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The Proverbs of Administration

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A FACT about proverbs that greatly enhances their quotability is that they almost always occur in mutually contradictory pairs. "Look before you leap!"—but "He who hesitates is lost."

This is both a great convenience and a serious defect—depending on the use to which one wishes to put the proverbs in question. If it is a matter of rationalizing behavior that has already taken place or justifying action that has already been decided upon, proverbs are ideal. Since one is never at a loss to find one that will prove his point—or the precisely contradictory point, for that matter—they are a great help in persuasion, political debate, and all forms of rhetoric.

But when one seeks to use proverbs as the basis of a scientific theory, the situation is less happy. It is not that the propositions expressed by the proverbs are insufficient; it is rather that they prove too much. A scientific theory should tell what is true but also what is false. If Newton had announced to the world that particles of matter exert either an attraction or a repulsion on each other, he would not have added much to scientific knowledge. His contribution consisted in showing that an attraction was exercised and in announcing the precise law governing its operation.

Most of the propositions that make up the body of administrative theory today share, unfortunately, this defect of proverbs. For almost every principle one can find an equally plausible and acceptable contradictory principle. Although the two principles of the pair will lead to exactly

opposite organizational recommendations, there is nothing in the theory to indicate which is the proper one to apply.¹

It is the purpose of this paper to substantiate this sweeping criticism of administrative theory, and to present some suggestions—perhaps less concrete than they should be—as to how the existing dilemma can be solved.

Some Accepted Administrative Principles

AMONG the more common "principles" that occur in the literature of administration are these:

1. Administrative efficiency is increased by a specialization of the task among the group.
2. Administrative efficiency is increased by arranging the members of the group in a determinate hierarchy of authority.
3. Administrative efficiency is increased by limiting the span of control at any point in the hierarchy to a small number.
4. Administrative efficiency is increased by grouping the workers, for purposes of control, according to (a) purpose, (b) process, (c) clientele, or (d) place. (This is really an elaboration of the first principle but deserves separate discussion).

Since these principles appear relatively simple and clear, it would seem that their application to concrete problems of admin-

¹ Lest it be thought that this deficiency is peculiar to the science—or "art"—of administration, it should be pointed out that the same trouble is shared by most Freudian psychological theories, as well as by some sociological theories.

istrative organization would be unambiguous and that their validity would be easily submitted to empirical test. Such, however, seems not to be the case. To show why it is not, each of the four principles just listed will be considered in turn.

Specialization. Administrative efficiency is supposed to increase with an increase in specialization. But is this intended to mean that *any* increase in specialization will increase efficiency? If so, which of the following alternatives is the correct application of the principle in a particular case?

1. A plan of nursing should be put into effect by which nurses will be assigned to districts and do all nursing within that district, including school examinations, visits to homes or school children, and tuberculosis nursing.

2. A functional plan of nursing should be put into effect by which different nurses will be assigned to school examinations, visits to homes of school children, and tuberculosis nursing. The present method of generalized nursing by districts impedes the development of specialized skills in the three very diverse programs.

Both of these administrative arrangements satisfy the requirement of specialization—the first provides specialization by place; the second, specialization by function. The principle of specialization is of no help at all in choosing between the two alternatives.

It appears that the simplicity of the principle of specialization is a deceptive simplicity—a simplicity which conceals fundamental ambiguities. For “specialization” is not a condition of efficient administration; it is an inevitable characteristic of all group effort, however efficient or inefficient that effort may be. Specialization merely means that different persons are doing different things—and since it is physically impossible for two persons to be doing the same thing in the same place at the same time, two persons are always doing different things.

The real problem of administration, then, is not to “specialize,” but to specialize in that particular manner and along those particular lines which will lead to adminis-

trative efficiency. But, in thus rephrasing this “principle” of administration, there has been brought clearly into the open its fundamental ambiguity: “Administrative efficiency is increased by a specialization of the task among the group in the direction which will lead to greater efficiency.”

Further discussion of the choice between competing bases of specialization will be undertaken after two other principles of administration have been examined.

Unity of Command. Administrative efficiency is supposed to be enhanced by arranging the members of the organization in a determinate hierarchy of authority in order to preserve “unity of command.”

