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I. THE STATE OF THE DEBATE

(Inter)national Styles of Quantitative History

Konrad H. Jarausch *)

Quantitative historians are gradually becoming aware of the "international dimension" of their enterprise. Much of the pioneering work in the application of quantitative methods was done in the United States and by American historians, as A. Bogue recently recalled ¹⁾. But a series of bilateral conferences between U. S. and Soviet historians or West German scholars ²⁾, the translation project of the *Annales*, as well as some multilateral meetings among leading quantitative historians ³⁾ indicate a slow rise in the awareness of and interest in quantitative work in other countries. Some of this new concern is a matter of tracing American influences beyond U. S. frontiers, especially among those foreign colleagues who at one time or other participated in the North American debate (through visiting lectures, guest professorships, and the like). But looking at quantitative history beyond the American sphere reveals a double paradox: while much of the hardware (IBM) and software (SPSS, SAS) tends to be identical, their applications elsewhere differ considerably from U. S. patterns. Moreover, related historical questions can and do lead to distinctive scholarly approaches and answers in other countries. Divergent historiographical traditions, contrasting modes of disciplinary institutionalization, and separate cultural, ideological, and political agendas can influence the content and application of a common historical method. Instead of one homogeneous, U. S. - inspired quantitative history, there seem to be emerging a number of competing national styles.

*) This paper is a revised version of an essay that first appeared in the special issues on quantitative history and theory, edited by P. Smith, in: *Historical Methods* 18 (Winter 1985): 13 - 19.

1) A. G. Bogue, *Clio and the Bitch Goddess: Quantification in American Political History* (Beverly Hills, 1983), 17ff, 51ff, 137ff, and 203ff.

2) I. D. Kovalchenko and V. A. Tishkov, *Quantitative Methods in Soviet and American Historiography* (Moscow, 1983) published in Russian; and J. Clubb and E. K. Schuch (eds.), *Historical Social Research: The Use of Historical and Process-Produced Data* (Stuttgart, 1980).

3) Konrad H. Jarausch (ed.), *Quantitative History in International Perspective*, special issue of *Social Science History* 8 (1984): 123ff; together with W. H. Schroeder (eds.), *The Transformation of European Society*, special issues of *Historical Social Research*, Nos. 33 and 34 (1985).

In some ways the differences between national variants of quantification are predictable. After all, the source materials available in diverse countries are quite distinctive. Despite some high-level jet-setting, the structures and rewards of national scholarly communities are still fairly separate. Moreover, intellectual priorities among countries differ considerably even within the same language area ⁴). In other ways the distinctions are somewhat surprising. Are not quantitative historians everywhere struggling with similar problems, such as funding and recognition? Are they not divided within countries according to ideology or methodology (degree of theory orientation)? Do they not face the same technological challenges (microcomputers) regardless of their national location ⁵? Certainly there are substantial commonalities in method and current concerns. But the responses of quantitative historians also differ according to nationality, thereby adding another layer of diversity to their temperamental, methodological, or practical differences. Moreover, these nascent national styles also complicate the international dialogue among quantifiers. While there is much exchange on specific questions, it appears to be more difficult to harmonize broader research designs across frontiers. Lifting discrete findings with scant attention to their argumentative context can be intellectually hazardous. The differences in national styles, therefore, have interpretive as well as practical implications.

The oldest and most influential form of quantification outside the United States is the French *Annales* school. Founded by M. Bloch and L. Febvre in 1929 in a new journal of that name, it attempted to break the dominance of event-oriented political history through concentration on "economic and social history." This shift in subject matter and methodology was carried further by F. Braudel and E. Labrousse in the revised journal (*Annales: Economies, sociétés, civilisations*, 1946 ff) and continued by E. Le Roy Ladurie, F. Furet, and others as *nouvelle histoire* during the 1960s and 1970s. In contrast to the quickly turning political carousel of the Third and Fourth Republics, the *Annalists* were preoccupied with "structure and ... the long term. The very logic of such an undertaking inevitably meant working with figures and statistics." Nevertheless, J. Marczewski's attempt to promote economic modeling through national income accounts as *histoire quantitative* lost out to a more broadly based and less rigorous *histoire serielle*. Through a layering of multiple time

4) Val L o r w i n and J. M. P r i c e, *The Dimensions of the Past: Materials, Problems and Opportunities for Quantitative Work in History* (New Haven, 1972) concentrates on different national materials rather than on distinctive national styles.

