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Promises and Problems of Quantitative Research in Central European History [1978]

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Abstract: »Probleme und Möglichkeiten quantitativer Forschungen in der deutschen Geschichte«. In spite of a grand tradition of statistical analysis in the last decades of the 19th century, quantitative methods spread more slowly among German historians than among their French or British colleagues who were interested in the structural approach of the *Annales* or in family demography. This essay describes the organizational efforts of QUANTUM in Germany and of the quantitative methods committee of the Conference Group for German History in the United States. Moreover, it contrasts the results of a German and American survey of the use of these methods, noting considerable differences between the two contexts in subject matter and interpretation. The article aimed at convincing reluctant scholars to make use of quantification and to progress to more sophisticated statistical analyses wherever interpretative questions demand it. The piece is therefore a document of the initial enthusiasm for the potential of a new research method.

Keywords: quantitative methods, historical statistics, QUANTUM, Conference Group for Central European History.

Unlike scholars dealing with other areas of the European or American past, Central European historians have been slow to interest themselves in quantitative methods. Despite an undercurrent of statistical work, the diplomatic and intellectual preoccupation of the German tradition of history has militated against the development of questions which might involve quantifiable answers.¹ Many colleagues still share the notion that “history is linguistic, not numerical” and resent statistics as dehumanizing, like one respondent to a recent survey: “I have always admired Livy because his figures are invariably wrong. I figure that, if I cannot work out the mathematics longhand, my readers won’t be able to understand it either, so why bother.”² Hence it is no accident that none of the Europeanist pioneers of quantitative methods, such as Lawrence Stone or Charles Tilly, work in German history. But the impressive

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¹ George G. Iggers, *Deutsche Geschichtswissenschaft* (Munich, 1972), and *New Directions in European Historiography* (Middletown, 1975), chap. 3.

² This attitude is cogently expressed by Jacques Barzun, *Clio and the Doctors: Psycho-History, Quanto-History and History* (Chicago, 1974), and by Wolfgang Sauer in his paper “West German Historiography since 1945” at the 1976 meeting, at Washington, of the American Historical Association (AHA).

results of the new tools in other fields,³ the impetus of comparative studies involving Central European materials,⁴ the renewal of interest in social or structural history, the increasing preoccupation with theories, and the opening towards the social sciences have gradually attracted younger scholars to quantification.⁵

Hence a more tolerant attitude has begun to emerge, and even scholars who do not wish to apply these techniques are starting to appreciate their possibilities and limitations, because in the final analysis historical questions are more important than method controversies.⁶

Despite some early interest in quantification, the practical and psychological obstacles proved particularly hard to overcome in the Federal Republic of Germany. In the 1960s access to data-processing facilities was difficult; program packages rarely existed and most procedures had to be written *de novo*; few humanists were systematically trained in statistics; and social and economic historians were isolated in the ghettos of their own *Lehrstühle*. The influence of French, Scandinavian, and American scholars who were better versed in quantitative methods and the competitive pressures emanating from the explosion of the social sciences slowly made some established historians in West Germany receptive to the new techniques.⁷ Since quantitative work is particularly amenable to institutionalized *Grossforschung*, supported by large foundation funds, several projects were launched in which the *Ordinarius* defined the intellectual goals while the younger scholars acquired statistical and data-processing expertise through actual research. Because of the limitations of their sources, ancient historians and archeologists were particularly interested in nonnumerical techniques, while medievalists turned to tax records, baptismal registers, etc., and archivists experimented with the computer to facilitate their

³ See only the collections by D. K. Rowney, ed., *Quantitative History* (Homewood, Ill., 1969), R. P. Swierenga, ed., *Quantification in American History* (New York, 1970), Alan Bogue and R. Fogel, eds., *The Dimensions of Quantitative Research in History* (Princeton, 1972).

⁴ E.g., Charles, Louise, and Richard Tilly, *The Rebellious Century* (Cambridge, Mass., 1975).

⁵ Wolfgang J. Mommsen, H.-J. Puhle, H.-U. Wehler, "Vorwort der Herausgeber," *Geschichte und Gesellschaft* 1 (1975): 5-7, and Peter Stearns's programmatic statement "Coming of Age" in the *Journal of Social History* 9 (1976): 246-55.

