

Reviews/Revues

Counting on the Past: Quantification in History

The war at last is over. The public battles and private skirmishes have been fought and settled, by compromise if not always victory and surrender. And it would seem today that the "quantifiers" have emerged with a limited victory; or, at least, the ball is presently in their court. True, only a minority of historians actively practice quantitative research strategies, and very few departments offer specialties or sophisticated training in advanced methods. Nevertheless, we hear far fewer denials of the relevance, reliability, or needs for numerical research in history, and few historical journals have been immune to the publication of statistical research, including virtually all the organs of national societies. Without attempting a complete survey or report on the state of historical studies today,¹ I will point to one indicator. The distinguished United States historian, Oscar Handlin, startled many of his peers in 1970 with his discursive critique, "History: A Discipline in Crisis?" in which he lambasted quantification among other recent developments.² Handlin was hardly an isolated case of protestation, but his framework for criticism was somewhat more romantic and backward-looking than most others. Nevertheless, in the space of five short years, even Handlin has granted a more important role to historical quantification. In "The Capacity of Quantitative History", though hardly a proponent of numerical history, Handlin reveals an understanding of methods and approaches which is impressive, and his strident tone of 1970 (if not his pessimism) has been replaced by a piercing logic.³

Equally significant has been the change in the opinions of Robert Fogel, one of the most outspoken advocates of quantification. Throughout the sixties, in several books and many articles and reviews, Fogel attacked the unsystematic and anecdotal methods of traditional historical inquiry. Simultaneously, he advanced the claims of quantification, econometrics, and modeling in dealing with historical sources and questions. The "father" of formal

1 But see Felix Gilbert and Stephen Graubard, eds., *Historical Studies Today* (New York, 1972), and Social Science Research Council, *Research in Economic and Social History* (London, 1971). Other important surveys of quantitative research in addition to the works reviewed include J. H. Silbey, "Clio and Computers: Moving into Phase II, 1970-72", *Computers and the Humanities*, 7(1972), pp. 67 - 79; R. P. Swierenga, "Computers and American History: The Impact of the 'new' Generation", *Journal of American History*, 60(1974), pp. 1045 -1070, and "Computers and Comparative History," *Journal of Interdisciplinary History*, 5(1974), pp. 267 - 286; and R. J. Jensen, "Quantitative American Studies: The State of the Art", *American Quarterly*, 26(1974), pp. 225 - 240.

2 *American Scholar*, 40(1970), pp. 447 - 465.

3 *Perspectives in American History*, 9(1975), pp. 7 - 26. —

counterfactual argumentation in history, he led the wing of economic historians most enthusiastic about a scientific, statistical study of the past. Yet, in two articles published in 1975, Fogel has retreated from his extreme position. He now writes of "The Limits of Quantitative History," and considers his and Stanley Engerman's efforts in producing *Time on the Cross* a sobering experience.⁴ His tone, as Handlin's, is more calm and reasonable; the acceptance of a numerically-based history has led to a new modesty among its practitioners and proponents just as the leading critics have tempered their judgements. Both write now of the capabilities and limitations of quantification in history; both stress the integration of "new" and traditional sources and methods toward a fuller and more complete understanding of the past. Artificial and negative distinctions between humanistic and empirical research are less often advanced; reasoning and discourse have gradually replaced stridency and noncommunication; and fewer quantifiers now claim that counting techniques may be adapted to virtually all historical problems.

Nonetheless, too many historians allow optimism and enthusiasm to erode criticism. This has been especially true among many reviewers of the volumes under assessment here.⁵ There has in fact been insufficient attention paid to sophisticated criticism of sources or methods in the "new" history among North American students and even a superficial acquaintance with modern French social history through the *Annales* or through the many monographs published annually in Paris will reveal the distance which still separates much of their work from the more recent quantitative studies of the English and North Americans. Moreover, intriguingly, the notion of quantification and the concept itself are seldom explicitly explored. William O. Aydelotte, in his evenly balanced and easy introduction to *Quantification in History* (Reading, Mass., Addison-Wesley, 1971) proceeds furthest in this direction. While even he leaves more to implication and indirect statement than I would like to find, through quietly (i.e., unflashy) prodding argument and solid common sense, Aydelotte systematically and effectively challenges the common objections to quantification, never losing sense of the limitations of these approaches. His cautious approach and effective style should in fact win many converts to a new, more receptive attitude and all historians, even those who use or support numerical research strategies, and all advanced students would profit from a consideration of his slim volume. If any fault is to be found, it must be over-cautiousness and over-emphasis of limitations.