5) The last general surveys from an Anglo-American point of view are T. K. R a b b, "The Development of Quantification in Historical Research," *Journal of Interdisciplinary History* 13 (1983): 591 - 601; and J. M. K o u s s e r, "The Revivalism of Narrative: A Response to Recent Criticisms of Quantitative History," *Social Science History* 8 (1984) 133ff.

series this statistically simple but documentarily complex serial history aimed at recreating the total history of a community. In countless *theses* French historians explored the economic (price) and demographic (family reconstitution) structure or *conjoncture* of a locality (town, *departement*), moving eventually to society, material culture, and mentality (*troisieme niveau*)⁶.

In the 1960s, quantitative methods became the core of the *Annales* approach. One of the leading protagonists, Le Roy Ladurie, could suggest with typical hyperbole: "History that is not quantifiable cannot claim to be scientific." Despite their objectivist air, the Annalists also shared an ideological outlook, focused on "economism and the history of the masses." This progressive temper could be described as a generalized, but nonorthodox Marxist influence, recognizing "no enemies on the Left." Brilliant external (towards the social sciences) and internal (towards traditional historians) strategies enabled the *Annales* group to conquer the famous 6th section of the Ecole Pratique des Hautes Etudes (now reconstituted as the Centre de Recherches Historiques in the EHESS), and thereby to achieve a hegemonic position in French intellectual life. On the 50th anniversary of the journal's founding, Ladurie proclaimed that this dominance "is also gaining in the international historical community, whether in the English language ... the Latin countries or Poland and Hungary 7)."

Though internal and external acclaim seems to have elevated the Annalists above criticism, their hegemony is being challenged in the 1980s. As a perusal of any French university bookstore reveals, much political, biographical, military, and intellectual history is still being written (and read) outside of the paradigm of the *Annales*. Spectacular sales figures of *La Mediterranee* or *Montaillou* notwithstanding, the very exclusion by the *Annales* of popular subjects has guaranteed the survival of a vigorous traditional historiography (often underestimated by foreigners). Moreover, there is with maturity a growing criticism from within the *Annales* camp. The fourth generation of scholars finds fault with simplistic statistical procedures and a lack of theory. The effort to compile multiple series has often exhausted the energy of the researcher before the more complex processes of hypothesis formation and testing begin. Some of the former leaders themselves have grown tired of a surfeit of numbers and, like Ladurie, have embraced anthropological, qualitative research strategies to explore mentalities. The revival of the narrative, increasing skepticism of structu-

6) For an English language history of the *Annales* cf. G. G. I g g e r s, *New Directions in European Historiography*, 2nd ed. (Middletown, Ct., 1983). Cf. also J. M a r c z e w s k i "Quantitative History," *Journal of Contemporary History* 3 (1968): 179 - 191; versus F. F u r e t, "Quantitative History," *Daedalus* 100 (1971): 151 - 167.

7) E. L e R o y L a d u r i e, "Motionless History," *Social Science History* 1 (1977): 115 - 136; *The Territory of the Historian* (Chicago, 1979); and "Les mousquetaires de la nouvelle histoire," *Le Nouvel Observateur* (1979): 58. Cf. also H. C o u t a u - B e g a r i e, *Le Phenomene "Nouvelle Histoire"*: Strategie et ideologie des nouveaux historiens (Paris 1983) for a French critique.

ral determinism, and impatience with the immobilism of long-range series among more recent historians are beginning to undermine the intellectual hold of the *Annales* group over the controlling heights of French historical scholarship. Raised on a generation of handbooks full of demographic and economic tables, history students are also rediscovering other, emphatic interests in the past. These rumblings within and without do not presage the immediate collapse of the *Annales*, but rather indicate that triumph engenders its own difficulties. Foreign quantitative historians should therefore look less enviously towards *la douce France*, since the slowness of change in its peasant/smalltown/clerical structures can rarely be duplicated outside. The *Annales* paradigm is, on balance, a highly successful national style of quantitative history - but not its sole, unproblematic incarnation⁸).

