laboring Poor in the Eighteenth Century. New York: Basic Books.

Hermann Kellenbenz

- 1965 "Ländliches Gewerbe und bauerliches Unternehmertum in Westeuropa von Spätmittelalter bis ins XVIII. Jahrhundert," Second International Conference of Economic History. Aix en Provence 1962. Paris: Mouton. Vol II: 377-428.



1975 Agrarisches Nebengewerbe und Formen der Reagrarisierung im Spätmittelalter und 19./20. Jahrhundert. Stuttgart: Gustav Fischer. Forschungen zur Sozial- und Wirtschaftsgeschichte, 21.

1976 The Rise of the European Economy. An economic history of Continental Europe from the fifteenth to the eighteenth century. London: Weidenfeld & Nicolson.

J. Thomas Kelly

1977 Thorns on the Tudor Rose. Monks, Rogues, Vagabonds, and Sturdy Beggars. Jackson: University Press of Mississippi.

Hubert Kieseewetter

1980 "Bevölkerung, Erwerbstätige und Landwirtschaft im Königreich Sachsen 1815-1871," in Sidney Pollard, ed., Region und Industrialisierung. Studien zur Rolle der Region in der Wirtschaftsgeschichte der letzten zwei Jahrhunderte. Göttingen: Vandenhoeck & Ruprecht.

Gregory King

1936 [1696] "Naturall and Politicall Observations and Conclusions upon the State and Condition of England," in G.E. Barnett, ed., Two Tracts by Gregory King. Baltimore: Johns Hopkins University Press. First published in 1696.

Bernard Kirchgassner

1974 "Der Verlag im Spannungsfeld von Stadt und Umland," in Eric Maschke & Jürgen Sydow, eds., Stadt und Umland. Protokoll der X. Arbeitstagung des Arbeitskreises für sudwestdeutsche Stadtgeschichtsforschung. Stuttgart: Köhlhammer. Veröffentlichungen der Kommission für Geschichtliche Landeskunde in Baden-Württemberg, Reihe B, 82. Pp. 72-128.

Herbert Kisch

1981 Die Hausindustriellen Textilgewerbe am Niederrhein vor der industriellen Revolution. Von der unursprünglichen zur kapitalistischen Akkumulation. Göttingen: Vandenhoeck & Ruprecht.

Arnost Klíma

1965 "The Domestic Industry and the Putting-out System (Verlags-System) in the Period of Transition from Feudalism to Capitalism," Second International Conference of Economic History, Aix en Provence 1962, Paris: Mouton. Vol. II: 477-82.

1968 Die Entstehung der Arbeiterklasse und die Anfänge der Arbeiterbewegung in Böhmen," in Wolfram Fischer, ed., Wirtschafts- und sozialgeschichtliche Probleme der frühen Industrialisierung. Berlin: Colloquium Verlag.

1974 "The Role of Rural Domestic Industry in Bohemia in the Eighteenth Century," Economic History Review 27: 48-56.

John Knodel

1977 "Family Limitation and the Fertility Transition: Evidence from the Age Patterns of Fertility in Europe and Asia," Population Studies 3: 481-521.

1978 "Natural Fertility in Pre-Industrial Germany," Population Studies 32: 481-510.

1979 "From Natural Fertility to Family Limitation: The Onset of Fertility Transition in a Sample of German Villages," Demography 16: 493-521.

1982 "Demographic Transitions in German Villages," Research Reports, Population Studies Center, University of Michigan.

John Knodel & C. Wilson

1981 "The Secular Increase in Fecundity in German Village Populations: An Analysis of Reproductive Histories of Couples Married 1750-1899," Population Studies 35: 53-84.

John Knodel and Etienne van de Walle

1979 "Lessons from the Past: Policy Implications of Historical Fertility Studies," Population and Development Review 5: 217-245.

Wolfgang Köllmann

1974 Bevölkerung in der industriellen Revolution. Göttingen: Vandenhoeck & Ruprecht. Kritische Studien zur Geschichtswissenschaft, 12.

1977 "Zur Bevölkerungsentwicklung der Neuzeit," in Reinhart Koselleck, ed., Studien zum Beginn der Modernen Welt. Stuttgart: Klett-Cotta.

Walter Korpi

1978 The Working Class in Welfare Capitalism. Work, Unions and Politics in Scandinavia. London: Routledge and Kegan Paul.

Leszek A. Kosinski

1970 The Population of Europe. A Geographical Perspective. London: Longmans.

J.T. Krause

1967 "Some Aspects of Population Change, 1690-1790," in E.L. Jones and G.E. Mingay, eds., Land, Labour and Population in the Industrial Revolution. London: Arnold.