4 *American Historical Review*, 80(1975), pp. 329 - 350, and *Perspectives in American History*, 9(1975), pp. 29 - 32.

5 For examples of good, though sympathetic criticism, see Charlotte Erickson, "Quantitative History", *American Historical Review*, 80(1975), pp. 351 - 365; and M. B. Katz, "Quantification and the Scientific Study of History", *Historical Methods Newsletter*, 6(1973), pp. 63 - 67.

Lee Benson in his *Toward the Scientific Study of History: Selected Essays* (Philadelphia, J. P. Lippincott, 1972), has produced a volume which is often grouped with Aydelotte's work in book reviews. Benson, too, is concerned more with historiography, approach, and conceptualization in his essays than with concrete examples of historical quantification. Throughout his publications, for over twenty years, he has demanded from historians more sophisticated conceptualizations, more systematic research designs, more of a dependence on the social sciences, and, generally, a more "scientific" approach to history, but in these essays there is a clear evolution in his thought. Effectively and convincingly, indeed often with "overkill", Benson makes his case for the systematic, analytic approach to research on the past. Yet he is in fact better at criticizing — demolishing might be a more apt term — the work of other historians, than in presenting his own frameworks and proposals. Benson has become increasingly rigid in his notions of a scientific history and of the relations joining history to the social sciences. In the most recent essays, he argues formalistically for general laws of human behavior, historical objectivity, a full reciprocity between history and social science, and the formal application of social science theories to the data of the past. To some historians any one of several of these principles would be acceptable; to a fair number, I would guess, none would be palatable; and to a very few would all be tenable. Further, in advancing his own case, Benson falls into the pitfalls for which he so severely castigates other historians; in urging a scientific history, he seems to become carried away, losing "sight of the trees in search of the forest". This is regrettable, for Benson has much to offer to his colleagues and his excesses will damn his case to many readers, including some who are sympathetic. Since the relationships joining Benson's scientific history to quantification are many, and they are more direct than illusory, the intellectual overkill with which he proceeds may unfortunately induce "fall-out" damaging to the cause of the quantifiers.

Edward Shorter's useful, if rather limited *The Historian and the Computer: A Practical Guide* (Englewood Cliffs, N. J., Prentice-Hall, 1971) is better suited to introduce the neutral and the uninitiated to the "new" often numerical history. It would not change the mind of the skeptical or hostile, and the student who has any familiarity with the computer is prepared for more advanced texts, but it is a calm, unpretentious introduction to the student (advanced undergraduate or graduate) or professor who knows nothing about quantitative history except that it exists and who approaches the area with some trepidation and uneasiness. David Landes and Charles Tilley's *History as Social Science* (Englewood Cliffs, N. J., Prentice-Hall, 1971), the final report of the U. S. Social Science Research Council's Behavioral and Social Sciences Survey's history panel is, on the contrary, a volume meant to stimulate, challenge, and perhaps even threaten a bit. They pull no punches, announcing their thesis with the title of the book itself. To them, there is no

choice: history is a social science complete with all the implications which that statement carries. In a relatively brief first chapter, "What Is History"?, they advance their claim (with which I am obviously sympathetic), provide some documentation and examples, and swiftly parry the commonly-raised objections. From that opening, they move swiftly through a discussion of the "new" history (potential and accomplishments) to the presentation of a series of proposals and recommendations aimed at the reconstruction of training, research, libraries, archives, and support into a model more amenable to history as social science. This is a volume — perhaps an overly optimistic one — which all historians and students should read and react to honestly.

These four books are introductory, in part historiographic, and in large part programmatic. While they differ radically in style and force of argument, each one advances a case for quantified, social scientific history. Surprisingly, a common weakness to all of them is insufficient attention to what I would term the conceptualization of quantification. Historical methodology lies commonly in a simplistic and largely undeveloped state. Notions of method tend generally to be primitive and mechanistic, aimed most often at technical problems of data handling and source criticism. The "philosophy of history", whether positivistic, relativistic, Collingwoodian, or Hempelian, has in spite of its real importance and critical insights remained isolated from the conduct of every-day historical inquiry. While this separatism is unlikely to change rapidly, the emergence of a major new approach, such as quantification represents, provides the historical community with a comparatively rare opportunity to enter into the methodological-philosophical arena and to advance our conceptual apparatus(es).⁶

