

The Quantification Movement in American Political History

By Allan G. Bogue

What first of all do I mean by quantification? The author of a recent article in the American Historical *Review* on the subject of quantification in history began his discussion with the following sentence. »Over the past generation a number of historians have recognized that counting, when circumstances permit it, may assist in the explanation of a limited class of historical problems.» Quantification is in this author's view simply counting and in many respects this is the most satisfactory way of defining quantification. But I believe that most historians who are involved in the quantification movement in American political history would be willing to elaborate the definition somewhat more. Quantification is generally taken to mean, I believe, the use of numbers, counting and statistical operations in order to express historical variables in precise numerical terms or values "as an aid in the explanation of historical events or phenomena.

I believe that it is possible to distinguish various categories of quantification:

1. In a general sense we are almost all quantifiers. The use of a statement such as »Many emigrants came from impoverished backgrounds» represents a kind of quantification in which no specific numerical values are given but where obviously a quantitative judgment has been made. There are few historians who have not made comparable statements at times.
2. A second kind of quantification involves the use of relatively simple methods of quantification — addition, percentages, means

and the like — in the course of answering conventional historical questions. Sometimes such work yields an extremely large return in proportion to the effort involved.

3. We find also the use of more sophisticated statistical operations that have been increasingly used in the social sciences during the last generation — simple correlation, multiple correlation and regression analysis, scaling, factor analysis, game theory models and other techniques—all put to work to answer conventional historical questions.

4. There is I believe a fourth category, in which scholars may use the methodology of (3) to answer questions that grow out of conceptual frameworks developed in the social sciences, testing in a historical context hypotheses developed by social scientists on topics such as political socialization or power.

Does quantification necessarily imply computer analysis? No it does not. But if the scholar is examining a considerable number of cases, he is foolish if he does not take advantage of the saving in time and labor that computers can give. (Indeed the computer is so fast in its calculations that it will allow us to do things which we simply could not do before in amounts sufficient to produce results that were in any way impressive). There is nothing inherently malign about the computer, it is just a box of electric circuits, storage devices, and snap metal. It is neutral, it does what we tell it to do, and when it is perverse, we are told that it merely reflects the confusion of the men who are trying to use it. When in the language of the craft it produces garbage it is because garbage was fed into it. Garbage in — garbage out was a favorite expression some years ago. I have some reservations about this line of argument. Computers do make errors. But a computer in good working order will perform tremendous numbers of calculations with almost incredible rapidity and make fewer errors than humans doing even a small part of the same job would commit. Most historians who are undertaking quantification today in the United States accept the use of the computer as a matter of course.

Not all American historians approve of quantification. And there are certainly reservations to be made which are worthy of serious consideration, relating to the quality of the statistics available to us in earlier time periods, and some of the short comings of the

more intricate kinds of statistical analysis. But some of the more vocal critics profess also to be concerned lest quantification eliminate the critical and thoughtful analysis of intangible factors or cause historians to ignore the color and significance of the unique human mind or personality. — Recently a young friend of mine ended a piece of his writing with a resounding admonition to the historical profession: »Historians«, he wrote, »should stop counting and start thinking.« I have also heard it said on more than one occasion, »Quantifiers are the fellows who let machines do their thinking for them.« And one of my colleagues argued that quantification in history represented interdisciplinary activity and that the product was hybrid research and he admonished me to remember that the outstanding hybrid of the animal world was the Missouri mule —» a creature without pride of ancestry or hope of progeny.«

As it happens I do not agree with the strictures implied in these aphorisms. I hope that I too can be a thinking historian — but I do believe that sometimes judicious counting or statistical manipulation may render invaluable aid in the thinking process. I comfort myself with the knowledge that hybrid seed corn has raised the output per acre of that crop tremendously in the United States.

Now what have been the manifestations of quantification in American political history during the last 15 years? These fall into three classes: 1. The collection of large amounts of statistical material relating to American political history and the processing of these data into a data bank of machine readable tapes; 2. Efforts to upgrade the statistical knowledge of American political historians and graduate students; and 3. Research which shows the impact of the quantification movement --.