Peter Kriedte

1982 "Die Stadt im Prozess der europäischen Proto-Industrialisierung," in Pierre Deyon & Franklin Mendels, eds., Proto-industrialisation: Théorie et réalité. Lille: Université des Arts, Lettres, et Sciences Humaines.

*Peter Kriedte, Hans Medick & Jürgen Schlumbohm*

1977 Industrialisierung vor der Industrialisierung. Gewerbliche Warenproduktion auf dem Land in der Formationsperiode des Kapitalismus. Göttingen: Vandenhoeck & Ruprecht.

Jürgen Kuczynski

1965 "Industrieller Kapitalismus und Arbeiterklasse," Second International Conference of Economic History. Aix-en-Provence 1962. Paris: Mouton. Vol. II: 25-29.

Witold Kula

1980 "Money and the Serfs in Eighteenth Century Poland," in E.J. Hobsbawm et al., Peasants in History. Essays in Honour of Daniel Thorner. Calcutta: Oxford University Press.

Ann Kussmaul

1981 Servants in Husbandry in Early Modern England. Cambridge: Cambridge University Press.

David S. Landes

1969 The Unbound Prometheus. Technological Change and Industrial Development in Western Europe from 1750 to the Present. Cambridge: Cambridge University Press.

William Langer

1972 "Checks on Population Growth, 1750-1850," Scientific American, February: 93-99.

Peter Laslett

- 1968 "Le brassage de la population en France et en Angleterre aux XVIIe et XVIIIe siècles," *Annales de Démographie Historique* 1968: 99-109.

V.M. Lavrovskii

- 1940 *Parlamentskaia Ogorozhivaniia obschinn'ix Zemel' v Anglii kontsa xvii- nachala xix vv.* Moscow: Izdatel'stvo Akademii Nauk SSSR.

William Lazonick

- 1974 "Karl Marx and Enclosures in England," *The Review of Radical Political Economy* 6: 1-59.

François Lebrun

- 1971 *Les hommes et la mort en Anjou aux 17e et 18e siècles.* Paris: Mouton.

Robert Lee

- 1972 "Introduction: Population Growth, Economic Development and Social Change in Europe, 1750-1970," in W.R. Lee, ed., *European Demography and Economic Growth.* London: Croom Helm.

Ronald Lee

- 1976 "An Historical Perspective on Economic Aspects of the Population Explosion: The Case of Pre-Industrial England." Unpublished paper, National Bureau of Economic Research.

- 1977 "Methods and Models for Analyzing Historical Series of Births, Deaths, and Marriages," in Ronald Lee, Ed., *Population Patterns in the Past.* New York: Academic Press.

- 1978 "Models of Pre-Industrial Population Dynamics, with Application to England," in Charles Tilly, ed., *Historical Studies of Changing Fertility.* Princeton: Princeton University Press.

Pierre Léon, François Crouzet, and Raymond Gascon, eds.

- 1972 *L'Industrialisation en Europe au XIXe siècle. Cartographie et Typologie.* Paris: Editions du Centre Nationale de la Recherche Scientifique.

Yves Lequin

- 1977 *Les ouvriers de la région Lyonnaise (1848-1914).* Lyon: Presses

Universitaires de Lyon; 2 vols.

Emmanuel Le Roy Ladurie

- 1966 Les paysans de Languedoc. Paris: SEVPEN; 2 vols.
- 1974 "Pour un modèle de l'économie rurale française au XVIIIe siècle." Cahiers d'histoire 29: 5-27.
- 1977 "Les masses profondes: la paysannerie," in Fernand Braudel et Ernest Labrousse, eds., Histoire économique et sociale de la France. I, 2: De 1450 a 1660. Paysannerie et Croissance. Paris: Presses Universitaires de la France.

Emmanuel Le Roy Ladurie, ed.

- 1975 L'âge classique des paysans, 1340-1789. Paris: Seuil. Histoire de la France rurale (Georges Duby and Armand Wallon, eds.), t. 2.

Ron J. Lesthaeghe

- 1977 The Decline of Belgian Fertility, 1800-1970. Princeton: Princeton University Press.

Giovanni Levi

- 1971 "Mobilità della popolazione e immigrazione a Torino nella prima metà del settecento," Quaderni storici 17: 510-554.
- 1974 "Sviluppo urbano e flussi migratori nel Piemonte nel 1600," in M. Aymard et al., eds., Les Migrations dans les pays méditerranéens au XVIIème et au début du XIXème. Nice: Centre de la Méditerranée Moderne et Contemporaine.