Quantification should be taken to mean more than the application of statistical techniques, modern data processing equipment, or mechanical computation to historical data. Rather, in common with other of the so-called "new" histories, it should be viewed as a methodological and conceptual approach to historical analysis. As a research strategy of the historian, quantification often involves a social (or sociological) perspective; more rigorous and explicit conceptualization of problems and research design; a search for new and different sources of information; a greater precision in the formulation of questions and hypotheses; and a more conscious recognition of underlying assumptions or biases. Quantification as well represents a reliance on and an awareness of the peculiar value of standard and comparable numerical

16 See Thomas Kuhn, *The Structure of Scientific Revolutions* (Chicago, 1962); Robert F. Berkhofer, Jr., *A Behavioral Approach to Historical Analysis* (New York, 1969); and Allan G. Bogue, ed., *Emerging Theoretical Models in Social and Political History* (Beverly Hills, 1973).

data for the examination of a wide range of important questions, but equally demands an appreciation of the limitations of the approach. Moreover, it employs social scientific theory in a more or less formal or explicit way, as source or support of hypotheses, as explanatory devices, or as theory to test with the data of the past. Central also, if sometimes implicit, is the importance of a comparative framework whether the unit of analysis is temporal, cultural, national, regional, or social class or social group. Quantification encourages the historian to identify formally the relevant variables, to measure them, as well as their consequences, with some precision, to examine carefully the interactions and interrelationships of diverse factors, and sometimes to estimate the contributions of different variables. Naturally, quantification forces researchers to recognize which questions call for numerical answers and which simply do not. Finally, the more formal conceptualization required leads researchers not only to new data, but also demands or encourages the formulation of new questions themselves.

Substantively, then, the quantitative approach derives its significance from neither technique nor machinery, but from conceptualization and methodology broadly viewed. This is not to argue that there is but one method or conception; in many cases, the fullest advances come from methodological pluralism, or the combination of a variety of approaches, sources, techniques, all within a conceptual frame which is both flexible and explicit. The quantitative at its most fruitful thus becomes one way of critically identifying and investigating an amenable problem. It is a perspective with its own integrity, which when properly utilized, does not have an imperative which obscures or falsely denigrates alternative or complementary approaches. This entire issue — one which might, without undue exaggeration, be considered a paradigm shift in the historian's craft — requires more substantial and sophisticated treatment than it has received to date.

With this perspective in hand, let us move on to four other books concerned with quantification in history. These volumes are best viewed as samplers, each presenting a set of historical essays illustrating the promise of this new historical approach and method. The quality and usefulness of the essays, if not of the collections themselves, varies. Robert Swierenga's anthology, *Quantification in American History: Theory and Practice* (New York, Atheneum, 1969), is one of the more useful of the four volumes, especially for purposes of introducing students or traditionally-trained historians to the new work. He has selected a set of interesting, if not always effective essays (all reprinted), grouped around a set of topics; historiography of quantification, content analysis, political research, economic history, and social history. The diversity of statistical procedures, questions, sources, and the range of complexities makes this a handy volume for use in introductory courses, methods classes, and the like. Especially noteworthy is the inclusion of Aydelotte's, Benson's, and Schlesinger's now classic state-

ments on the significance of a numerically-based history. The only limitation is the exclusion of demographic and urban studies among the social selections and the narrow range of economic topics covered. Nevertheless, Swierenga's annotations and his bibliographic notes do alleviate some of the deficiencies.

In *Quantitative History: Selected Readings in the Quantitative Analysis of Historical Data* (Homewood, Ill., Dorsey Press, 1969), Don Rowney and James Graham have produced a volume in many ways similar to Swierenga's. The major difference is that their collection ranges geographically more widely. While this book lacks the annotations and extensive bibliographic notes of *Quantification in American History*, its coverage is broader, including selections and subsections on elites, social change, historical demography as well as economics, politics, social history, and historiographic materials. The intending scholar may well find it profitable to read both volumes despite the obvious areas of overlap (including some repetition of articles), while the instructor would want to choose either of the collections depending perhaps on his own regional specialization.

Lipset and Hofstadter's anthology, *Sociology and History: Methods* (N. Y., 1968), appeared eight years ago in Basic Books "The Sociology of American History", a series which despite its promise has as yet seen only two titles published. Unfortunately, this volume has received rather little attention, critical or other, although it is an important collection of essays.⁷ Most of the essays deal with aspects of quantification either implicitly or explicitly and the anthology includes articles both new and reprinted, exemplary and programmatic. A range of problems is featured from social to economic, political and cultural studies, and Samuel Hays' important "New Possibilities for American Political History: The Social Analysis of Political Life" and Thomas Cochran's path-breaking "The Presidential Synthesis in American History" are included, among other now-classic papers. Overall, despite some personal quibbles with Hofstadter's and Lipset's introductory essays, I find the quality high, the selections significant, and the volume useful for both teaching and scholarly perusal.