⁶ Werner Conze, "Die deutsche Geschichtswissenschaft seit 1945: Bedingungen und Ergebnisse," *Historische Zeitschrift* 225 (1977): 1-28; H.-U. Wehler, "Kritik und kritische Antikritik," *ibid.*, 347-84; and Otto Pflanze's presentation, "Bismarck's Quest for Social Consensus," at the 1976 AHA meeting, all agree on this cardinal point.

⁷ C. A. Lückerrath, "Prolegomena zur elektronischen Datenverarbeitung im Bereich der Geschichtswissenschaft," *Historische Zeitschrift* 207 (1968): 265ff. E. Riedenauer, "Elektronische Datenverarbeitung im Dienst von Landes- und Gesellschaftsgeschichte," *Zeitschrift für Bayerische Landesgeschichte* 35 (1972): 379-435; and Klaus Arnold, "Geschichtswissenschaft und elektronische Datenverarbeitung," in T. Schieder, ed., *Methodenprobleme der Geschichtswissenschaft*, *Historische Zeitschrift*, Beiheft 3 (n.s.) (Munich, 1974), pp. 98-148.

task of record storage.⁸ The ideological preoccupations of the New Left retarded the growth of quantification in modern history,⁹ but in 1975 a group of enterprising young historians and sociologists at the University of Cologne founded the organization QUANTUM “to provide for quantitative historical and social science research a communications forum, a centre for advice on methods, data and techniques and a point of coordination for attempts to open up new bodies of data.”¹⁰ Through a lecture series at the *Institut für empirische Sozialforschung*, well-attended panels at the German historians’ and sociologists’ conventions in the fall of 1976, an international conference with the Social Science History Association in the summer of 1977 and several specialized meetings (such as the workshop on “Quantitative Analyses of the National Socialist Movement”), the creation of problem-oriented networks, the distribution of a regular newsletter, and the launching of a publication series, *Historisch-Sozialwissenschaftliche Forschungen*, QUANTUM has succeeded in drawing attention to quantitative work and in putting the debate about quantitative methods onto the agenda of historical proseminars. But despite sizable membership gains, Jürgen Kocka has warned against premature optimism, because of inherent obstacles (the inappropriateness of quantitative methods for many questions and the lack of sources for others), continuing limitations of financing, and traditionalist resistance.¹¹ In contrast there has been virtually no quantitative work in the German Democratic Republic.¹²

The late but rapid spread of quantitative methods in West Germany is reflected in the nature of the scholarship and in the kind of topics which are being investigated. The first QUANTUM survey revealed 221 projects in the Federal Republic, 35 in Switzerland, and an additional 14 in Austria (roughly one-half

⁸ R. Gundlach and C. A. Lückerrath, “Nichtnumerische Datenverarbeitung in den historischen Wissenschaften,” *Geschichte in Wissenschaft und Unterricht* 20 (1969): 385-98; F. Irsigler, ed., *Quantitative Methoden in der Wirtschafts- und Sozialgeschichte der Vorneuzeit* (Stuttgart, 1977); Bundesarchiv Koblenz, *Protokoll der ersten Sitzung des Ausschusses der EDV-Referenten und Sachbearbeiter der Archivverwaltungen des Bundes und der Länder am 28./29. November 1972 im Bundesarchiv Koblenz* (printed as manuscript), and numerous articles by H. Boberach, W. Buchmann, et al., in *Der Archivar*.

⁹ I. Geiss, ed., *Ansichten einer künftigen Geschichtswissenschaft* (Munich, 1974), and A. Sywotteck, *Geschichtswissenschaft in der Legitimationskrise* (Braunschweig, 1974), are, generally, methodical traditionalists.

¹⁰ H. Best, “QUANTUM’s First Year,” *QUANTUM Information* no. 1 (1976): 1-3.

¹¹ *QUANTUM Information*, nos. 1-5 (1976-78) and *Historisch-Sozialwissenschaftliche Forschungen (HSF)* (Klett-Cotta, Stuttgart, 1977). For vol. 1 see n. 13, for vol. 2 see n. 24, and for vol. 3 (containing J. Kocka’s introduction, “Quantifizierung in der Geschichtswissenschaft,” pp. 4-10) see n. 25 below.