David Levine

- 1977 Family Formation in an Age of Nascent Capitalism. New York: Academic Press.

Ulrich Linse

- 1972 "Arbeiterschaft und Geburtenentwicklung im Deutschen Kaiserreich von 1871," Archiv für Sozialgeschichte 12: 205-272.

Catharina Lis

- 1976 "Sociale politiek in Antwerpen (1779). Het controleren van de relatieve overbevolking en het reguleren van de arbeidsmarkt," Tijdschrift voor Sociale Geschiednis 5: 146-166.

Catharina Lis and Hugo Soly

- 1979 Poverty and Capitalism in Pre-Industrial Europe. Atlantic Highlands, New Jersey: Humanities Press.

Orvar Lofgren

- 1978 "The Potato People. Household Economy and Family Patterns among the Rural Proletariat in Nineteenth Century Sweden," in Sune Akerman, et al., eds., Chance and Change. Social and Economic Studies in Historical Demography in the Baltic Area. Odense: Odense University Press.

Sven Lundqvist

- 1977 Folkrörelserna i det svenska samhället, 1850-1920. Stockholm: Almqvist & Wiksell.

Alan Macfarlane

- 1978 The Origins of English Individualism. Cambridge: Cambridge University Press.

Stephen A. Marglin

- 1974 "What Do Bosses Do? The Origins and Functions of Hierarchy in Capitalist Production," The Review of Radical Political Economics 6:60-112.

Sture Martinus

- 1967 Befolkningsrörlighet under industrialismens inledningsskede i Sverige. Göteborg: Elanders. Meddelanden från Ekonomisk-Historiska Institutionen vid Göteborgs Universitet, 8.

- 1977 Peasant Destinies: The History of 552 Swedes Born 1810-1812. Stockholm: Almqvist & Wiksell International.

Karl Marx

- 1970 Capital. A Critique of Political Economy. London: Lawrence & Wishart. 3 vols.

- 1973 Grundrisse. Foundations of the Critique of Political Economy (Rough Draft). London: Allen Lane.

Peter Mathias

- 1957 "The Social Structure in the Eighteenth Century: A Calculation by Joseph Massie," Economic History Review 10: 30-45.

Albert Mathiez

- 1930 "Notes sur l'importance du prolétariat en France à la veille de la Révolution," *Annales Historiques de la Révolution Française* 7: 487-524.

P.C. Matthiessen

- 1970 Some Aspects of the Demographic Transition in Denmark. Copenhagen: Københavns Universitets Fond til Tilvejebringelse af Laeremidler.

Horst Matzerath

- 1978 "Industrialisierung, Mobilität und sozialen Wandel am Beispiel der Städte Rheydt und Rheindalen," in Hartmut Kaelble et al., eds., *Probleme der Modernisierung in Deutschland*. Opladen: Westdeutscher Verlag.

Edward E. McKenna

- 1974 "Marriage and Fertility in Postfamine Ireland: A Multivariate Analysis," *American Journal of Sociology* 80: 688-705.

Thomas McKeown

- 1976 *The Modern Rise of Population*. New York: Academic Press.

Franklin Mendels

- 1972 "Proto-industrialization: The First Phase of the Industrialization Process," *Journal of Economic History* 32: 241-261.
- 1975 "Agriculture and Peasant Industry in Eighteenth-Century Flanders," in William N. Parker and Eric L. Jones, eds., *European Peasants and their Markets*. Princeton: Princeton University Press.
- 1978 "Aux origines de la proto-industrialisation," *Bulletin du Centre d'Histoire Economique et Sociale de la Région Lyonnaise* no. 2: 1-25.
- 1981a "Les temps de l'industrie et les temps de l'agriculture. Logique d'une analyse régionale de la proto-industrialisation," *Revue du Nord* 63: 21-33.
- 1981b *Industrialization and Population Pressure in Eighteenth-Century Flanders*. New York: Arno Press.
- 1982 "Faut-il modifier le modèle flamand?" in Pierre Deyon & Franklin

Mendels, eds., Proto-industrialisation: Théorie et réalité.  
Lille: Université des Arts, Lettres, et Sciences Humaines.

Andrea Menzione

1971 "Storia sociale quantitativa: alcuni problemi della ricerca per i  
Secoli XVI-XVIII," Studi Storici 12 (July-September):585-596.

Pierre Merlin et al.

