of the essence of the controls of the future. The bases of these controls will be found rather in the understandings and hearts of those whose collective action it is sought to make effective.<sup>2</sup> The strong man —especially one of the "go-getter" type—is too apt to interpret accomplishment in terms of his own purposes. As public, quasi-public and private business become more and more devoted to the accomplishment of social ends, and socially minded men and women given the places of leadership, less emphasis will be placed on the "strong central control" and more on making certain that every individual knows what the plan is, and further, and quite as important, what is to be his or her part in its execution.

As for "continuity" we certainly find nowhere in private industry a more extreme type than in government. Some of the ways in which this principle expresses itself are grounded on the bitter experience of countless generations. In industry the passing whim of the man at the top may reach to the pettiest detail of administration to change or to abolish. But not so in government When our leaders learn to understand and to use and not to chafe at this "carrying on" spirit in government, great things may result.

Again we hear that "our government is one of checks and balances," that "we have too many laws" and that the Civil Service affords too little latitude in the matter of hiring and firing. All these things are supposed to operate against the introduction of Scientific Management. Of course, looked at in one way they do. But Frederick W. Taylor's claim to greatness lies in the fact that he has handed the world a philosophy of work which is so comprehensive as to render futile such obstacles. We all of us paid too much attention to the passage of legislation forbidding the use of stop watches and the payment of premiums in arsenals and navy yards. It was good to express our disbelief in the wisdom of such prohibitions. But our insistence was carried to the point where decimal dials and a particular wage system were made to appear vital to and almost the equivalent of Scientific Management.

I yield to no one in the value I put upon Frederick W. Taylor's work as a world force. Further experience with human institutions only heightens my ad-

miration for the completeness of the demonstration he gave of the possibilities of his philosophy to affect human affairs, both small and large. Yet it is quite clear that something in the way of an apology is due in making an attempt within such a relatively short time after Mr. Taylor's death to trace out concrete effects of his work and philosophy upon operations of government. Anyone who knew both the inate modesty of the man whose work we are gathered here to study and appraise, and his almost too complete dependence on factual data as contrasted with the "hunch," will recognize in the task which has been assigned to me one in which Mr. Taylor himself would have had at best only an indirect interest.

But even if it is true that as contrasted with the whole field of governmental operations the instances of the specific application of these principles are few and sporadic, evidence abounds that consciously and unconsciously public officials and public administration all over the world have felt the influence of Taylor's work and philosophy. 'For instance, the Great War had not advanced very far when the verb "to Taylorize" came into quite common use throughout France as signifying effective administration. It was adopted to characterize what were considered improved, and more especially time-saving, methods in the home as well as in the larger affairs of commerce, manufacturing and government. Such a characterization in most instances denoted nothing that would be recognized by us as Scientific Management. But a study of Scientific Management in France conducted some years hence will probably show that much of the progress made in adopting these principles will have been due to indirect influences of this kind.

In an effort to make this paper representative of the best thought of a group, specially entitled to have views on this subject, I have sought the opinion of a number of men in each of two classes; first, those having had recognized contacts both with this movement and with government; and second, those simply having had special opportunities for observing government. As bearing on this general influence of Taylor's work note these comments:

William H. Connell<sup>3</sup>

The influence of scientific management has resulted in conducting public work on a far more intelligent basis than

the basis upon which this work was conducted a number of years ago.

I have been familiar with public work for about twenty-five years, and my recollection is that the great advance in the method of handling public work started about 1908. From this time on the "rule of thumb" or the "hit or miss" method gradually gave way to more scientific planning and methods of conducting the work.

Two classes of work with which I am most familiar are highway and street cleaning, and in these branches of work the influence of scientific management has unquestionably raised the standard of the work both from the standpoint of the planning and the methods employed in the execution of the work.

## Herbert D. Brown:4

February, 1924

The operating efficiency of many Government offices has been materially improved by utilizing other (than time and motion study) of the principles of scientific management, such as the routing, planning and control of work, which were so ably advocated by Mr. Taylor.