W. O. Aydelotte, A. G. Bogue, and R. W. Fogel's *The Dimensions of Quantitative Research in History* (Princeton, 1972), is a volume in the Mathematical Social Science Research Board's "Quantitative Studies in History" series published by Princeton University Press, and, in one sense, the "leader" for the others in the series, since they deal with only one topic, while *The Dimensions* is a sampler volume. Among other anthologies it is a leader as well, for it is the most sophisticated and advanced. The essays, which were written expressly for publication in this form, include three on aspects of

7 See, however, the two important review essays by Phillip Abrams and David J. Rothman, "Sociology and History", *Past and Present*, 52(1971), pp. 118 - 134.

social mobility, three on aspects of political behavior, and one each on protest movements, municipal expenditures, and economic cost-benefit analysis. They vary as well in terms of complexity of analysis, statistical sophistication, and methodological rigor. Each essay is in fact a part of a larger and continuing study, representing a progress report and giving the reader a basis for comparing these interim statements with the final products. Papers range regionally from the United States to parts of Europe and chronologically from the sixteenth to the twentieth centuries; a solid introduction by the editors, however, places each one in historiographic and analytical context. While this is not a volume for the rank beginner and not one for most students, a careful reading will repay those with some knowledge of the areas or of quantitative analysis. The coverage is far from complete among the various "dimensions" currently studied and the level of quality is not uniformly high, but *The Dimensions of Quantitative Research in History* marks an achievement of some maturity and progress in the field.

Interest in newer, numerical techniques has also sponsored the publication of a small number of "how to do it" books. The appearance of these guidebooks is significant. Those who turned to statistical study in the late fifties and throughout the sixties had no technical or methodological literature written directly for historians. They had little choice but to learn from statistics and demography texts in the various social sciences, computer manuals, math books, and courses designed for a non-historical audience. In the past half decade, however, a new literature has been gradually developed and published.⁸ None of the volumes considered here is less than adequate. Each has been written with some care and caution, with obvious efforts to make the mathematics intelligible to the innumerate within the profession. Each draws upon relevant historical problems and data for examples, thus removing one of the greatest difficulties many readers have had with texts drawing exclusively upon contemporary sources and topics. Each provides useful and detailed examples illustrating the applications of the various statistical techniques, tests, and procedures along with helpful diagrams, charts, and tables. Finally, each guidebook offers some bibliographic advice and lists of more advanced statistical texts, although in varying quantities.

Charles Dollar and Richard Jensen's 1971 text, *Historian's Guide to Statistics: Quantitative Analysis and Historical Research* (New York, Holt, Rinehart and Winston, 1971), was the first available to historians, and, as the first to appear, set the standards for the volumes to follow. Its less than 300 pages of text contain a surprisingly complete introduction to a fair range

8 Among those now available are Roderick Floud, ed., *Essays in Quantitative Economic History* (Oxford, 1974); E. A. Wrigley, ed., *An Introduction to English Historical Demography* (London, 1966) and *Identifying People in the Past* (London, 1973); and T. H. Hollingsworth, *Historical Demography* (London, 1969).

of statistics. Their presentation includes descriptive statistics, measures of association, general purpose statistics, an introduction to automatic computation and mechanical data processing, and an interesting chapter on historical use of computers. Finally, an especially valuable chapter surveys guides to resources, bibliographies, and related literature for quantitative historical research. As the first text, there are some problems which later guides have proved more able to solve. One is the common textbook difficulty with readability; another is the presentation of techniques and procedures without sufficient attention to utility and context. A third problem is linked to the interpretation of statistical results, an area to which Dollar and Jensen might have devoted more attention. Yet this remains a valuable volume, and should certainly be on the shelves of all practitioners and serious readers of quantitative studies in history.

In *An Introduction to Quantitative Methods for Historians* (London, Methuen, 1971), Roderick Floud has advanced beyond some of the difficulties present in the Dollar and Jensen guide. His prose is lucid and simple, but the organization of the material is perhaps this small book's most attractive feature. Floud leads his reader, in sequential order, through classification and arrangement of historical data, simple mathematics, preliminary data analysis, time series, forms of association, and the important yet often overlooked problem of imperfect data. The format is simpler and less profusely illustrated than the *Historian's Guide* and does not include the bibliographic strength; yet for the beginner, it is a smoother entry into statistics and a cheaper one.