1971 L'Exode rural, suivi de deux études sur les migrations. Paris:  
Presses Universitaires de France. Institut National d'Etudes  
Demographiques, Travaux et Documents, Cahier 59.

John Merrington

1975 "Town and Country in the Transition to Capitalism," New Left  
Review 93: 71-92.

Alan S. Milward and S.B. Saul

1973 The Economic Development of Continental Europe, 1780-1870. London:  
George Allen & Unwin.

Dennis Mills

1976 "A Social and Demographic Study of Melbourn, Cambridgeshire c.  
1840," Archives 12: 115-120.

Sidney W. Mintz

1974 "The Rural Proletariat and the Problem of Rural Proletarian  
Consciousness," Journal of Peasant Studies 1: 291-325.

Joel Mokyr

1976 Industrialization in the Low Countries, 1795-1850. New Haven: Yale  
University Press.

David Montgomery

1976 "Workers' Control of Machine Production in the Nineteenth  
Century," Labor History Review 17:485-509.

1979 Workers' Control in America. Cambridge: Cambridge University  
Press.

Barrington Moore, Jr.

1966 Social Origins of Dictatorship and Democracy: Lord and Peasant in



the Making of the Modern World. Boston: Beacon Press.

Wilbert E. Moore and Arnold S. Feldman, eds.

1960 Labor Commitment and Social Change in Developing Areas. New York: Social Science Research Council.

R.B. Morrow

1978 "Family Limitation in Pre-Industrial England: A Reappraisal," Economic History Review 31: 419-428.

Bernard Mottez

1966 Systèmes de salaire et politiques patronales. Paris: Centre National de la Recherche Scientifique.

L.L. Murav'eva

1971 Derevenskaia prom'ishlennost' tsentral'noi Rossii vtoroi polovin'i xvii v. Moskow: Izdatel'stvo Nauka.

A.E. Musson

1978 The Growth of British Industry. New York: Holmes & Meier.

Douglass C. North and Robert Paul Thomas

1973 The Rise of the Western World. A New Economic History. Cambridge: Cambridge University Press.

P.K. O'Brien, D. Heath & C. Keyder

1977 "Agricultural Efficiency in Britain and France, 1815-1914," Journal of European Economic History 6: 339-391.

Bo Ohngren

1974 Folk i rörelse. Samhällsutveckling, flyttningsmonster och folkröresler i Eskilstuna 1870-1900. Uppsala: Almqvist & Wiksell. Studia Historica Upsaliensia, 55.

Martha Paas

1981 Population, Labor Supply and Agriculture in Augsburg, 1480-1618: A Study of Early Demographic-Economic Interaction. New York: Arno Press.

John Patten

1973 Rural-Urban Migration in Pre-Industrial England. Oxford: School of Geography. Research Papers, No. 6.

Luciano Pellicani

1973 "La rivoluzione industriale e il fenomeno della prole-tarizzazione," Rassegna italiana di sociologia 14: 63-84.

Alfred Perrenoud

1970 "Les migrations en Suisse sous l'Ancien Regime: Quelques problèmes," Annales de Démographie Historique 1970: 251-259.

Francois Perroux

1970 Aliénation et société industrielle. Paris: Gallimard.

Jan Peters

1967 "Ostelbische Landarmut. Sozialökonomisches (sic) über landlöse und landarme Agrarproduzenten im Spätfeudalismus," Jahrbuch für Wirtschaftsgeschichte t. 3-4: 255-302.

Jean Pitié

1971 Exode Rurale et migrations intérieures en France. L'exemple de la Vienne et du Poitou-Charentes. Poitiers:Norois.

Carlo Poni

1982 "Protoindustrializzazione: un commento," Studi Storici 51: 1103-1112.

Jean-Pierre Poussou

1971 "Les mouvements migratoires en France et à partir de la France de la fin du XVe siècle au début du XIXe siècle. Approches pour une synthèse," Annales de Démographie Historique 1970:11-78.

1974 "Introduction à l'étude des mouvements migratoires en Espagne, Italie et France méditerranéenne au XVIIIe siècle," in M. Aymard et al., eds., Les migrations dans les pays méditerranéens au XVIIIème et au début du XIXème. Nice: Centre de la Méditerranée Moderne et Contemporaine.

Walter Prochaska

1956 "Die wirtschaftliche und kulturelle Entwicklung auf dem Eichsfelde von 1648 bis 1848," in Walter Prochaska, ed., Eichsfelder Heimatsbuch. Heiligenstadt: Rat des Kreises Heiligenstadt.