Analysis of this “principle” requires a clear understanding of what is meant by the term “authority.” A subordinate may be said to accept authority whenever he permits his behavior to be guided by a decision reached by another, irrespective of his own judgment as to the merits of that decision.

In one sense the principle of unity of command, like the principle of specialization, cannot be violated; for it is physically impossible for a man to obey two contradictory commands—that is what is meant by “contradictory commands.” Presumably, if unity of command is a principle of administration, it must assert something more than this physical impossibility. Perhaps it asserts this: that it is undesirable to place a member of an organization in a position where he receives orders from more than one superior. This is evidently the meaning that Gulick attaches to the principle when he says,

The significance of this principle in the process of co-ordination and organization must not be lost sight of. In building a structure of co-ordination, it is often tempting to set up more than one boss for a man who is doing work which has more than one relationship. Even as great a philosopher of management as Taylor fell into this error in setting up separate foremen to deal with machinery, with materials, with speed, etc., each with the power of giving orders directly to the individual work-

man. The rigid adherence to the principle of unity of command may have its absurdities; these are, however, unimportant in comparison with the certainty of confusion, inefficiency and irresponsibility which arise from the violation of the principle.¹

Certainly the principle of unity of command, thus interpreted, cannot be criticized for any lack of clarity or any ambiguity. The definition of authority given above should provide a clear test whether, in any concrete situation, the principle is observed. The real fault that must be found with this principle is that it is incompatible with the principle of specialization. One of the most important uses to which authority is put in organization is to bring about specialization in the work of making decisions, so that each decision is made at a point in the organization where it can be made most expertly. As a result, the use of authority permits a greater degree of expertness to be achieved in decision-making than would be possible if each operative employee had himself to make all the decisions upon which his activity is predicated. The individual fireman does not decide whether to use a two-inch hose or a fire extinguisher; that is decided for him by his officers, and the decision is communicated to him in the form of a command.

However, if unity of command, in Gulick's sense, is observed, the decisions of a person at any point in the administrative hierarchy are subject to influence through only one channel of authority; and if his decisions are of a kind that require expertise in more than one field of knowledge, then advisory and informational services must be relied upon to supply those premises which lie in a field not recognized by the mode of specialization in the organization. For example, if an accountant in a school department is subordinate to an educator, and if unity of command is observed, then the finance department cannot

issue direct orders to him regarding the technical, accounting aspects of his work. Similarly, the director of motor vehicles in the public works department will be unable to issue direct orders on care of motor equipment to the fire-truck driver.²

Gulick, in the statement quoted above, clearly indicates the difficulties to be faced if unity of command is not observed. A certain amount of irresponsibility and confusion are almost certain to ensue. But perhaps this is not too great a price to pay for the increased expertise that can be applied to decisions. What is needed to decide the issue is a principle of administration that would enable one to weigh the relative advantages of the two courses of action. But neither the principle of unity of command nor the principle of specialization is helpful in adjudicating the controversy. They merely contradict each other without indicating any procedure for resolving the contradiction.

If this were merely an academic controversy—if it were generally agreed and had been generally demonstrated that unity of command must be preserved in all cases, even with a loss in expertise—one could assert that in case of conflict between the two principles, unity of command should prevail. But the issue is far from clear, and experts can be ranged on both sides of the controversy. On the side of unity of command there may be cited the dictums of Gulick and others.³ On the side of specialization there are Taylor's theory of functional supervision, Macmahon and Millett's idea of "dual supervision," and the practice of technical supervision in military organization.⁴

² This point is discussed in Herbert A. Simon "Decision-Making and Administrative Organization," 4 *Public Administration Review* 20-21 (Winter, 1944).

³ Gulick, "Notes on the Theory of Organization," p. 9; L. D. White, *Introduction to the Study of Public Administration* (Macmillan Co., 1939), p. 45.

⁴ Frederick W. Taylor, *Shop Management* (Harper & Bros., 1911), p. 99; Macmahon, Millett, and Ogden *The Administration of Federal Work Relief* (Public Administration Service, 1941), pp. 265-68; and L. Ur-

¹ Luther Gulick, "Notes on the Theory of Organization," in Luther Gulick and L. Urwick (eds.), *Papers on the Science of Administration* (Institute of Public Administration, Columbia University, 1937), p. 9.