¹² A. Dorpalen, “The Marxist Historiography of East Germany,” paper at the 1976 AHA meeting.

of which were computer-assisted).¹³ Although a number of social scientists and social historians employ sophisticated techniques, the majority of German historians surveyed does not yet utilize the computer and prefers cross-tabulation to analytical statistics. This dichotomy reveals the lack of quantitative training for historians, the high proportion of beginners (55 percent) without previous statistical experience, and the greater availability of such expertise in economic and social science institutes. Moreover, despite the high costs of this kind of research, financing is still inadequate, since over half of the scholars support their work out of their own pocket and struggle on alone. The majority of the projects deals with regional developments (city 21 percent, region 19 percent, and state 18 percent) while the more recent proposals tend to ask national questions, and three-fifths deal with the nineteenth and twentieth centuries rather than with earlier periods. The range of interests is wide, but is skewed towards social and economic topics at the expense of political and demographic themes (Table 1). Despite impressive beginnings in areas of traditional strength, quantitative research in Germany continues to lag in parliamentary analysis and electoral sociology as well as in family history and population studies. In order to overcome this analytical deficit the institutional infrastructure, research funding, and the teaching of quantitative methods need to be improved and some archival holdings transformed into machine-readable data. Although much exciting work is underway, the promise of quantitative methods in Germany is still greater than its performance.¹⁴

¹³ W. Bick, P. J. Müller, and H. Reinke, eds., *Quantitative historische Forschung 1977: Eine Dokumentation der QUANTUM-Erhebung* (Stuttgart, 1977), vol. 1 of *HSF*. Table 1 is based on a handcount of the German projects.

¹⁴ R. Vierhaus, "Zur Lage der historischen Forschung in der Bundesrepublik Deutschland," in Arbeitsgemeinschaft ausseruniversitärer historischer Forschungseinrichtungen in der Bundesrepublik Deutschland, *Jahrbuch der historischen Forschung in der Bundesrepublik Deutschland* 1 (Stuttgart, 1974): 17-32, and subsequent volumes of the same series, providing a listing of all reported research projects in German history.

Table 1: Research Topics of German Historians

<i>Economy</i>		<i>Society</i>	
Agriculture	14	Stratification	17
Industrialization	10	Labor movement	14
Urban economy	9	Urban history	8
Business	7	Social classes	7
Trade	6	Bureaucracy	4
Business cycles	5	Protest	2
Finances	5	Secularization	2
Nutrition	4	Others	2
Prices	3		
Currency	3		
Taxation	2		
	68 (31.5%)		56 (25.9%)
<i>Polity</i>		<i>Culture</i>	
National Socialism	6	Medieval obituaries	6
Elections	4	Universities	4
Parties	4	Medicine	3
Revolutions	4	Science	3
Resistance	3	Education	3
France	3	Others	6
International Conflicts	2		
Political Systems	2		
Others	2		
	30 (13.9%)		25 (11.6%)
<i>Population</i>		<i>Others</i>	
Population trends	9	Historiography	8
Family	4	Prehistory	5
Migration	3	Others	3
Urbanization	2		
Others	3		
	21 (9.7%)		16 (7.4%)

Source: See n. 13.

In North America, Central European historians began to work with quantitative methods somewhat earlier, but their organizational efforts have taken longer to formalize. Some individuals, such as James J. Sheehan, were involved in the initial conferences of quantitative historians in general.¹⁵ Edward Shorter, more interested in comparative history, provided a practical guide for his peers.¹⁶

¹⁵ J.J. Sheehan, "Quantification in the Study of Modern German Social and Political History," in V.R. Lorwin and J. Price, eds., *The Dimensions of the Past: Materials, Problems and Opportunities for Quantitative Work in History* (New Haven, 1972), 301-32.

¹⁶ E. Shorter, *The Historian and the Computer* (Englewood Cliffs, N.J., 1971), still one of the most useful introductions into the method.