I. As a number of American political historians became interested in quantification some years ago, they discovered that they were wasting their time in searching out and processing election returns of the nineteenth century that others had already recorded. They agreed that historians needed an inventory of the basic quantitative data of American political history and ultimately, perhaps, a central data archives on which all interested scholars might draw. They

contacted the Social Science Research Council and the Council invited a social scientist W. Dean Burnham to assess the problems of collecting the election statistics of a number of states.

During the late 1950's and early 1960's there was developed an organization at the University of Michigan known as the Inter-University Consortium for Political Research, its purpose to provide public opinion poll data of a political nature to the faculty of member colleges and universities. These member schools support the work by paying yearly dues to the Consortium. Currently, more than one hundred colleges and universities are members of the group. While the developments which I have mentioned were taking place among historians, the Inter-University Consortium staff was also beginning to consider the establishment of a data archives, having as a nucleus the opinion poll data collected by the Survey Research Center of the University of Michigan. When investigation showed that the national election returns could be found for all county units in all states back to at least 1824, the two groups, historians and political scientists, decided to combine their energies. Professor Lee Benson, now of the University of Pennsylvania, organized a committee of historians to assist the Consortium in developing a historical data archives, and the American Historical Association gave it status by designating it a committee of the association. In turn this Quantitative Data Committee of the A.H.A. organized state committees that undertook to exhume the county election returns from 1824 to the present and other related materials. Under the imaginative leadership of its director, Warren E. Miller, the Consortium obtained funds from the National Science Foundation for the development of the Archives, and subsequently augmented them with a grant from the Ford Foundation.

As a result of the activities of the Inter-University consortium for Political Research and the American Historical Association Quantitative Data Committee we now have the county election returns for major political races in all states of the United States from 1824 to the present, available to scholars on magnetic tape on request from the Consortium at Ann Arbor, Michigan.

Work is well advanced in punching and storing a considerable number of demographic, economic and social variables from the

decennial federal censuses for all the counties of the United States from 1790 to the present. These can be used through correlation techniques to help us explain the voting patterns discovered in the country election returns. From them, for instance, we can discover the social, economic, or cultural characteristics of counties that returned large majorities in behalf of the Democratic Party's candidates during a particular period of time.

Work is under way at present to place on magnetic tape all of the roll call divisions in Congress of the United States from 1789 to the present and some of this material is already available on request from the Consortium.

Some other minor projects of a related nature are also in hand — such as the processing of election returns from state referenda.

Taken together, these projects will have cost some \$1,500,000 when completed but they will allow historians and political scientists who are interested in a very considerable range of problems in American political history to start their research several steps beyond what was the case ten years ago. No longer for instance must the researcher locate election returns of the nineteenth century in state documents or even in manuscript form at the state capitols, carefully transcribe the figures onto code sheets, and have them punched in turn on hollerith cards, carefully checking his work at each stage. These steps have already been performed and the election data will come to the historian ready for manipulation in the computer of his institution, and for that matter the Consortium is prepared to do some of the analysis for the scholar, if it is not too elaborate or too big a job. In such cases the researcher need not dirty his hands; all — theoretically at least — that intervenes between the researcher's idea and the finished table of statistical results is a letter of request to the Consortium.

During the last year the American Historical Association Quantitative Data Committee has sponsored a series of conferences which explored the possibility of adding early national and colonial American data to the bank at Ann Arbor, as well as European, South American, African and Asian materials. This latter information would allow cross national and cross cultural comparisons of a quantitative sort. Progress in this direction is unquestionably feasible but is painfully contingent on obtaining additional funds

or on the development of data bank programs in the countries involved. Officers of the National Science Foundation in the United States who supplied the major part of the funds for our initial collecting programs now feel that they must wait to see whether scholars use the Consortium data bank in considerable numbers before financing other projects. Our current budgetary crisis in the United States has severely affected the capability of another major government agency — the National Endowment for the Humanities — to help us. But whatever the outcome of these hopes for continued expansion, the fact remains that there is already a formidable body of materials in the bank bearing on American political history.