It may be, as Gulick asserts, that the notion of Taylor and these others is an "error." If so, the evidence that it is an error has never been marshalled or published—apart from loose heuristic arguments like that quoted above. One is left with a choice between equally eminent theorists of administration and without any evidential basis for making that choice.

What evidence there is of actual administrative practice would seem to indicate that the need for specialization is to a very large degree given priority over the need for unity of command. As a matter of fact, it does not go too far to say that unity of command, in Gulick's sense, never has existed in any administrative organization. If a line officer accepts the regulations of an accounting department with regard to the procedure for making requisitions, can it be said that, in this sphere, he is not subject to the authority of the accounting department? In any actual administrative situation authority is zoned, and to maintain that this zoning does not contradict the principle of unity of command requires a very different definition of authority from that used here. This subjection of the line officer to the accounting department is no different, in principle, from Taylor's recommendation that in the matter of work programming a workman be subject to one foreman, in the matter of machine operation to another.

The principle of unity of command is perhaps more defensible if narrowed down to the following: In case two authoritative commands conflict, there should be a single determinate person whom the subordinate is expected to obey; and the sanctions of authority should be applied against the subordinate only to enforce his obedience to that one person.

If the principle of unity of command is more defensible when stated in this limited

form, it also solves fewer problems. In the first place, it no longer requires, except for settling conflicts of authority, a single hierarchy of authority. Consequently, it leaves unsettled the very important question of how authority should be zoned in a particular organization (i.e., the modes of specialization) and through what channels it should be exercised. Finally, even this narrower concept of unity of command conflicts with the principle of specialization, for whenever disagreement does occur and the organization members revert to the formal lines of authority, then only those types of specialization which are represented in the hierarchy of authority can impress themselves on decision. If the training officer of a city exercises only functional supervision over the police training officer, then in case of disagreement with the police chief, specialized knowledge of police problems will determine the outcome while specialized knowledge of training problems will be subordinated or ignored. That this actually occurs is shown by the frustration so commonly expressed by functional supervisors at their lack of authority to apply sanctions.

Span of Control. Administrative efficiency is supposed to be enhanced by limiting the number of subordinates who report directly to any one administrator to a small number—say six. This notion that the "span of control" should be narrow is confidently asserted as a third incontrovertible principle of administration. The usual common-sense arguments for restricting the span of control are familiar and need not be repeated here. What is not so generally recognized is that a contradictory proverb of administration can be stated which, though it is not so familiar as the principle of span of control, can be supported by arguments of equal plausibility. The proverb in question is the following: Administrative efficiency is enhanced by keeping at a minimum the number of organizational levels through which a matter must pass before it is acted upon.

wick, who describes British army practice in "Organization as a Technical Problem," Gulick and Urwick (eds.), *op. cit.*, pp. 67-69.

This latter proverb is one of the fundamental criteria that guide administrative analysts in procedures simplification work. Yet in many situations the results to which this principle leads are in direct contradiction to the requirements of the principle of span of control, the principle of unity of command, and the principle of specialization. The present discussion is concerned with the first of these conflicts. To illustrate the difficulty, two alternative proposals for the organization of a small health department will be presented—one based on the restriction of span of control, the other on the limitation of number of organization levels:

1. The present organization of the department places an administrative overload on the health officer by reason of the fact that all eleven employees of the department report directly to him and the further fact that some of the staff lack adequate technical training. Consequently, venereal disease clinic treatments and other details require an undue amount of the health officer's personal attention.

It has previously been recommended that the proposed medical officer be placed in charge of the venereal disease and chest clinics and all child hygiene work. It is further recommended that one of the inspectors be designated chief inspector and placed in charge of all the department's inspectional activities and that one of the nurses be designated as head nurse. This will relieve the health commissioner of considerable detail and will leave him greater freedom to plan and supervise the health program as a whole, to conduct health education, and to coordinate the work of the department with that of other community agencies. If the department were thus organized, the effectiveness of all employees could be substantially increased.