In German-speaking countries, quantitative methods developed later and have yet to reach the same level of public acceptance. Statistical work began in the eighteenth century, and the publication of government series as well as the emergence of a school of historical economists made German scholars leaders in this field at the turn of this century. This tradition was cut off by the world wars and the Third Reich. The hesitant restoration of descriptive industrial and agrarian historical statistics in the 1950s needed powerful impulses from outside in the 1960s in order to develop into full-blown quantitative history in the 1970s. The change of general interest from diplomatic to social concerns (the development of a *Gesellschaftsgeschichte*) required new methods. The rehabilitation of the neighboring social sciences with their empirical and behaviorist orientation contributed to the adoption of some of their working tools. The influence of the French was less powerful in confronting their German colleagues with the possibilities of this kind of research than were the American pioneers of quantitative methods. Finally the availability of the technical resources in a comparatively wealthy country facilitated access to computing machinery. In the mid-1970s a group of young historians and sociologists at the University of Cologne founded in quick succession an organization (QUANTUM), a journal (*Historical Social Research*), and a publication series (*Historisch-Sozialwissenschaftliche Forschungen*), which helped organize independent efforts into a respectable and dynamic enterprise. After fairly rapid initial gains, this development has recently slowed, since the overcrowding of the historical profession has prevented the establishment of most quantifiers in chairs and frozen them on lower levels of the hierarchy (as project assistants). At the same time the limi-

8) Coutau-Begarie, *Le Phenomene "Nouvelle Histoire,"* pp. 317 - 320; and P. Bourdelais, "French Quantitative History: Problems and Promises," *Social Science History* 8 (1984): 179 - 192. For a shrewd appraisal of the *Annales* contribution cf. also J. Hexter, "Fernand Braudel and the monde braudellien," *Journal of Modern History*, 43 (1972): 483ff.

tation of overall funding has made support for innovative projects more difficult 9).

Although it reaches only a minority of professional scholars, a peculiarly German version of quantitative history is also beginning to emerge. Due to the separate institutionalization of chairs or institutes for economic and social history, quantitative methods have spread most in these sectors. While there are relatively few demographic projects, it appears that social history with a quantitative bent is further developed than in France. On the whole German quantifiers also have considerably more interest in political developments: given the turbulent territorial and constitutional history of Central Europe since the Middle Ages, it is harder to shut out the political dimension completely 10). German quantitative history also tends to be more theoretically oriented, since the Weberian influence still makes itself felt. Moreover the German notion of *Historische Sozialwissenschaft* is less behaviorist than American historical social science because the concept *Wissenschaft* means "systematic scholarship" rather than hard "science". Quantitative methods are generally used within the context of *Gesellschaftsgeschichte*, a broad conception of social history, which may not dominate the methodological arena to the same degree as the Annalists, but which is institutionalized with the most interesting historical journal of the Federal Republic 11). Due to their late start, German quantifiers are often technically more sophisticated and open to international scholarly dialogue than their French counterparts. One interesting contribution is the "databank-oriented programming-system for historians, called "CLIO", which has been developed by Manfred Thaller 12). Despite their smaller institutional success (due to the decentralization of academic structure), quantitative methods are producing innovative works in Germany. One indication of this vitality is the opening of a new Zentrum für historische Sozialforschung in Cologne in 1987.

9) K. H. J a r a u s c h, "Promises and Problems of Quantitative Research in Central European History," *Central European History* 11 (1978): 279 - 291; and H. B e s t, "Quantifizierende Historische Sozialforschung in der Bundesrepublik Deutschland," *Geschichte in Köln* 9 (1981): 121 - 157.

10) Exemplary surveys of the state of research are the annual volumes on *Quantitative historische Forschung 1977. Eine Dokumentation der QUANTUM-Erhebung* (Stuttgart, 1977ff). Cf. also W. B i c k, P. M ü l l e r and H. R e i n k e, "Quantitative History in Transition," *Social Science Information* 16 (1977): 694 - 714.

11) J. K o c k a, "Theories and Quantification in History," *Social Science History* 8 (1984): 169ff. Cf. also the essays by H. U. W e h l e r on *Historische Sozialwissenschaft und Geschichtsschreibung* (Göttingen, 1980); and the journal *Geschichte und Gesellschaft* (1975ff).

12) M. T h a l l e r, "Automation on Parnassus. CLIO - - A Databank Oriented System for Historians", *Historical Social Research/Historische Sozialforschung* 15 (1980): 40 - 65; and his historical software column in the journal *Historical Social Research*.