There has been another aspect of the Consortium's activities which have involved historians, also. The political historians of 1964, whether senior men or graduate students, knew very little about statistical methods, and an upgrading of statistical knowledge among them was essential if they were to use quantitative methods effectively. Some of the pioneer research of the late 1950's and early 1960's is badly flawed because of conceptual or statistical error. Through its history the Consortium has maintained a summer training program, designed particularly to train scholars in the methods of using the data in the Consortium's data bank. It has admitted historians and history graduate students to these summer training courses, but in general the programs have been organized with the needs of political scientists in mind. But in 1965 the Consortium sponsored a three-week institute for historians who were interested in the study of legislative behavior and popular voting, those research areas which the historical materials of the Consortium are mainly designed to support. And for the first time this last summer (1968) the Consortium presented a full length summer course in statistical methodology specifically designed for historians, under the direction of two young American historians.

As I touch on the subject of training I must mention the work of the History Subcommittee of the Mathematics Social Science Board. This subcommittee has concerned itself specifically with improving the level of statistical ability among historians. For some years it has helped to subsidize an annual conference of young economic historians who are interested in applying econometric methods to historical problems. These are the men who call them-

selves Cliometricists and whose work has had tremendous impact upon the study of economic history in the United States during the last decade. During the summer of 1967 the MSSB subcommittee sponsored an eight-week institute in the methods and models of the social sciences at Cornell University for history graduate students. Over seventy students applied for the 25 places and the group selected came from fifteen of our major graduate schools. In May of 1968 we held the first of what we hope will be a series of annual conferences of historians interested in applying quantification and inter-disciplinary approaches to political and social history at Wisconsin with the support of the subcommittee. The committee also has under preparation a volume of historical essays which will illustrate the application of quantitative methods to various types of historical problems.

But how much has scholarly research and publication been affected by the quantification movement? When I was preparing an article on the new political history in the United States in 1966, I was able to list some 55 articles and books that seemed to reflect aspects of the quantification trend in American history in some significant way — since then this literature has increased substantially. In the spring of 1968 the Quantitative Data in History Committee of the American Historical Association inserted a questionnaire in the A.H.A. *Newsletter* to be filled out by historians who were working on research that involved a substantial amount of quantification in their opinion. Within several weeks more than 200 historians had filled out the questionnaire and returned it. Up to the end of December 1967, some 100 scholars had filed requests with the Consortium for material from the historical files. During the first nine months of 1968 the number of such requests increased very rapidly. So it is clear that a very considerable amount of quantitative research is under way in American political history.

This quantitative research in American political and social history falls into a number of categories. Much is being done in the history of popular voting behavior. There is much work under way also on the behavior of the members of legislative bodies. A third category involves the preparation and analysis of collective biographies of legislators and other elite groups and the effort to investigate the behavior of the members in terms of their social,

economic or cultural characteristics. Social mobility, both urban and rural has also attracted considerable interest and some significant research has emerged. A few historians are experimenting with the systematic content analysis of historical documents of various sorts, but this group is small. We have now accumulated some thirty years of public opinion poll data in the United States and I expect that historians will soon begin to exploit these materials in a major way. As yet little of this has been done, however.

Such categorization is somewhat abstract so allow me to take one era in American political history and mention a few of the ways in which quantitative political research has changed or supplemented our understanding of American politics. I shall use the years 1828 to 1865, running from the election of Andrew Jackson as President to the conclusion of the American Civil War. The old interpretation of Jackson's first election held that a kind of popular uprising of the voters swept the old warrior into the presidency and ushered in a period of mass participation politics in the United States. But as the result of the work of Richard P. McCormick who carefully analyzed voter participation in state and federal elections down to the 1840's we know that a great outpouring of voters in presidential elections did not really come until the 1840 election, a finding which requires us to do considerable rethinking about Jackson's election and the political process of the 1830's.

During the 1830's a two party system emerged in the United States for the second time and the old interpretation used to be that the members of the Whig Party which developed in opposition to Jackson and the Democratic Party were the rich, the well born, the large landholders, the businessmen and merchants and those small farmers and workers whose fortunes were closely tied to such economic interests. The Democrats on the other hand were the party of the urban workers, and the poor and the immigrants and small farmers, particularly those of the western frontier region. In other words, these parties drew their popular support from different economic groups. Using rather limited data, Richard P. McCormick showed that in a relatively broad sense it was impossible to prove a relationship between party and economic class in the Jackson period and the years immediately preceding it. In two states where suffrage qualifications still existed, the more prosperous

categories of voters did not vote much differently than the less prosperous.