Inexpensive is not a word one will hear in connection with E. A. Wrigley's collection of methodological essays, *Nineteenth-Century Society: Essays in the Use of Quantitative Methods for the Study of Social Data* (Cambridge, CUP, 1972), which retails for a tidy \$27.50, and with its concentration on British sources and the nineteenth century will hardly be a big seller. Moreover the volume also centers largely upon the British manuscript census as a source for social historical data. Apparent narrowness in focus, however, should not detract historians interested in the social analysis of other places and other periods from this important collection. Drake's exegesis of the census is a tour de force, Anderson's chapters on the family should be read by all concerned with that basic unit in past times, and Schofield's lengthy paper on sampling procedures is surely the best historical introduction to the topic. Moreover, several essays do go beyond census materials; interesting chapters include those on migration, criminal statistics, and education. As with any such collective venture, the quality tends to be uneven and the essays vary in importance; nevertheless, this volume deserves far broader recognition than its national/chronological focus and its price will undoubtedly allow it. For the social researcher and the comparativist, it should not be left to gather dust on library shelves.

Michael Drake's three handbooks, *Historical Demography: Problems and Projects*, *The Quantitative Analysis of Historical Data*, and *Exercises in Historical Sociology* (Milton Keynes, Eng., Open University Press, 1974), are rather different kinds of texts. While the Dollar-Jensen, Floud, and Wrigley books were apparently designed for the interested reader and the intending specialist, the Drake materials were written and published primarily for use in the social science division of the Open University, England's new national continuing education university, of which Drake has been a dean. These books are curricular materials, which might well be judged in slightly different terms than the others, since they were developed not for general adoption but for use specifically in one course. Indeed, this might well be the reason for the great success of the volumes, which are marked by an exceptional clarity of presentation, striking design, the integration of theory, relevance, and historical example, a breadth and depth of coverage, and useful annotated bibliographies. The illustrations, charts, and tables have been selected and presented with care as well. Drake has done his research and homework well, and the Open University Press must surely have an impressive staff of editors and designers. Substantively, the three "blocks" include units on introductory materials (each one), sampling, descriptive data, correlation, population and economics, population and society, demographic crises, migration, stratification, mobility, and family and kinship. Another volume, which I have yet to see, considers historical psephology or the quantitative analysis of political voting data. I would recommend this set of guidebooks as a first reading for anyone new to the area of historical quantification, and for methods courses at the graduate or undergraduate level. As teaching tools they should serve well; the organization is tight and logical and the workbook/self-testing format is heuristic.

The historian or student seriously interested in learning to use quantitative techniques himself or to evaluate sophisticatedly the products of others should not stop short with these introductory manuals. Those whose interest is maintained through these volumes will soon be drawn or forced by practical necessities to wade through the social science and mathematical literature of statistics and computation. One might well begin with Hubert Blalock's excellent *Social Statistics* (2nd. ed., New York, 1972), the classic general text, and from there proceed to the more specialized literature on correlation, measurement, causation, research design and methodology, regression, factor analysis, modeling, and other advanced topics. If one has sufficient quantifiable data to use the computer and automatic data processing equipment, the introductions provided by Dollar and Jensen, Floud, and Edward Shorter will not serve long. Most historical computing can be easily accomplished with the various "canned" or package programs now on the market, which in fact are rather quickly mastered (even by the largely innumerate), include most operations and procedures, and use little computer time. SPSS is probably the package

used most often, and in its current status, Version VI, has an impressive file handling capacity and a great variety of subprograms including many advanced statistical routines.⁹ More specialized routines, such as the Bio-medical Package (BMD) and the various programs developed and sold by the Institute for Social Research, University of Michigan, Ann Arbor are not too difficult and are available at most university computer centers.¹⁰ Finally, historians new to statistics and data processing must drop both modesty and false pride. The most effective learning in these areas is simply by doing, "getting one's hands dirty"; one must feel free to wander into computer centers, to ask questions, to audit courses, and to talk to social scientists, computer specialists, statisticians, and mathematicians.¹¹