Adam Przeworski

- 1977 "Proletariat into a Class: The Process of Class Formation from Karl Kautsky's The Class Struggle to Recent Controversies," *Politics and Society* 7: 343-401.

Jaroslav Purs

- 1965a "Struktur und Dynamik der industriellen Entwicklung in Böhmen im Letzten Viertel des 18. Jahrhunderts," *Jahrbuch für Wirtschaftsgeschichte*: 160-196.
- 1965b "Die Aufhebung der Hörigkeit und die Grundentlastung in den böhmischen Ländern." *Second International Conference of Economic History*. Aix-en-Provence 1962. Paris: Mouton.

Hans-Jurgen Rach & Bernhard Weissel

- 1978 eds., *Landwirtschaft und Kapitalismus. Zur Entwicklung der ökonomischen und sozialen Verhältnisse in der Magdeburger Börde vom Ausgang des 18. Jahrhunderts bis zum Ende des ersten Weltkrieges*. 1. Halbband. Berlin: Akademie Verlag.

Arthur Redford

- 1964 *Labour Migration in England, 1800-1850*. Manchester: Manchester University Press; 2d edn.

Fritz Redlich and Herman Fendenberger

- 1964 "The Industrial Development of Europe: Reality, Symbols, Images," *Kyklos* 17: 372-401.

Alan R. Richards

- 1979 "The Political Economy of Commercial Estate Labor Systems: A Comparative Analysis of Prussia, Egypt, and Chile," *Comparative Studies in Society and History* 21: 483-518.

Toni Richards

- 1977 "Fertility Decline in Germany: An Econometric Appraisal," *Population Studies* 31: 537-553.

H.K. Roessingh

- 1970 "Village and Hamlet in a Sandy Region of the Netherlands in the Middle of the 18th Century. An Application of the Guttman Scalogram Technique to Socio-historical Research," *Acta Historiae*

Neerlandica 4: 105-129.

- 1979 "Tobacco Growing in Holland in the Seventeenth and Eighteenth Centuries: A Case Study of the Innovative Spirit of Dutch Peasants," *Acta Historiae Neerlandica* 11: 18-54.

John Rogers

- 1980 ed., *Family Building and Family Planning in Pre-Industrial Societies*. Uppsala: Family History Group, University of Uppsala.

Harald Runblom and Hans Norman, eds.,

- 1976 *From Sweden to America. A History of the Migration*. Minneapolis: University of Minnesota Press.

Diedrich Saalfeld

- 1966 "Die Produktion und Intensitat der Landwirtschaft in Deutschland und angrenzenden Gebieten um 1800," *Zeitschrift fur Agrargeschichte und Agrarsoziologie* 14:137-175.

David Sabeau

- 1971 "Household Formation and Geographic Mobility: A Family Register Study in a Wurttemberg Village 1760-1900," *Annales de Demographie Historique* 1978: 275-294.

- 1976 "Aspects of kinship behavior and property in rural Western Europe before 1800," in Jack Goody, Joan Thirsk and E.P. Thompson, eds., *Family and Inheritance. Rural Society in Western Europe, 1200-1800*. Cambridge: Cambridge University Press.

Osamu Saito

- 1981 "Labour Supply Behaviour of the Poor in the English Industrial Revolution," *Journal of European Economic History* 10: 633-652.

John Saville

- 1957 *Rural Development in England and Wales, 1851-1951*. London: Routledge and Kegan Paul.

- 1969 "Primitive Accumulation and Early Industrialization in Britain," *Socialist Register* 1969: 247-271.

Jane Schneider and Peter Schneider

- 1976 *Culture and Political Economy in Western Society*. New York: Academic Press.

Lawrence Schofer

- 1975 The Formation of a Modern Labor Force. Upper Silesia, 1865-1914. Berkeley: University of California Press.

Lennart Schön

- 1972 "Västernorrland in the Middle of the Nineteenth Century. A Study in the Transition from Small-scale to Capitalistic Production," *Economy and History* 15: 83-111.

Bernd Schöne

- 1977 Kultur und Lebensweise Lausitzer Bandweber (1750-1850). Berlin: Akademie Verlag.

Joan W. Scott

- 1974 The Glassworkers of Carmaux. French Craftsmen and Political Action in a Nineteenth Century City. Cambridge: Harvard University Press.

Wally Secombe

- 1983 "Marxism and Demography," *New Left Review* 137: 22-47.