But Lee Benson has produced the most exciting revision on this subject in his book, *The Concept of Jacksonian Democracy — New York as a Test Case*. Although this is a state study, New York is of course a very populous state and at this time about 17 per cent of the white population of the nation lived there. Benson focused his attention at the precinct level, the local voting district, and also found that the economic interests of the voters seemed to be a very imperfect indication of whether they voted Whig or Democratic. But he discovered that the ethno-cultural background of the voters was a good indicator of party choice. A majority of native born Americans of New England stock — Yankees in other words — were Whigs. Irish Roman Catholics were almost invariably Democratic, Protestant Irish from Northern Ireland were almost always Whig and so on. Benson's method in effect involved discovering voting precincts dominated by the various ethno-cultural groups and analyzing their voting patterns. He did not use formal correlation analysis and he assumed that the members of an ethno-cultural group would show the same voting tendencies whether they were intermingled with voters of other ethno-cultural origins or relatively isolated in homogeneous groups. He used as his evidence their behavior when they were found in cohesive groups. As a result some historians have questioned his findings but they have not disproved them. Benson also examined the origins of Democratic and Whig leaders and found that they came from very similar economic backgrounds.

Benson's work represents a major revision of the thinking about political parties and voter choice in the Jackson era and has had considerable impact upon American political history generally. It is a good illustration of the large returns that may sometimes be obtained from the application of very simple techniques of quantification, since he did little more than calculate and analyze percentages. Once the significance of the ethno-cultural group is identified as an important element in political choice, the importance of studying the political behavior of these groups in detail becomes obvious. Two of my former students have studied the behavior of mid-western German and Dutch groups during the 1850's. In both

instances they discovered that earlier writers had claimed that these groups had moved into the Republican Party prior to the election of 1860 and the outbreak of the Civil War. But in both cases the local elections returns showed that large elements had stayed in the Democratic Party until after the outbreak of the war — apparently repelled by anti-immigrant and prohibition sentiment within the Republican Party.

Quantification also promises considerable returns to the student who is studying the behavior of legislators. Many legislative bodies have left a record of all the votes on legislative matters before them. One of the great problems of studying the behavior of groups of people of course is the fact that it is difficult to assemble the same information about each member of the group. But in the voting records of legislative bodies the scholar often does find a body of material in which every member can be classified exactly on every vote in some way or other. The legislator votes either yea or nay or he abstains from voting. Often also the party affiliation of the individual member is easy to find. And with such basic information at hand we can do a great deal with quantification. We can prepare very simple indexes which show the degree to which party members voted together on particular roll calls on a scale from 0 to 100 — such an index of party likeness, standing at 100 when all the members of both parties in a two-party legislature vote alike. Such an index can be used to isolate those roll calls that reflect maximum party conflict. A similar index — the index of cohesion — can be used to discover those roll calls and those legislative subjects which created disunity within a particular party. Such measuring devices depend of course on the researcher's ability to identify the members of nominal groups — such as political parties or all those legislators coming from a particular geographical region.

There are also ways of letting the votes themselves group the legislators. Using the computer we can discover how many times every single member of a legislative assembly voted with every other member in the voting on particular subjects or in all votes during a legislative session. To make such calculations by hand is almost intolerably burdensome — with the computer it is very easy and the results can be used to divide the legislators into voting

groups in which every member votes more often on the average with every other member of that group than with the members of other groups. This simple process is called clusterblocing. Carried to a higher level of statistical analysis it becomes factor analysis. Also, if one makes the basic assumption that the members of a small group who voted in opposition to a large number of their fellow legislators have taken an extreme or radical position on the subject of the motion, we can go on to rank the legislators in the order of their extremeness in approach to a particular category of legislation. This is done in effect by isolating a roll call in which a small group (a) opposes a large majority, then searching the roll calls for another one in which that group strays together but is joined by additional legislators, group (b) then scanning the roll calls for another in which the first two groups (a & b) vote together but are joined by an additional group (c) and so on. The order in which additional legislators join the members of group (a) serves as a ranking of their extremeness on the subjects under consideration. This scaling device was borrowed from psychological testing procedures and the final result is called a Guttman scale, and such a scale of course shows not only a relationship of legislators to other legislators but also roll calls to other roll calls. Computer analysis takes much of the labor out of both clustering and scaling procedures.