As with other technically-oriented developments in social research, the mastery of the procedures alone is no guarantee of the quality of the product. Any mediocre student or scholar could mechanically analyze a set or series of numerical data, with the results vindicating the worst predictions of critics like Oscar Handlin that the "new" historical literature might look and read like little more than a series of tabulations and computer print-outs. Technique is no substitute for knowledge of the historical context of a problem or topic; nor is it a substitute for imagination or creativity which is the basis for fine scholarship and the advance of knowledge. This is properly what I meant to convey in my description of quantification and methodology presented above. In this sense, the limits of quantitative history are in many respects those of the historian or the practitioner, not merely those of methodology. If one has a firm and flexible understanding of history and the historian's craft, one need not be obstructed by discussions of uses and nonuses, limits and possibilities. Rather the historian will use the method best suited to the problem, question, or data which he/she seeks to answer or exploit. Time need not be wasted or research obstructed by considerations of whether history is an art, a science, or a social science; instead we might proceed directly to the quest for comprehension of people in the past, their lives and behaviors.

The Dimensions of the Past: Materials, Problems, and Opportunities for Quantitative Work in History (New Haven, Yale UP, 1972), edited by Val Lorwin

- 9 N. H. Nie, C. H. Hull, J. G. Jenkins, K. Steinbrenner, and D. H. Bent, *Statistical Package for the Social Sciences* (2nd ed., New York, 1975), and W. R. Klecka, N. H. Nie, and C. H. Hull, *SPSS Primer* (New York, 1975).
- 10 See Frank M. Andrews *et al.*, *A Guide for Selecting Statistical Techniques for Analyzing Social Science Data* (Ann Arbor, Institute for Social Research, 1974).
- 11 One should also consult the *Historical Methods Newsletter*, *Computers in the Humanities*, the *Journal of Interdisciplinary History*, *Population Studies*, and various social science periodicals. For those who decide to pursue the area in some depth, excellent training is available at the Ann Arbor-based Inter-University Consortium for Political Research's and the Newberry Library Family and Community History Program's summer institutes, as well as at an increasing number of special summer courses at other universities.

and Jacob Price for the American Historical Association's Committee on Quantitative Data on History, gives some idea of what may be achieved. The volume grew from two conferences held in 1967, at which the contributors were charged with developing surveys of sources, preliminary bibliographies, reviews of previous quantitative work, and proposals for future studies for their own geographic or chronological areas of expertise. The areas covered here include medieval Europe, Britain (1650-1830), France from the Revolution, nineteenth and twentieth-century Germany, five centuries of Spanish history, Russia from the sixteenth to nineteenth centuries and the Soviet period, Latin America in colonial times, nineteenth, and twentieth centuries, Japan since 1600, and, finally, India since 1500. While the surveys of sources, historical literature, and quantitative researchers are uneven indeed, and the quality of evaluation is variable, the essays by Herlihy, the Tillys, and Te Paske are quite effective and model presentations. The tone of the writers and their prognoses for the past, present, and future of quantification in their areas differ radically too. Some are rosy and sanguine, while others remain skeptical and doubtful.

This is an important undertaking, which while it is incomplete, should be properly taken as a model for future guides and critical evaluations. We remain in serious need of essays and/or collections which complete the survey begun here. North America, for example, is ignored, although a separate volume is planned. But ancient history — an area in which a relatively large amount of interesting and novel research has appeared or is in progress — early modern and modern Europe, the Orient, the Middle East, China, and Africa, to list only the most prominent regions, require immediate attention. The model offered in this book should be followed by other groups, for other places and periods; the goal of a standardized format should be imitated too. Although with the rapid development of a numerically-based historiography, even this volume should be updated in the near future, *The Dimensions of the Past* is important for the recommendations made by many of the contributors. Most want surveys and bibliographies of the sources for statistical data as well as the development of centralized data banks, such as that already maintained by the Inter-University Consortium at the University of Michigan to which universities and departments can subscribe at moderate costs.¹²

Together the volumes reviewed in this essay represent at best a slightly out-of-date cross section of research in progress, now-classic essays, samples of past work, how-to-do-it manuals, and introductions to no-longer novel areas. As I remarked at the onset of this essay, quantification in history has come of

12 It is my understanding that the Institute for Behavioural Research at York University is beginning a Canadian version of the ICPR machine-readable archive, in co-operation with the Michigan center and the Institute for Social Research. This is a hopeful development.