Domenico Sella

- 1975 "Les deux faces de l'économie lombarde au XVIIe siècle," in Paul M. Hohenberg and Frederick Krantz, eds., *Transition du féodalisme à la société industrielle: l'échec de l'Italie de la Renaissance et des Pays Bas du XVIIe siècle*. Montréal: Centre Inter-universitaire d'études européennes.

- 1979 *Crisis and Continuity. The Economy of Spanish Lombardy in the Seventeenth Century*. Cambridge: Harvard University Press.

Amartya Sen

- 1981 *Poverty and Famines. An Essay on Entitlement and Deprivation*. Oxford: Clarendon Press.

Emilio Sereni

- 1948 *Il capitalismo nelle campagne (1860-1900)*. Turin: Einaudi.

Alan Sharlin

- 1978 "Natural Decrease in Early Modern Cities: A Reconsideration,"

June A. Sheppard

- 1961 "East Yorkshire's Agricultural Labour Force in the Mid-Nineteenth Century," *Agricultural History Review* 9: 43-54.

Paul A. Slack

- 1974 "Vagrants and Vagrancy in England, 1598-1664," *Economic History Review*, 2d. s., 27: 360-379.

B.H. Slicher van Bath

- 1969 "Eighteenth-Century Agriculture on the Continent of Europe: Evolution or Révolution?" *Agricultural History* 43: 169-180.

- 1977 "Agriculture in the Vital Revolution," in E.E. Rich & C.H. Wilson, eds., *Cambridge Economic History of Europe V. The Economic Organization of Early Modern Europe*. Cambridge: Cambridge University Press.

Adam Smith

- 1910 [1776] *The Wealth of Nations*. London: J.M. Dent. 2 vols.

Daniel Scott Smith

- 1977 "A Homeostatic Demographic Regime: Patterns in West European Family Reconstitution Studies," in Ronald Lee, ed., *Population Patterns in the Past*. New York: Academic Press.

Richard Smith

- 1981 "Fertility, Economy and Household Formation in England over Three Centuries," *Population and Development Review* 7: 595-622.

Johan Soderberg

- 1982 "Causes of Poverty in Sweden in the Nineteenth Century," *Journal of European Economic History* 11: 369-402.

H. Soly

- 1975 "Economische ontwikkeling en sociale politiek in Europa tijdens de overgang van middeleeuwen naar nieuwe tijden," *Tijdschrift voor Geschiednis*, 88: 584-597.

Werner Sombart

1909- "Verlagssystem (Hausindustrie)," Handwörterbuch der Staats-  
1911 wissensschaften 8: 233-261.

William Frederick Spackman

1847 An Analysis of the Occupations of the People. . . London: The  
Author.

J.J. Spengler

1945 "Malthus's total population theory: A restatement and  
reappraisal," Canadian Journal of Economics and Political Science  
11: 83-110, 234-264.

1970 "Adam Smith on Population," Population Studies, 2d series, 17:  
377-388.

Margaret Spufford

1976 "Peasant inheritance customs and land distribution in  
Cambridgeshire from the sixteenth to the eighteenth centuries," in  
Jack Goody, Joan Thirsk and E.P. Thompson, eds., Family and  
Inheritance. Rural Society in Western Europe, 1200-1800.  
Cambridge: Cambridge University Press.

David Stark

1980 "Class Struggle and the Transformation of the Labor Process: A  
Relational Approach," Theory and Society 9: 89-130.

Evelyne Huber Stephens

1980 The Politics of Workers' Participation. New York: Academic Press.

Katherine Stone

1974 "The Origins of Job Structures in the Steel Industry," Review of  
Radical Political Economics 6 (summer):113-173.

Albrecht Ströbel

1972 Agrarverfassung im Übergang. Studien zur Agrargeschichte des  
badischen Breisgaus vom Beginn des 16. bis zum Ausgang des 18.  
Jahrhunderts. Freiburg: Albers.

W. Stys

1957 "The Influence of Economic Conditions on the Fertility of Peasant  
Women," Population Studies 11-12: 136-148.

Albert Tanner

1982 Spulen - Weben - Sticken. Die Industrialisierung in Appenzell Ausserrhoden. Zurich: Juris Druck.

R.H. Tawney

1967 The Agrarian Problem in the Sixteenth Century. New York: Harper Torchbooks.

Arthur J. Taylor, ed.

1975 The Standard of Living in Britain in the Industrial Revolution. London: Methuen.

Klaus Tenfelde

1977 Sozialgeschichte der Bergarbeiterschaft an der Ruhr im 19. Jahrhundert. Bonn/Bad Godesberg: Neue Gesellschaft.

Didier Terrier & Philippe Toutain

1979 "Pression démographique et marche du travail à Comines au XVIIIème siècle," Revue du Nord 61: 19-25.