## Clyde L. King:5

Frederick W. Taylor dedicated his life to getting a fact basis for industrial management. Industry he found had been conducted too largely on the Basis of hereditary motions. Government likewise has usually functioned along lines of hereditary notions. In Government prejudices may persist longer than in industry because industry has the drive for profits to hobble preconceptions. With the development of a fact measurement for conclusions in hidustry came in time a tendency to apply fact measurement to conclusions and methods in Government. There can be little progress toward competency in Government until we get a facty basis for policies in Government. This is the great contribution Taylor made to public service.

Scudder Klyce<sup>n</sup> expresses the idea of the pervasiveness of the Taylor influence in public affairs in spite of the fact that only rarely does the record carry the evidence:

I am told that there exists no translation of Copernicus in English. Few people have read him. Few people quote him. And I understand that he made some errors—several bad ones. Nevertheless, Copernicus' general and perhaps merely implicit idea, that man and his earth was not necessarily the essential center and purpose of the universe, (1) was sound, (2) has become so thoroughly a part of most men's minds that we don't usually even bother to remember Copernicus and quote him explicitly as an authority, and (3) has in fact become too much a part of some men's minds, so that they overlook that we may, if we like, and can profitably in some circumstances, describe man and his abode as the center and important point of departure of the whole universe.

It seems to me to be the fact that Taylor's influence in our government has already become about as anonymous and hence truly authoritative or pervasive as Copernicus' general idea has become in men's thinking. He has affected government so much that he has already become an anonymous authority—his sound views have grown to be a part of men's customary thinking, which is taken as a matter of course, that requires no specific naming of authority.

Perhaps one of the best illustrations of this pervasive and general influence is the emphasis now being placed on our budgetary procedure. Frederick A. Cleveland, a widely recognized authority on public administration and one who advocates the principles of Scientific Management, has been prominent in the fight for budgets for city, state and nation. His work on the national budget under President Taft and the classification work done later for the State of New York under the auspices of the State Constitutional Convention, he feels, "has left definite mark on the methods of accounting adopted by cities and states as well as the national government." The national classification of accounts recommended was covered in the Treasury circulars issued by the Comptroller of the Currency, Series 1912. While this particular series of instructions came in large part to be a dead letter, the general principles involved have since been "adopted and promulgated as part of the budget and accounting system." Perhaps no other single mechanism of public administration is doing more to bring order out of chaos than the budget, yet Mr. Taylor opposed it. He recognized the great opportunity offered to government for making contrasts between the accomplishments of different units in the matter of costs unhampered as is the public business by any necessity for secrecy considered more or less essential to private enterprise. Mr. Taylor felf that the budget proposed by Mr. Cleveland and his associates would stand in the way of real cost accounting. Public budgetary procedure is quite crude as compared with the industrial budgetary procedure recently so much discussed in our proceedings by John H. Williams and others. Jobs rather than work units constitute the coinage. Cost data result from special studies as in railroad practice8 and do not "come off the books."

In this connection I recall a remark made by a former minister to China who, in contrasting the atti-

<sup>&</sup>lt;sup>2</sup>This word is used to permit the idea of growth as a function of every task. The word "efficient," which fortunately appears rarely in the proceedings of this Society, has a finality about it when used to qualify human acts which is not only repellant in itself but fails to recognize that every act and life itself is both a process and a preparation.

<sup>\*</sup>Formerly Deputy Commissioner of Public Works, Borough of Bronx; Chief of Bureau of Highways, City of Philadelphia; and Engineering Executive, Pennsylvania Department of Highways, Harrisburg, Pa.

<sup>4</sup>Chief, U. S. Bureau of Efficiency, Washington, D. C. \*Secretary of the Commonwealth, State of Pennsylvania, and until recently Professor of Political Science, Wharton School, University of Pennsylvania.

<sup>&</sup>lt;sup>6</sup>Author of "Scientific Management and the Moral Law," Outlook, November 18, 1911; author of "Universe," 1921; etc.

<sup>&</sup>lt;sup>7</sup>Chairman, The President's Commission on Economy and Efficiency, organized by President Taft.

<sup>\*</sup>See "True Cost-Finding—What It Can Do for the Rail-roads"; Morris L. Cooke, Annals of American Academy of Political and Social Science, November, 1919.