Scholars using methods of this sort have clarified our understanding of events in the United States Congress after 1840. During the early 1840's the Whigs and the Democrats were quite evenly balanced in the country and in Congress and these parties took definite positions on almost all issues debated in Congress and the members of each party in Congress supported these party positions whether they came from the North or the South or the West. But the problem of how to handle slavery in the western territories became acute as a result of the American victory in the Mexican War and the acquisition of what is today the southwestern United States. From this point on earlier historians usually believed that the slavery issue dominated national politics. Not only, they suggested, did southerners and northerners vote as southerners and northerners on slavery matters, but they began to vote as southerners and northerners on many issues which in the early 1840's had been

purely party issues, in which almost all Whigs had opposed almost all Democrats no matter their geographical origins. Using some of the methods which I have described Joel Silbey has carefully examined voting in the United States Congress between 1840 and 1852 and shown that party discipline was maintained after 1846 to a much greater extent than the writing of some earlier historians would suggest and in the process he has also provided a great deal of detailed information about the behavior of specific representatives from particular regions or subregions.

Much of the writing on the American Civil War has dwelt upon the conflicts between so-called Radicals and Moderates in the Republican Party — the Radicals demanding a very harsh policy toward the southern rebels and the emancipation of the slaves at the earliest possible opportunity, while the Moderates feared that legislation proposed by the Radicals was unconstitutional and urged that the North concentrate on winning the war and preserving the Union rather than making the abolition of slavery the primary objective. The Radicals, so the usual interpretation went, came to dominate the Republican Party and gave President Lincoln who was basically a Moderate an extremely difficult time. Some historians even carried this line of analysis to the point of arguing that the Radicals were particularly the representatives of big business in the Republican Party and that they particularly supported economic legislation of interest to northern industry. Recently one of our leading historians of the Civil War argued that too much emphasis had been placed upon this schism in the Republican Party and that the fact that a man was a Republican was far more important than that he was a Radical or Moderate Republican. But the author of one of the standard studies of the Radical promptly asserted that the distinction was still a very meaningful one, leaving the whole matter still up in the air.

In rereading a considerable amount of the literature on the Civil War several years ago I was struck by the fact that no historian had actually divided the Republican legislators into Radicals and Moderates in any session of the Civil War Congresses. There were innumerable references to a few leading Radicals but no systematic listing and some distinguished historians differed with each other as to whether some legislators were Radicals or

Moderates. Indeed in one respected work the same individual was classified as both Radical and Moderate in different sections of the volume, which seemed an unsubstantial foundation for broader interpretation. About the same time several scholars began to try and impart a little more precision into the definition of Radicals and Moderates and to bring quantification to bear on some of the other hypotheses that had been advanced by historians about Civil War politics. In a recent article I hope that I was able to show that during one of the most important legislative sessions of the War, 1) that it was possible to divide the Republican senators into Radical and Moderate groups in which each member voted with his fellows more often on the average than with the members of the other group. 2) These group allegiances did apparently relate to identifiable differences in the early careers of the members of the two groups. 3) The groupings had little relation to the voting of the members on economic legislation. 4) It was possible to count the number of roll calls in which the split between Moderates and Radicals was of major significance and compare this with the number of roll calls in which party was a major determinant, thus obtaining a crude measure of the relative significance of party and faction in the legislative proceedings of that session.

Why did this trend toward quantification develop among American political historians? One writer has devoted a recent article to discussion of what he calls the »Iowa Group» at the University of Iowa in the mid and late 1950's when three members of the history department began to encourage students to experiment with quantification in their research. This writer, Dwight Hoover, has described the developments as an outgrowth of Namierism. During the 1920's the historian, Lewis Namier proceeded to compile extremely detailed biographies of the members of parliament as the basis for his analysis of British parliamentary politics. As he remarked to Arnold J. Toynbee, »I try to examine» . . . »the tree» . . . »leaf by leaf». And as Toynbee felicitously explains, Namier's leaves were »the individual human beings (the members of parliament) whose innumerable and intricately woven relations with each other produce the tangible fabric of history,,. Namier's work of course produced a very considerable impact in England and »Namierism» has been used as a term to describe the effort to

break historical events into their smallest human components for intensive study before trying to describe and explain them. Namier's ideas certainly became a part of the intellectual baggage of the English speaking scholarly community and they may indeed have had indirect effects upon the thinking of scholars in the United States, particularly since some of Namier's greatest work concerns the American Revolution. But to go further and to suggest that Namier's writings and ideas served as a direct source of inspiration to the quantifiers who developed in the United States during the 1950's and thereafter is more debatable.