Although the physical pre-conditions were more propitious and historians in other ethno-cultural areas were already experimenting with new research techniques, the absence of visible pioneers hampered development in German history, because scholars who had completed traditional training were generally reluctant to retool at a postdoctoral level. In the spring of 1973 James F. Harris and this writer organized a conference on "Quantification in German Studies" at the University of Maryland¹⁷ in order to encourage further debate and establish better communication with social scientists working on historical questions. Because incorporation seemed premature, this informal group met until 1976 at the American Historical Association conventions and, thanks to the guidance of Arnold Price, provided a forum for the presentation of quantitative research, especially for younger scholars. Drawing on the work of both German and American scholars, this author sought to illustrate the promises and problems of quantification in Central European history by publishing an anthology of methodological articles and reports from current research in 1976.¹⁸ Since the increasing numbers of dissertations using quantitative techniques and the underrepresentation of German historians in such organizations as the Social Science History Association suggested the need for a more formalized structure, the Conference Group for Central European History established a "Committee on Quantification" at its 1976 business meeting. Hence there now exists a clearinghouse for Central European historians interested in quantitative methods, which provides an organizational focus and a channel of communication with the Conference Group on German Politics and QUANTUM in Germany.¹⁹

The results of the committee's recent survey on quantitative work mirror the advantages and disadvantages of Central European historians in this country.²⁰ Since members of the Conference Group on German Politics were not included and many historians working only occasionally with statistics did not respond,

¹⁷ J. Ridgway, conference report on "Quantification in German Studies," *Historical Methods Newsletter* 6 (1973): 170-71.

¹⁸ Konrad H. Jarausch, ed., *Quantifizierung in der Geschichtswissenschaft: Probleme und Möglichkeiten* (Düsseldorf, 1976), with essays on method and methodology by the editor, Charles Tilly, Lawrence Stone, Thomas B. Alexander, and Rolf Gundlach/Carl August Lückerath, and research reports by Donald J. Mattheisen, James F. Harris, Michael H. Kater, Lamar Cecil, Richard Tilly/Gerd Hohorst, Hartmut Kaelble, Wolfgang Köllmann, Eckart Schremmer, and Peter Lundgreen.

¹⁹ Minutes of the Conference Group for Central European History December Meeting, Washington, D.C., 1976, distributed to the members. The author is the current chairman of this committee.

²⁰ In September, 1977, 550 questionnaires were mailed to the membership of the Conference Group for Central European History. Since initially there were only 30 useful returns (indicating projects), a reminder was sent out which produced another 28 responses, while the rest of the titles were gathered from the United States portion of the QUANTUM survey or from published work. Cf. also the research roster put together by David P. Conradt for the Conference Group on German Politics, *CGGP Newsletter* 11 (1977).

the total number of projects identified is smaller than in Germany (221:68). On the positive side, the proportion of computer use is much higher (61 of the projects versus 110 in Germany), and more scholars employ not only descriptive but also analytical statistics (regressions and more complex techniques). This sophistication may relate to the availability of training in quantitative methods (although half of the respondents were self-taught, the other half had some graduate instruction or workshop experience) and the cooperation of computer centers in offering help in the use of program packages (such as SPSS). On the negative side, all the projects involve only one individual, that is, they are still proceeding by artisan methods in an industrial age. Funding also seems to be a considerable problem, since over half the respondents reported financing their research out of their own pocket, while perhaps receiving some support from their home institutions for keypunching and computer time, and only two-fifths were fortunate enough to obtain outside grants. The most frequent complaints centered on problems posed by the availability of sources, which are more fragmented in Central than in Western Europe; coding and analysis were also often mentioned, underlining the developmental difficulties of an area in which many of the researchers are beginners and this kind of expertise is not yet routinely available everywhere. In contrast, few seemed to have difficulties with data processing or with the publication of their results. Because of the novelty of the field, the age structure of the researchers on both sides of the Atlantic is roughly comparable, since hardly any older scholars are directly involved and about half of the work is in the dissertation or prepublication stage.