In the Soviet Union and to some degree in other Eastern European countries, a Marxist-Leninist approach to quantitative history has developed as well. Building on a long Russian tradition of statistical compilation in the cause of social reform, Soviet historians in the early 1960s became interested in applying mathematical and statistical methods to historical research. Western scholars were surprised to encounter sophisticated presentations by I. Kovalchenko and J. Kahk at the 1970 International Congress of Historical Sciences (Moscow) and at subsequent international meetings. Efforts at the Soviet Academy of Sciences, Moscow State University, the Estonian Academy of Sciences, etc., are being coordinated by a special committee within the Soviet National Committee of Historians. Because the overwhelming majority of Russians lived in the countryside and worked in agriculture until relatively recent times, the leading economic history topic is agrarian development. Less econometric than in the U. S., Soviet agricultural history tends to analyze the structure of the agricultural labor force, the introduction of capitalism into the countryside, and so on. A second large area of quantitative research in the Soviet Union deals with social history, such as the structure of the proletariat and its organizations or the composition of the Tsarist bureaucracy. While the statistical techniques are generally similar to Western procedures, they tend not to be documented as extensively, and modeling is directed more towards synthesis than towards hypothesis testing. Close collaboration with mathematicians has produced high standards in some areas (pattern recognition), although on the whole the thrust of quantification appears to be more descriptive than analytical. Given the basic Marxist assumptions of Soviet historiography, the ultimate aim cannot be to develop a general historical theory of human behavior, but to fill in details within the existing ideological canvas and to refine explanations of particular changes. A similar Marxist version of quantification is also emerging in East Germany, Poland, Romania and other Eastern European countries 13).

Because of the interpenetration of the Anglo-American academic communities, it is difficult to discern a separate British national style of quantitative history. While there is much exchange across the Atlantic, a common language of publication, etc., institutional career sequences are more distinctive than commonly realized, and journals as well as scholarly presses have different centers of gravity. Perhaps one should, therefore, think of British quantitative history as a variant of the Anglo-American pattern. Interest in quantitative methods began in the 1950s and reached considerable levels of sophistication by the 1970s, as the leading English-language text by R. Floud indicates. But the

13) D. K. R o w n e y (ed.), *Soviet Quantitative History* (Beverly Hills, 1984), especially the introduction by the editor; J. K a h k, "Quantitative Historical Research in Estonia: A Case Study in Soviet Historiography", *Social Science History* 8 (1984): 193 - 200; K o v a l c h e n k o and T i s h k o v, *Quantitative Methods*, 5 - 22; and T. K u c z y n s k i, *Wirtschaftsgeschichte und Mathematik* (Berlin, 1985).

distribution of subject matter differs between the U. S. and England. With the Cambridge Group for Population Research, the British historians around E. A. Wrigley, P. Schofield, or P. Laslett became internationally famous pioneers of demographic history. Also in the independent chairs or departments of economic history, quantitative methods have spread quickly, even though a considerable segment of traditional work survived as well. But the leading quantitative efforts in political history were undertaken by American scholars (W. Aydelotte), and the "new social historians" (especially of radical persuasion like E. J. Hobsbawm or E. P. Thompson) remain skeptical of quantitative methods. Hence in Britain, quantifiers appear to be a respected group in some fields, but a distinctive minority in the profession. In the spring of 1986 Deian Hopkin and Peter Dently held a successful conference at the University of London which resulted in the organization of an "International Association for History and Computing". Prospects look therefore promising that this new impetus will become a focal point of quantitative efforts in the English speaking countries of Europe¹⁴).

In the smaller Western European countries the situation is similar, since their academic communities are not large enough to produce an independent national style. Oriented largely towards Anglo-American debates, some creative scholars have been employing quantitative methods for two decades. The especially rich records of Scandinavia have allowed the creation of a massive social data base for the last two centuries, which encourages advanced work on social mobility, literacy, and family reconstitution. Technical standards are often quite high, and there is much interest in scholarly cooperation among economic and demographic historians.