age; it has now entered a post-adolescent phase of growth, development, and diversification, along with the accompanying problems of stability, expansion, consolidation, and related (sometimes contradictory) dimensions. Its achievements are marked, most overt resistance and hostility have dissipated, its strengths and weaknesses are known to many. Now the real work begins. Of the many problems which confront researchers, let me mention only a handful. First is that of filling in the increasing gap created by the new sophistication of many practitioners and the problems of readability and comprehension faced by more traditional students of the past, who may find the pages of organs like the *Journal of Economic History* unintelligible. Second is the methodological problem of moving from the case study which, for obvious and sensible reasons, dominates quantitative research to the search for generalizations and the production of new syntheses. These are now required in areas such as political behavioral analysis, family history, social mobility, crime and violence, historical demography, and urban history. Indeed, only the "new" economic history, or cliometrics, has witnessed attempts at a new synthesis of traditional with quantitative results. A third area might be the technical problems of quantitative research, which include nominal record linkage, source criticism and verification, sampling theories, theory construction, modeling, theory verification, and comparability of results and units of measurement and analysis. Analogous areas which need more attention are those of funding (most quantitative research is costly and most historians are not prepared or trained to seek out funds for activities other than writing time), group research organization, and specialized training as either doctoral or post-doctoral activities.¹³ The issue of comparability is particularly troublesome, since it has already begun to obstruct efforts at synthesis. A final problem is that of developing new research designs and strategies which actively integrate varied approaches and sources, new and traditional. The maturity and new modesty of many of the formerly rabid quantifiers is due in large measure to the recognition that a full and complete understanding of the past is dependent upon the marriage of methods. The French historians' search for an "*histoire totale*" has been instrumental in this new and heuristic direction.

Unfortunately, to a significant extent, Canadian history has remained outside the so-called "quantitative revolution." True, there are exceptions to this generalization, and they are both important and increasing.¹⁴ The systematic social researches of David Gagan on Peel County, Del Muiise on Cape Breton, Michael Katz and his students on Hamilton and other areas, and studies in

13 See Landes and Tilly, *op. cit.*; Fogel, "The Limits"; and Theodore Hershberg, "The Philadelphia Social History Project: A Methodological History" (unpublished Ph.D. dissertation, Stanford University, 1973).

14 See, for example, Herbert Mays' limited surveys of quantitative research in progress, *Social History-Histoire Sociale*, 7(1974), pp. 165 - 173, and 8(1975), pp. 350 - 360.

progress at the Ontario Institute for Studies in Education under the supervision of Ian Winchester for the Canadian Social History Project are among the leaders in the "new" quantitative history. Donald Kerr and his students have begun the systematic examination of political history. Other research of note in the Maritime provinces is now under way, although little has been published to date. French Canadian historians have made the most significant progress in the areas of urban, social, and especially demographic history. The work of Henripin, Charbonneau, Lalonde, and the Montreal Social History Project is especially noteworthy, as are the studies of Dechêne and others. It is not surprising that the French Canadians should be among the most advanced and sophisticated in the numerical analysis of past societies, for many of them were trained in France by the pioneers of modern social history and their historiographic traditions are rather different from other Canadian historians. In fact, quantitative historical analysis has yet made little impression upon the mainstream of Canadian history outside of Quebec. At best one finds a passive acceptance in most quarters and a grudging willingness to allow graduate students to wander into the untried and untested waters, and in many areas, not even an attempt at understanding what quantification might add to our understanding of the past or any knowledge of what it involves. Overt hostility, seldom addressed in public or in print, remains too often the rule. The persistence and pervasiveness of this negative attitude is disturbing intellectually, and it obstructs the future development of Canadian history.

Few would seriously argue that Canadian historiography has been a source of innovation or leadership in the new trends, with the possible exception of military studies. Many, perhaps somewhat unfairly and regrettably, have labelled it old-fashioned, boring, uninteresting, narrow, and provincial. I shall not contribute to that discussion which I consider rather silly. However, if Canadian history has suffered from these failings, the cause was not in the lack of an "interesting" or "exciting" past to study or a lack of data. To the student of social history, urban history, historical demography, economic history, or even political history, who is informed by the approaches, questions, and methods of the "new" history, unique events, wars, revolutions, and colorful personalities (of which Canada has had its share) are less significant than general phenomena, social processes, or the dynamics of social change. While these are among the most important historical topics for analysis, they are perhaps the least understood and studied in the Canadian past. The lack of awareness and impact of the newer methods and directions has led to the neglect of these perspectives and the research that a more advanced recognition would bring to the development of the field.