However, research topics in the two countries differ substantially. Most of the American projects deal with the national scene, while about 30 percent focus on cities or regions and only 10 percent involve individual states. Similarly, there are fewer people working before 1800, while about 45 percent of the studies involve the nineteenth century and about 45 percent the twentieth. But the most startling distinction is in the problems investigated (Table 2). Astonishingly, interest in German political history and demography is considerably greater in America than in Germany itself. There is little difference in social or cultural history.²¹ Though there are presumably fewer Central European economic historians in this country, their econometric bent should have made them more strongly represented, were it not for the fact that most cliometricians are oriented towards economics or comparative economic history rather than towards Central European history. A key reason for the difference in emphasis seems to be the American conception of the political system as a mea-

²¹ Robert F. Wheeler, "Quantitative Methoden und die Geschichte der Arbeiterbewegung," *Internationale Wissenschaftliche Korrespondenz* 10 (1974): 40-51, and P. Lundgreen, "Quantifizierung in der Sozialgeschichte der Bildung," *Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte* 63 (1976): 433ff.

asurable entity and the German reluctance to view the political process in quantitative terms. Despite the very considerable handicaps of language, financing, and lack of communications, a promising beginning has been made in this country, evident in the growing number of quantitative articles and monographs.

Table 2: Research Topics of North American Historians

<i>Polity</i>		<i>Society</i>	
National Socialism	11	Working class	5
Imperial Germany	8	Bureaucracies	5
Weimar elections	5	Stratification	2
Liberalism	2	Jewish community	2
		Others	2
	26 (38.2%)		16 (23.5%)
<i>Population</i>		<i>Culture</i>	
Urbanization	4	Universities	4
Early modern city	4	Education	4
Austrian peasants	2	Others	2
Others	2		
	12 (17.6%)		10 (14.7%)
<i>Economy</i>			
Economic growth	2		
Others	2		
	4 (5.9%)		

Source: See n. 20.

The two surveys demonstrate the take-off of quantitative work in German history on both sides of the Atlantic.²² But – to continue a questionable metaphor – the rapid growth has made for uneven development, bypassing certain topics and leaving differences of statistical sophistication in its wake. In order to make quantitative research realize its full potential in Central European history, the working conditions for North American scholars employing such methods need to be improved. The compilation of a research roster, the circulation of a newsletter, the holding of workshops on special problems such as “occupation and social stratification in Central European history,” the consultation of quantitative referees in the publication process, and the improvement of

²² The increasing frequency of quantitative articles in the *Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte*, *Social Science History*, and other historical journals, etc, is only one indication. See also R. Rürup, ed., *Historische Sozialwissenschaft: Beiträge Zur Einführung in die Forschungspraxis* (Göttingen, 1977), with essays by A. Imhof, K. Hausen, P. Lundgreen, and W. Lepenies.

funding for larger research projects would go far towards satisfying the complaints voiced in the Conference Group survey.²³

Organizational efforts should, however, be matched by intellectual progress. In their suggestive essay in the second volume of *Historisch-Sozialwissenschaftliche Forschungen* W. Bick and P. Müller call for “the development of a new quantitative source criticism, which is capable of analyzing the origins and structures of process-produced data” such as the files of private or governmental bureaucracies. Whatever one may think of this neologism (coined by Stein Rokkan), the underlying point is well taken, since historians need to become more aware of the limitations and biases inherent in those mass *Akten* which are amenable to data processing. Because computer manipulation can only imperfectly compensate for deficiencies in the original documentary base, evaluative criteria need to be developed in order to assess the interpretative potential of a set of files, analogous to the traditional rules of historical evidence. This critical attitude should be carried over onto the level of methods, since only historians with some experience in quantitative work can point out the intellectual costs of certain data-processing decisions. For instance P. Borscheid and H. Schomerus unnecessarily excluded individual names in their imaginative study of Württemberg workers, because they were advised that SPSS could not handle alphanumeric variables. In both countries quantitative historians concerned with Central European problems seem well on their way towards mastering descriptive numbers. But only a minority has so far ventured into the strange new world of analytical statistics, while the majority has sometimes seriously underinterpreted its evidence.²⁴

On the methodological plane, there is still much room to improve interpretative perspectives which determine research designs through greater use of comparisons across time or cultures and through an intensified dialogue with the social sciences. Although many of the contributions to volume 3 of *HSF* on *Quantitative Methoden in der historisch-sozialwissenschaftlichen Forschung* are broadly conceived and well informed (such as A. Imhof's and T. Kohn's essay on “Die Analyse kirchlich-administrativer Daten mit Hilfe der EDV”), others suffer from geographical narrowness and disciplinary myopia (such as Diedrich Saalfeld's discussion of “Kriterien für eine quantifizierende Darstel-

²³ The recommendations of D. S. Landes and Ch. Tilly, *History as Social Science* (Englewood Cliffs, N.J., 1971), were largely ignored. Cf. also Bick, Müller, and Reinke, “Quantitative History in Transition,” *Social Science Information* 16 (1977): 694-714, and K. H. Jarausch, “Möglichkeiten und Probleme der Quantifizierung in der Geschichtswissenschaft,” in *Quantifizierung*, pp. 11-30.