In the Third World the position of quantitative history is more precarious. Precious computer time is rarely available to historians, the audience for quantitative work is limited, cultural bias militates against it, and documentary as well as sometimes political obstacles abound. Nonetheless, in Latin America an accomplished body of quantitative historical scholarship has crystallized in the last decade. Methods as well as methodologies are imported as technological transfers either from the *Annales* school in France or the econometricians in the U. S. Latin American historians have made impressive gains in the collection of historical statistics, as John Coatsworth shows in his paper, "Cliometrics and Mexican History," and they are beginning to make distinctive interpretive contributions as well. But in other Third World countries (and in some ways even in Japan), quantitative historians still seem to be struggling as individuals or isolat-

14) R. F l o u d, *An Introduction to Quantitative Methods for Historians* (London, 1973; 2nd ed., 1979). I have found no separate treatment of quantitative history in Britain. For the general context cf. the essay by K. B a k e r in Iggers, *New Directions*, and E. J. H o b s b a w m, "From Social History to the History of Society," *Daedalus* 100 (1971): 20 - 45. See also the "History and Computing" program, March 21 - 23, 1986.

ed groups. The gap between enormous opportunities and limited accomplishments remains substantial 15).

About half a dozen styles of quantitative history (including American QUASSH—quantitative social science history) are producing divergent reactions to the common problems facing quantitative scholarship. The current mood of self-questioning among quantifiers, aware that the bloom is off and the first enthusiasm has cooled, takes on distinctive shapes in varying national contexts. A recent examination of the *Annales* school by Coutau-Begarie lists a number of criticisms such as “a reaction,” “the illusion of scientificity,” “the risk of immobilism contained in the *longue duree*,” and “frequent anachronisms.” But the author supports “a prudent and measured utilization,” indicating that in France quantitative methods are so firmly entrenched that the debate revolves more around their intelligent application than around their elimination. In Germany the situation is more problematic. Lukewarm acceptance by leading social historians like J. Kocka, coupled with a paucity of convinced quantifiers in major positions, makes quantification vulnerable, even if it has become an integral part of many *Grossprojekte*. In Russia, D. Rowney sees quantitative methods as “confident, not tentative, scholarship.” Verbal acceptance of quantification is high, even if one may question whether practicing quantitative historians constitute more than a tiny minority of the large Soviet historical profession. In Britain and in smaller Western European nations where more scholars actually use quantitative methods, there is greater ambivalence. On one hand, quantification seems so essential in some specialties that it goes without saying. But in the overall historical enterprise it appears to be somewhat in retreat, since skeptics, never quite convinced of its utility, are now happy to fall back on narrative modes with Lawrence Stone’s trend-setting blessing. In the Third World, quantification still seems to be in its heroic age—confronting larger-than-life obstacles and promising superhuman intellectual rewards, since the basic numerical outlines of development still have to be sketched in 16). This rapid survey of non-American styles of quantitative history reveals neither an irresistible tide of progress nor a universal ebb. The present situation seems rather embattled, somewhat on the defensive, but still in command of enough scholarly territory to launch a counterattack.

15) H. Perez-Brignoli and E. A. Ruiz, “History and Quantification in Latin America: An Assessment of Theories and Methods,” *Social Science History* 8 (1984): 201ff; and John H. Coatsworth, “Cliometrics and Mexican History,” *Historical Methods* 18 (1985): 31 - 37.

16) Coutau-Begarie, *Le Phenomene “Nouvelle Histoire,”* 114 - 121; J. Kocka, “Quantifizierung in der Geschichtswissenschaft,” in H. Best and R. Mann (eds.), *Quantitative Methoden in der historisch-sozialwissenschaftlichen Forschung* (Stuttgart, 1977); Rowney, *Soviet Quantitative History*, 25; L. Stone, “The Revival of Narrative: Reflections on a New Old History,” *Past and Present* 85 (1979): 3 - 24.

A second area in which national styles lead to different responses is the ideological affinity of quantitative history. Is quantification, as is often claimed, a neutral method, or does its apparent empiricism rest on crypto-capitalist foundations, as is sometimes charged? In France the Annalists, whether Marxists or not, seem to employ quantitative methods without ideological qualms. Perhaps the socialist stance of the founder generation and even more strongly the "omnipresence" of Marxist currents in the postwar generation kept quantification from being associated with one camp. Interestingly enough, there seems to be "a relative decline of Marxist influences since the beginning of the 1960s" so that the leaders of the present cohort of Annalists are clearly non-if not anti-Marxist (Chaunu and Besançon). In Germany the radical proponents of *Alltagsgeschichte*, the everyday history of the little people, tend to reject quantitative methods as dehumanizing, as incapable of grasping the social situation or consciousness of an individual worker, a housewife, etc. Ironically, the preceding cohort of socio-political historians criticizes this "pronounced tendency to nostalgic idyllification of preindustrial conditions; their antiquantitative, even anti-social science bias; their disregard for theoretical efforts; their imprecise concepts, especially their notion of class 17)."