Canada has been left with sources rich for the development of a systematic history. The clearest examples are perhaps the seventeenth and eighteenth-century censuses and vital records upon which so much of the historical

demography of French Canada has been based. The shipping records of the Atlantic region, the local social and demographic records of the Maritimes and Quebec, the rich nineteenth-century censuses (which include more data than the English or U.S. materials for example), and the tax rolls are only among the most prominent records amenable to systematic quantitative analysis which remain either unused, uncollected, unrecognized, or under-exploited. The sources required for a numerical reconstruction of the past are both available and exceedingly rich. Their under-employment for historical research is simply inexcusable. With the resources available, and the guide books and samplers accessible, Canadian history should be in the forefront of historical studies today.

Disturbing are the misstatements by historians who look upon quantitative history with less than enthusiasm. How common, yet unfortunate and inaccurate, are statements that quantitative and social science methods are somehow imported from the United States, inappropriate and foreign. Not only is such an analysis incorrect and simple-minded, it is a case of sadly misplaced nationalistic sentiment. The "new" social history is rooted in French scholarship, and the development of the tradition from Bloch and Febvre to Braudel, Goubert, Henry, and Ladurie. The British were the first imitators and adapters of approach and technique, and United States historians drew upon both the French originators and the English interpreters. Canadian historians who utilize the newer methods, if their notes and bibliographies are consulted, have been influenced by all three developments to varying degrees, and to consider quantification a U.S.-inspired phenomenon is ridiculous. This obstacle to historiographic progress must be removed immediately.

For the further advancement of quantitative history in Canada we need a thorough and systematic inventory of resources, research — past and present — and opportunities for study; the Lorwin and Price volume is the obvious model to emulate. Agencies like the Canada Council, the Social Science Research Council, and the Committee on Quantitative History of the Canadian Historical Association should be mobilized to support and lead such a venture. These groups, as well as such others as the Central Mortgage and Housing Corporation, should be lobbied to support further research (including groups, large-scale, and long-term projects). Provincial organizations, like the Ontario Historical Studies Board, and federal agencies, like Statistics Canada and the National Museum of Man, should be convinced to extend their preliminary activities and to support major large-scale endeavors. Additionally, archives of machine-readable sources must be developed, and the collection of quantifiable and routinely-generated records must be accelerated. Too many sources and manuscripts lie in local offices in fetid states of disintegration; they should be located, copied or filmed, collected, systematized, and properly catalogued. The National Archives must be en-

couraged in its plans to begin the encoding of census and other manuscripts, while Statistics Canada should aid in this process and also open the 1881 and 1891 materials to researchers. Efforts like the C.H.A.'s and S.S.R.C.'s to standardize procedures and lobby with the federal government must be encouraged and supported fully by the profession. Finally, we must give consideration to ways of systematically training scholars and students in Canada, as well as sending them to foreign institutes. These recommendations mark only a bare beginning, but any steps in these directions would mark significant improvement and repay investments of time, energy, and funds. Canadian history deserves such a major effort.

HARVEY J. GRAFF

The Mind and Character of Robert Borden

MacGregor Dawson called his book on Mackenzie King a "political biography," and he meant it.¹ Dawson had found difficulty in using important and revealing sections of the King diaries. It was not from prudishness — Dawson was not a prude — but because he felt that it was too soon to use such evidence. King had died only seven years before. Dawson thus meant by the designation "political" that he could not write a full biography. The result was that Dawson's biography of King is almost too judicious; what Dawson believed he could use of the sources in effect determined what King was to be. The types of sources for Borden are different; but the problems revealed in Craig Brown's handsome biography are not dissimilar.² In this 306-page study of Borden's life from 1854 to 1914, the emphasis is placed on Borden's political career from 1896 to 1914. Unlike MacGregor Dawson, however, Craig Brown really does not have much choice. There is almost no private correspondence of Borden after 1905, and, judging by the thinness of the book on Borden's private life before that time, there are no great riches in the earlier period either. The records of Borden's (and Sir John Thompson's) law firm have disappeared. In other words, lack of evidence has limited the portrait of the man.

"The most significant lessons in life," said Borden to the Acadia graduating class of 1932, "are to be found in adversity. To agonize — that is to wrestle with oneself — in the intellectual and spiritual sense is an essential disci-

- 1 R. MacGregor Dawson, *William Lyon Mackenzie King: a political biography* (Toronto, 1958).
- 2 Robert Craig Brown, *Robert Laird Borden: a biography* (Toronto, Macmillan, 1975), vol. I, 1854 - 1914.