²⁴ W. Bick and P. J. Müller, “Die Buchführung der Verwaltungen als sozialwissenschaftliche Datenbasis,” pp. 42-88 in P. J. Müller, ed., *Die Analyse prozess-produzierter Daten* (Stuttgart, 1977), vol. 2. of *HSF* (based on a panel of the 1976 *Soziologentag* at Bielefeld). P. Borscheid and H. Schomerus, “Mobilität und soziale Lage der württembergischen Fabrikarbeiterschaft im 19. Jahrhundert,” *ibid.*, 199-224.

lung der sozialen Differenzierung einer historischen Gesellschaft – Das Beispiel Göttingen 1760-1860.”)²⁵ No doubt it is easier to preach criticism of sources, methods, and methodologies than to practice it. As an example, my own recent work on German higher education during the Second Empire has demonstrated time and again how a basic source, such as university matriculation registers, shapes the kind of questions that can be asked. It has shown that analytical indices and more complex techniques tend to produce more insights than simple cross-tabulation of variables. It has posed problems which require comparisons with other institutions, other time periods, or other countries, so that individual institutional features and national peculiarities can be isolated. Finally it has forced me to look beyond history towards sociology and educational research for conceptual approaches to the social transformation of higher learning from a traditional to a modern elite system.²⁶

A skeptic might well ask: Will quantitative methods add to our understanding of Central European history? Since quantitative historians are now more modestly suggesting that they might only further knowledge about specific questions and no longer pretend to revolutionize the discipline in general, the opposition has begun to focus on the products of quantitative scholarship rather than the pretensions of some of its proponents.²⁷ If continued on this level, the debate can be fruitful. The heat of general argumentation has sometimes obscured that quantification is only an *ancilla Clionis*, a handmaiden of history, which if correctly employed expands the reach of scholarship. Although methods do tend to be linked with methodologies (in this case a social-science outlook), they ought to be measured by their results rather than by their epistemologies. Hence imagination, intellectual honesty, and persuasiveness will remain the standards by which quantitative as well as qualitative history is judged. In this sense quantification has already come some distance, but still has a long way to go.²⁸

²⁵ H. Best and R. Mann, eds., *Quantitative Methoden in der historisch-sozialwissenschaftlichen Forschung* (Stuttgart, 1977), vol. 3 of *HSF*, also including articles by W. H. Schröder, R. Spree, H. Best, and H. L. Schwippe.

²⁶ K. H. Jarausch, “Studenten, Gesellschaft und Politik im Kaiserreich,” *Informationen zur Erziehungs- und Bildungshistorischen Forschung* 3 (1976): 61-90, and “Liberal Education as Illiberal Socialization: The Case of Students in Imperial Germany,” *Journal of Modern History* 50 (1977), 609-630.

²⁷ See especially R. W. Fogel, “The Limits of Quantitative Methods in History,” *American Historical Review* 80 (1975): 329-50, versus R. Stromberg, “A Note on Quantification (by a Zealous Obscurantist?),” *American Historical Association Newsletter* 9 (1973): 31-33. For the continuation of exaggerated expectations cf. J. M. Kousser, “The Agenda for ‘Social Science History,’” *Social Science History* 1 (1977): 383-91.

²⁸ See M. H. Kater, “Quantifizierung und NS-Geschichte: Methodologische Überlegungen über Grenzen und Möglichkeiten einer EDV-Analyse der NSDAP Sozialstruktur,” *Geschichte und Gesellschaft* 3 (1977): 453ff., and James F. Harris’s review essay on German electoral history, in the *Historical Methods Newsletter* in 1979, for some of the prospects as well as problems of quantitative work.