In contrast, Soviet historians depart self-consciously from Leninism and cannot understand the opposition between radicals and quantifiers: "Thus the Marxist theory of social development and scientific cognition serves as the general methodological basis of Soviet historical science." But in Britain there is tension between the anti-quantitative bias of History Workshop, a group of Marxist "people's historians," and the practitioners of quantitative history. The objections centering on the class bias in statistical data, the impersonalism of quantification, the capitalist association of econometric history, and the difficulty of learning quantitative techniques have been refuted convincingly. But the odd fact of the hostility remains. In Latin America one can observe a similar association between quantification and capitalism, which encourages the *Annales* paradigm over QUASSH. Clearly, as the French and Soviet reactions demonstrate, there is no necessary connection between quantitative methods and reactionary politics. But it will take much convincing to merge the complementary approaches of People's History and social science history elsewhere 18).

17) Coutau-Begarie, Le Phenomene "Nouvelle Histoire," 225 - 243; R. Berdahl, A. Lüdtke, H. Medick, et al. (eds.), *Klassen und Kultur. Sozialanthropologische Perspektiven in der Geschichtsschreibung* (Frankfurt, 1982) versus J. Kocka "Klassen oder Kultur? Durchbrüche und Sackgassen in der Arbeitergeschichte", *Merkur* 36 (1982): 955 - 965.

18) J. Kalk, "Quantitative Historical Research in Estonia," 193ff; R. Flood, "Quantitative History and People's History: Two Methods in Conflict," *Social Science History* 8 (1984): 151ff; L. Tilly, "People's History and Social Science History," *Social Science History* 7 (1983): 457 - 474; and the papers by N. Fitch as well as J. D. Willigan versus K. A. Lynch in the Fall 1984 issue of *Historical Methods*.

A third major issue, which is hotly debated among (and less so within) national variants of quantitative history, is the role of theory and the relationship between history and the social sciences. In France the *nouvelle histoire* has gained a paramount position among the social sciences, due to its enlargement of scope (*totale*), its dynamic perspective (*longue duree*), and its quantitative rigor. Surprisingly, *Annales* explanations tend, however, to be largely atheoretical, layering time series and analyzing their interactions rather than testing explicit theories. In the German-speaking countries, there is more explicit theorizing, reflecting the strong philosophical tradition and the *Theoriediskussion* of the 1970s. The hermeneutical heritage stresses qualitative generalization so that one can argue that "there is theory-oriented history of a non-quantitative character, and legitimately so." Hence only a small minority (such as the leaders of QUANTUM) subscribe to the more rigorous standards of a statistical *Historische Sozialwissenschaft*. In Eastern European countries, Marxism as theory (not just ideology), defines the essential contextual parameters: "It is precisely the Marxist theory and methodology of historical knowledge with its characteristic principles of logical historical method which guarantee that modelbuilding in historical research is applied effectively." Modeling (largely on the reflective-measuring level) plays a limited but important role in middle-level empirical generalization, especially in areas where there are no direct statements by Marxist-Leninist classics 19).

In Britain and in the smaller European countries, divisions on the theory question seem to run somewhat along American lines. A vigorous and sophisticated minority of quantifiers appears to aspire to the stringent standards of "scientific history" (R. Fogel) or quantitative social science history (M. Kousser), involving analytical use of statistics as well as explicit modeling. A larger but less vocal group of practicing quantifiers is content with medium-level generalizations, while an indeterminate number simply applies methods without much theoretical concern. Some scholars support the fusion into a historical social science; others are more comfortable in the middle ground between the social sciences and the humanities (occasionally borrowing for specific purposes), while still others are clinging to the fundamentally humanistic character of historical scholarship, even if they admit the utility of quantitative methods for particular questions. In the theory debate there are significant differences among the national viewpoints, but equally fundamental distinctions exist within many of the countries concerned 20).