Dating from the late nineteenth century there has been a persistent and sometimes quite important tendency to resort to quantification among American political historians. Frederick Jackson Turner of the University of Wisconsin and later Harvard was best known for his formulation of the frontier hypothesis but he also urged his students to borrow the methods of other disciplines, and to make detailed studies of both popular elections and the voting in Congress and other legislative bodies. Many students of Turner, both undergraduate and graduate, moved in these directions, and several important works in American history, published during the first thirty years of the nineteenth century, strikingly show this tendency in American historiography. Also, Charles A. Beard, who was to write in both the fields of political science and history during a long and productive career, published *An Economic Interpretation of the Constitution of the United States* in 1913. In this book he presented a great deal of biographical information about the members of the constitutional convention and concluded of course that our founding fathers were dominated by their desire to protect the economic interests which he had shown them to have. So Charles A. Beard had prepared a collective biography of an elite group in American politics long before Namier developed a reputation in the United States. During the 1930's and 1940's Charles A. Beard's *Economic Interpretation* was required reading for every graduate student in American history, who hoped to do well in his graduate examinations.

It is true that the quantification movement of the old Turner variety seemed to be running down in the 1930's. Younger scholars were not mapping election returns or studying congressional roll

calls as had the first generations of Turnerians. And we believe that this tendency lost its force because the statistical methods available to these men were inadequate to the problems in hand. For instance they studied popular election returns by mapping them and then trying to put on the same maps or companion maps, data concerning ethnic composition, or regional economic characteristics. From such maps they then tried to deduce a correlation between the election results and the ethnic composition or other characteristics of the voting districts. It was a very crude methodology and it probably produced as much frustration as knowledge. They did not know about simple and multiple correlation methods.

In retrospect it is clear that developments were occurring in the American historical profession during the early 1940's, which were related to the later quantification movement. The social scientists had begun to move in the direction of behavioralism, emphasizing rigorous use of theory and quantification. And various historians were encouraging their graduate students to work in social sciences and to try and apply what they learned in their historical research. Paul Wallace Gates at Cornell and Oscar Handlin at Harvard are perhaps the best illustrations. By the early 1940's, the Social Science Research Council was using its grant-in-aid program to encourage behavioralism in the social sciences and although it granted research funds to historians it became clear to many historians that their applications had a much greater chance of success if they planned to use methods borrowed from other disciplines. Eventually one grant-in-aid program of the Social Science Research Council was designed specifically to help historians retrain themselves in the methodology of related disciplines. Professor Thomas C. Cochran dramatized this trend in 1948 when he published a slashing attack on conventional political history, as merely an undiscerning narrative of presidential administrations, which ignored the fundamental social and cultural developments at the local level that really shaped politics.

The intellectual commitments of American historians were changing in other ways during the 1940's as well. For most young scholars the frontier theories had lost their charm. The idea that the frontier experience was responsible for the unique characteristics of American life and institutions had generated a tremendous

amount of interesting research by 1930. But sharp criticism of this thesis during the 1930's and early 1940's and the obvious fact that the United States was no longer a frontier society account for this decline in interest. Many historians who had little interest in the frontier had written American history in a liberal-progressive context, depicting American society as a battleground of competing economic interest groups — sometimes simplified into a contest between the people and business interests. Perhaps our entrance into World War II and our experience thereafter weakened confidence in this approach, but it was becoming less satisfying to many historians by the end of that struggle.