Joan Thirsk

1961 "Industries in the Countryside," in F.J. Fisher, ed., Essays in the Economic and Social History of Tudor and Stuart England in Honor of R.H. Tauney. Cambridge: Cambridge University Press.

1970 "Seventeenth-century agriculture and social change," Agricultural History Review 18, Supplement: 148-177.

Malcolm I. Thomis

1974 The Town Labourer and the Industrial Revolution. London: Batsford.

E.P. Thompson

1963 The Making of the English Working Class. London: Gollancz.

1967 "Time, Work-Discipline, and Industrial Capitalism," Past and Present 38: 56-97.

1978 "Eighteenth-Century English Society: Class Struggle Without Class?" Social History vol. 3: 133-165.



Francis M.L. Thompson

- 1966 "The Social Distribution of Landed Property in England Since the Sixteenth Century," *Economic History Review*, 2d series, 19: 505-517.
- 1969 "Landownership and economic growth in England in the eighteenth century," in E.L. Jones and S.J. Woolf, eds., *Agrarian Change and Economic Development. The Historical problems.* London: Methven.

Charles Tilly

- 1975 "Food Supply and Public Order in Modern Europe," in Charles Tilly, ed., *The Formation of National States in Western Europe.* Princeton: Princeton University Press.
- 1978a "The Historical Study of Vital Processes," in Charles Tilly, ed., *Historical Studies of Changing Fertility.* Princeton: Princeton University Press.
- 1978b "Migration in Modern European History," in William H. McNeill, ed., *Human Migration: Patterns, Implications, Policies.* Bloomington: Indiana University Press.
- 1979 "Did the Cake of Custom Break?" in John Merriman, ed., *Consciousness and Class Experience in Nineteenth Century Europe.* New York: Holmes & Meier.
- 1982 "Flows of Capital and Forms of Industry in Europe, 1500-1900," Working Paper 263, Center for Research on Social Organization, University of Michigan. Forthcoming in *Theory and Society*, 1983.
- 1983 "Proletarianization and Rural Collective Action in East Anglia and Elsewhere, 1500-1900," forthcoming in *Peasant Studies*, 1983.

Louise A. Tilly

- 1977 "Urban Growth, Industrialization and Women's Employment in Milan, Italy, 1881-1911," *Journal of Urban History* 3: 467-484.

Louise A. Tilly and Joan W. Scott

- 1978 *Women, Work and Family.* New York: Holt, Rinehart & Winston.

Richard Tilly and Charles Tilly

- 1971 "An Agenda for European Economic History in the 1970s," *Journal of Economic History* 31: 184-197.

Gabriel Tortella Cesares

- 1973 Les origines del capitalismo en España: Banca, industria y ferrocarría en el siglo XIX. Madrid: Editorial Ternos.
- Gustaf Utterström
- 1957 Jordbrukets arbetare. Stockholm: Tidens Forlag. 2 vols.
- Christiaan Vandenbroeke
- 1981 "Mutations économiques et sociales en Flandre au cours de la phase proto-industrielle, 1650-1850," Revue du Nord 63: 73-94.
- 1982 "Analyse critique de la phase proto-industrielle en Flandre: Evolution sociale et comportement démographique aux XVIIème-XIXème siècles," in Pierre Deyon & Franklin Mendels, eds., Proto-industrialisation: Théorie et réalité. Lille: Université des Arts, Lettres, et Sciences Humaines.
- Herman Van der Wee
- 1975 "Structural Changes and Specialization in the Industry of the Southern Netherlands, 1100-1600," Economic History Review 28: 203-221.
- Herman Van der Wee & Eddy van Cauwenberghe
- 1978 eds., Productivity of Land and Agricultural Innovation in the Low Countries (1250-1800). Louvain: Louvain University Press.
- Benoît Verhaegen
- 1961 Contribution à l'histoire économique des Flandres. Louvain: Nauwelaerts. 2 vols.
- Michael Vester
- 1970 Die Entstehung des Proletariats als Lernprozess. die Entstehung antikapitalistischer Theorie und Praxis in England, 1792-1848. Frankfurt am Main: Europäische Verlaganstalt.
- Jaime Vicens Vives
- 1969 An Economic History of Spain. Princeton: Princeton University Press.
- Pierre Vilar
- 1962 La Catalogne dans l'Espagne moderne. Paris: SEVPEN. 3 vols.