19) B o u r d e l a i s, "French Quantitative History," 179ff; J. K o c k a, "Theorieorientierung und Theorieskepsis in der Geschichtswissenschaft. Alte und Neue Argumente," *Historical Social Research* 23 (1983): 4 - 19; versus B e s t, "Quantifizierende Historische Sozialforschung," 121ff; I. K o v a l c h e n k o, "Model-Building for Historical Phenomena and Processes," *Soviet Quantitative History*: 29 - 45.

20) R. F o g e l, "'Scientific History' and Traditional History," in L. J. C o h e n (ed.),

The technological working conditions of quantitative scholars in different countries are a final area of difference between national styles of quantitative history. While much of the computer machinery is transnational (or American in design), national academic cultures and forms of organization determine the conditions of its use. Moreover government support of indigenous computing technology (France, West Germany, and Russia) creates substantial time lags in the availability of software, such as SPSS, which first needs to be transposed into another machine language (not to mention the translation of the manual, etc.). In some of the wealthier Western European countries computer use is relatively open, though the working conditions are more regimented and the turn-around time tends to be longer (jobs often cannot be run by the user directly, but have to be done by other personnel). In Eastern Europe access is quite difficult and in many Third World countries virtually nonexistent. Ironically, the rapid spread of the microcomputer is likely to increase these differences. While France has launched a publicity campaign in its favor, there seem to be few micros in actual working use by historians. In West Germany researchers expect them to be provided by the university or research team, which is a slow and laborious process. In Communist countries and the developing world, funds are hardly available for such extravagance. Especially the soaring yen is keeping Japanese machinery expensive abroad and there are also fewer discounts. Only in Britain and in Scandinavia do microcomputers seem to be spreading rapidly on the level of the individual working scholar. On the continent the dominant organizational style of *Grosswissenschaft* (large institutionally sponsored team research) appears to be inhibiting the microcomputer revolution because of its mainframe orientation. In contrast, in the Anglo-American sphere, microcomputers, especially for word processing, are transforming quantitative history into a cottage industry in the individual department or scholarly study, even if useful data-base and statistical software is only beginning to emerge²¹). Hence practical working conditions of quantitative historians may well diverge further in the near future.

Logic, Methodology and Philosophy of Science (Amsterdam, 1982), vol. 6: 15 - 61 and M. J. K o u s s e r, "Quantitative Social Scientific History," in M. K a m m e n (ed.), *The Past Before Us* (Ithaca, 1980), 437 - 456 as well as "The Agenda for 'Social Science History,'" *Social Science History* 1 (1977): 383 - 391, versus D. H e r l i h y, "Numerical and Formal Analysis in European History," *Journal of Interdisciplinary History* 12 (1981): 115 - 136; or B. B a i l y n, "The Challenge of Modern Historiography," *American Historical Review* 87 (1982): 1 - 24.

21) There is nothing comparable to the lively discussion about microcomputers outside the U. S. See D. K. R o w n e y, "The Historian and the Microcomputer," *Byte* 7 (1982): 168ff; the threepart article series on microcomputers by M. M. F i n e f r o c k in *AHA Perspectives* 21 (1983), nos. 8 and 9, 22 (1984), no 1; R. J e n s e n "The Microcomputer Revolution for Historians," *Journal of Interdisciplinary History* 14 (1983): 91 -111; and K. H. J a r a u s c h, "SPSS/PC: A Quantitative Historian's Dream or Nightmare?" *AHA Perspectives* 23 (1985): 25 - 26.

These somewhat impressionistic reflections on quantitative history outside of the United States reveal the emergence of a number of distinctive national styles. Given an expectation of uniformity, the differences between national variants are surprisingly extensive. One might even talk of competition between the American (historical social science), French (*Annales*), and Russian (Marxist quantification) paradigms especially in the developing countries, which are importing not only machines but also methodology. While the German quantitative style is still defining itself, a British version is in danger of being swamped by influences from the United States. Although not internally uniform, these prevailing national patterns also lead to divergent responses to the challenge of the revival of narrative, the role of ideology in quantification, the issue of theory, and finally, the practical working conditions of quantitative scholars. No wonder that this diversity complicates the intellectual dialogue across frontiers. The considerable differences in the use of quantitative methods between Ladurie's serial approach to the peasants of the Languedoc, J. Kocka's soft statistics on German white collar employees, J. Kahk's compilations of Estonian agricultural figures, and Wrigley/Schofield's sophisticated British demographic computations are not just due to the peculiarities of individual authors; they also reflect the respective quantitative style of each scholarly community²²). Instead of assuming the universality of the American model (which one?), historians would be better advised to take these national styles into account as conditioning factors of academic production, which have not only organizational implications but, more significantly, intellectual consequences.