During the 1920's and 1930's there was profound questioning of one of the basic assumptions of the German trained scholars who established the historical profession in the United States in the late nineteenth century. Now Carl L. Becker and others suggested that it was impossible for the individual to write completely objective history — that every historian was a prisoner within his own frame of reference and that his writing would invariably reflect the prejudices, biases and predilections which he had developed in response to his intellectual environment. Others taking up the argument seemed to maintain, implicitly or explicitly, that the historian should shape his history to assist in attaining those social objectives that he thought most desirable. These implications of historical relativism horrified a large number of American historians and bitter controversy developed, which continued into the late 1940's. In part the trend toward quantification in the 1950's was a reaction to this relativist controversy — a search for more solid and objective historical evidence.

The case of my colleague now retired, Merle F. Curti, illustrates a number of these trends it seems to me. He was Frederick Jackson Turner's last doctoral candidate at Harvard but became one of the modern pioneers of American intellectual history. He became deeply involved in the controversy over relativism and this caused him to speculate on the possibility of developing more rigorous methods of historical proof. As a Turner student, he was familiar with the frontier theories and had come to believe that the study of them had reached an impasse. Critics, in general, had discredited Turner's hypothesis by textual criticism of his writings and not by research

specifically designed to test the thesis. So Professor Curti conceived a research project in which he planned to study a frontier community intensively, and to develop quantitative measures of economic position and political participation which would allow him to say that the frontier community was or was not more democratic in economic structure and politics than older communities. He began this study during the late 1940's and published *The Making of an American Community: A Case Study of Democracy in a Frontier County* in 1959. That Curti — a leading historian of ideas — should turn to quantification did a great deal to make quantification intellectually respectable.

It is against this background that various younger men in American historical profession began to experiment with quantitative methods of research in political history and encourage their graduate students to do so also during the 1950's. Their scholarly backgrounds, I believe, show more breadth than average, and early acquaintance with the trends in related social science disciplines. Generally at some point they had been supported by the S.S.R.C. or similar agencies. None of them seem to have been consciously influenced by Namier, but they were agreed that the mechanics of proof used by many political historians were inadequate.

The trend toward quantification raises various questions and problems. Is the mature political historian, without statistical background, obligated to master the techniques of quantitative analysis? How does he go about it if he decides that he should? Is there a body of methodological literature which will help him, aside from that published by statisticians and social scientists who are not usually interested in historical applications? Almost all of the more advanced methods of analysis now in use by political historians have shortcomings and pit falls. How does the learner find out about them? If the historian wishes to go beyond understanding the advanced quantitative methods and to use quantification himself, he must ask himself if he should use computers. If the answer is yes, he must then master enough computer technology to do so or discover others who can do it for him. In these endeavors there is certainly a point where the principle of diminishing returns sets in and the historian must discover it if he is to make the most of his time and effort.

There is also the question of the degree to which one should encourage graduate students to embrace the new techniques. If one decides that it is a good idea, how can graduate programs be altered to make such training easiest and not just an additional requirement of the graduate program?

Most historians have paid at least lip service to the principle that history is a literary art? How does one conciliate that fact with the hard realities of the statistical tables and correlation coefficients that litter the prose of the quantifiers? It is difficult to turn a good phrase as it is — and sometimes almost impossible when prose is heavily freighted with statistics.

And what attitude shall the quantifying historian take toward the political historians who prefer to stay with the older ways? Shall he lecture them on their shortcomings and proclaim their work obsolescent? Some younger scholars have taken this tack and they have not made friends or influenced people to say the least. I do not myself believe that the quantifier is necessarily doing anything superior to other historians. He may build some dams and breakwaters in what Matthew Arnold called »that huge Mississippi of falsehood called history,» but there are rapids he will not tame, tributaries he cannot explore, and quicksands he still cannot plumb by quantification. Much biography and so-called conventional political history is useful and will continue to attract many in the profession.

In the final analysis quantification is only one tool in the political historians' chest. It will prosper in direct proportion to the success of its practitioners in producing interesting and useful work. Thus far it has produced some brute empiricism — that is the accumulation of numbers and statistics without any effort to place them in a useful research design and it has also produced some examples of research in which the methods and materials used were largely irrelevant to the problem under study, as well as some work in which the conclusions do not follow from the statistics presented. But in addition the quantifiers have produced enough useful research to show that quantification can help us understand American political and social history better — and a growing number of historians seem determined to make it realize that promise.