Ia. E. Vodarskii

- 1972 Prom'ishlienn'ie seleniia tsentral'noi Rossii v period genezisa i razvitiia kapitalizma. Moscow: Izdatel'stvo Nauka.
- 1973 Naselenie Rossii za 400 let (xvi-nachala xx v.v.). Moscow: "Prosveschchenie".
- 1977 Naselenie Rossii v kontsee xvii-nachalie xviii veka (problem'i, metodika issledovaniia, rezul'tat'i), in R.N. Pullat, ed., Problem'i istoricheskoidemograffi SSSR. Tallinn: Institute of History, Academy of Sciences.

Gunter Vogler

- 1965 Zur Geschichte der Weber und Spinner von Nowaes, 1751-1785. Potsdam: Bezirksheimatmuseum.

Jan de Vries

- 1974 The Dutch Rural Economy in the Golden Age, 1500-1700. New Haven: Yale University Press.
- 1975 "Peasant Demand Patterns and Economic Development: Friesland, 1550-1750," in William N. Parker and Eric L. Jones, eds., European Peasants and their Markets. Princeton: Princeton University Press.
- 1976 The Economy of Europe in an Age of Crisis, 1600-1750. Cambridge: Cambridge University Press.
- 1981 "Patterns of Urbanization in Pre-Industrial Europe, 1500-1800," in H. Schmal, ed., Patterns of European Urbanisation since 1500. London: Croom Helm.
- 1982 "Hierarchy Formation in the European Urban System, 1500-1800," unpublished paper presented to the Social Science History Association, Bloomington, Indiana.

Etienne Van de Walle

- 1974 The Female Population of France in the Nineteenth Century. A Reconstruction of 82 Departements. Princeton: Princeton University Press.

Immanuel Wallerstein

- 1974 The Modern World-System. Capitalist Agriculture and the Origins of the European World-Economy in the Sixteenth Century. New York: Academic Press.

- 1980 The Modern World System. Vol. II: Mercantilism and the Consolidation of the European World-Economy, 1600-1750. New York: Academic Press.
- Susan Cott Watkins
- 1981 "Regional Patterns of Nuptiality in Europe, 1870-1960," Population Studies 35: 199-215.
- Max Weber
- 1950 General Economic History. Glencoe, Illinois: Free Press.  
[1927]
- 1972 Wirtschaft und Gesellschaft. Tübingen: Mohr. 5th edn.  
[1921]
- David Weir
- 1982 "Fertility Transition in Rural France, 1740-1829," unpublished doctoral dissertation in Economics, Stanford University.
- Christer Winberg
- 1975 Folkökning och proletarisering kring den sociala strukturomvandlingen på Sveriges landsbygd under den agrara revolutionen. Gothenburg: Historiska Institutionen i Goteborg.
- 1978 "Population Growth and Proletarianization. The Transformation of Social Structures in Rural Sweden during the Agrarian Revolution," in Sune Akerman et al., eds., Chance and Change. Social and Economic Studies in Historical Demography in the Baltic Area. Odense: Odense University Press.
- Nils Richard Wohlin
- 1909 Den Jordbruksidkande befolkningen i Sverige 1751-1900. Statistik-demografisk studie på Grundval af de svensk a yrkesrakningarna. Stockholm: Emigrationsutredningen, Bil. IX.
- Hermann Wopfner
- 1938 "Güterteilung und Obervölkerung tirolischer Landbezirk im 16., 17. und 18. Jahrhundert. Sudostdeutsche Forschungen 3: 202-232.
- Keith Wrightson & David Levine
- 1979 Poverty and Piety in an English Village. Terling, 1525-1700. New York: Academic Press.

E.A. Wrigley

- 1961 Industrial Growth and Population Change. Cambridge: Cambridge University Press.
- 1966 "Family Limitation in Pre-Industrial England," Economic History Review 19: 82-109.
- 1967 "A Simple Model of London's Importance in Changing English Society and Economy," Past and Present 37: 44-70.
- 1972 "The Process of Modernization and the Industrial Revolution in England," Journal of Interdisciplinary History 3: 225-259.
- 1978 "Fertility Strategy for the Individual and the Group," in Charles Tilly, ed., Historical Studies of Changing Fertility. Princeton: Princeton University Press.

Hartmut Zwahr

- 1971 "Zur Konstituierung des Proletariats als Klasse. Strukturuntersuchung über das Leipziger Proletariat während der industriellen Revolution," in Horst Bartel & Ernst Engelberg, eds., Die grosspreussisch-militarische Reichsgründung 1871, Band I. Berlin: Akademie Verlag.