Against these centrifugal tendencies, it is important to stress that quantitative historians also have much in common across national frontiers. Beset by methodological and ideological criticisms, they can take heart from the internationality of their enterprise, not just in the Western countries but also in the Eastern bloc and the Third World. Except in France and Russia, much of the basic computing technology tends to be American, which makes for a certain uniformity. Since the lingua franca of quantifiers is English, software and statistical methods often spread from the Anglo-American center outwards, even if they are applied differently in other contexts and some feedback (from West Germany for instance) is beginning. There is a considerable resemblance among such historical problems as population growth, price fluctuation, elec-

22) Since it is impossible to distill the breadth of quantitative scholarship in various countries into a single work, these four titles are intended only as illustrations of the kinds of divergences among national styles. E. Le Roy Ladurie, *Les paysans de Languedoc* (Paris, 1966); J. Kocka, *Unternehmensverwaltung und Angestelltenschaft am Beispiel Siemens 1847 bis 1914* (Stuttgart, 1969); J. Kahk, *Peasant and Lord in the Process of Transition from Feudalism to Capitalism in the Baltics* (Tallinn, 1982); and E. A. Wrigley and R. Schofield, *The Population History of England, 1511 - 1871* (Cambridge, 1981).

tion results, or social mobility in spite of somewhat different approaches to them. Some areas of inquiry, like historical demography and economic history, have well developed international subject networks and organizations. There are also a few bilateral ties (American-Soviet, French-Latin American) that have a centripetal effect. A number of quantitative historians work and publish in two languages and cultural contexts, facilitating transfer of methods and results. Finally, there have also been a few transnational cooperative research projects such as the Tillys' effort to study the bases of popular revolt in Western Europe 23).

The emergence of national styles of quantitative history is, therefore, both a threat and an opportunity. On the one hand it raises the danger of further fragmenting the community of quantitative historians already divided over such questions as ideology or theory. On the other hand the different variants of quantification also present the challenge of a dialogue that can enrich the participants. With the translation of the major works of the *Annales*, this debate is well on its way between some Anglo-American and French historians. One could only wish that it would reach broader circles of the profession and display more awareness of the impact of academic structures on formal intellectual exposition. Lack of contextual understanding of the other position reduces some of the discussion to shadow-boxing. However, other varieties of quantitative history are largely ignored by the Anglo-American profession. Occasionally individual scholars from abroad are co-opted for a while, but only specialists in Russian history (and among them only a small minority) are aware of the existence of Soviet quantitative work. To overcome this lack of communication, some quantitative historians (representing the AHA quantitative methods committee, its Soviet counterpart, QUANTUM, and individuals from England, France, etc.) have founded an International Commission for the Application of Quantitative Methods in History. Attached to the International Congress of Historical Sciences, this organization has sponsored conferences in Washington (1982) and Bellagio (1984) 24). During the 1985 meeting of the International Congress of Historical Sciences in Stuttgart (West Germany) INTERQUANT has sponsored a two-day program with sessions on the impact of quantitative methods on the writing of history, the problem of social inequality, the use of microcomputers, and the transition from agrarian to industrial society 25).

23) Charles Tilly and Louise Tilly, *The Rebellious Century* (Cambridge, 1975). The great opportunities for comparative/international quantitative history have not yet been explored to the degree they should. Cf. J a r a u s c h, "The International Dimension of Quantitative History," *Social Science History* 8 (1984): 128.

24) "Quantitative History Conference Report," *AHA Newsletter* 20 (1982): 8; and the special issues of *Historical Social Research*, published in early 1985.

25) For the best papers from these sessions, see the other essays in this volume.

But organizational efforts to overcome quantitative parochialism can play only an auxiliary role. To derive greater benefits from the national varieties of quantitative history, individual scholars must become more willing to run the risks of international dialogue. Impressive beginnings have been made. We only have to go on.