2. The present organization of the department leads to inefficiency and excessive red tape by reason of the fact that an unnecessary supervisory level intervenes between the health officer and the operative employees, and that those four of the twelve employees who are best trained technically are engaged largely in "overhead" administrative duties. Consequently, unnecessary delays occur in securing the approval of the health officer on matters requiring his attention, and too many matters require review and re-review.

The medical officer should be left in charge of the venereal disease and chest clinics and child hygiene work. It is recommended, however, that

the position of chief inspector and head nurse be abolished and that the employees now filling these positions perform regular inspectional and nursing duties. The details of work scheduling now handled by these two employees can be taken care of more economically by the secretary to the health officer, and, since broader matters of policy have, in any event, always required the personal attention of the health officer, the abolition of these two positions will eliminate a wholly unnecessary step in review, will allow an expansion of inspectional and nursing services, and will permit at least a beginning to be made in the recommended program of health education. The number of persons reporting directly to the health officer will be increased to nine, but since there are few matters requiring the coordination of these employees, other than the work schedules and policy questions referred to above, this change will not materially increase his work load.

The dilemma is this: in a large organization with complex interrelations between members, a restricted span of control inevitably produces excessive red tape, for each contact between organization members must be carried upward until a common superior is found. If the organization is at all large, this will involve carrying all such matters upward through several levels of officials for decision and then downward again in the form of orders and instructions—a cumbersome and time-consuming process.

The alternative is to increase the number of persons who are under the command of each officer, so that the pyramid will come more rapidly to a peak, with fewer intervening levels. But this, too, leads to difficulty, for if an officer is required to supervise too many employees, his control over them is weakened.

If it is granted, then, that both the increase and the decrease in span of control has some undesirable consequences, what is the optimum point? Proponents of a restricted span of control have suggested three, five, even eleven, as suitable numbers, but nowhere have they explained the reasoning which led them to the particular number they selected. The principle as stated casts no light on this very crucial

question. One is reminded of current arguments about the proper size of the national debt.

Organization by Purpose, Process, Clientele, Place. Administrative efficiency is supposed to be increased by grouping workers according to (a) purpose, (b) process, (c) clientele, or (d) place. But from the discussion of specialization it is clear that this principle is internally inconsistent; for purpose, process, clientele, and place are competing bases of organization, and at any given point of division the advantages of three must be sacrificed to secure the advantages of the fourth. If the major departments of a city, for example, are organized on the basis of major purpose, then it follows that all the physicians, all the lawyers, all the engineers, all the statisticians will not be located in a single department exclusively composed of members of their profession but will be distributed among the various city departments needing their services. The advantages of organization by process will thereby be partly lost.

Some of these advantages can be regained by organizing on the basis of process *within* the major departments. Thus there may be an engineering bureau within the public works department, or the board of education may have a school health service as a major division of its work. Similarly, within smaller units there may be division by area or by clientele: e.g., a fire department will have separate companies located throughout the city, while a welfare department may have intake and case work agencies in various locations. Again, however, these major types of specialization cannot be simultaneously achieved, for at any point in the organization it must be decided whether specialization at the next level will be accomplished by distinction of major purpose, major process, clientele, or area.

The conflict may be illustrated by showing how the principle of specialization according to purpose would lead to a different result from specialization according to

clientele in the organization of a health department.

1. Public health administration consists of the following activities for the prevention of disease and the maintenance of healthful conditions: (1) vital statistics; (2) child hygiene—prenatal, maternity, postnatal, infant, preschool, and school health programs; (3) communicable disease control; (4) inspection of milk, foods, and drugs; (5) sanitary inspection; (6) laboratory service; (7) health education.

One of the handicaps under which the health department labors is the fact that the department has no control over school health, that being an activity of the county board of education, and there is little or no coordination between that highly important part of the community health program and the balance of the program which is conducted by the city-county health unit. It is recommended that the city and county open negotiations with the board of education for the transfer of all school health work and the appropriation therefor to the joint health unit. . . .

2. To the modern school department is entrusted the care of children during almost the entire period that they are absent from the parental home. It has three principal responsibilities toward them: (1) to provide for their education in useful skills and knowledge and in character; (2) to provide them with wholesome play activities outside school hours; (3) to care for their health and to assure the attainment of minimum standards of nutrition.

One of the handicaps under which the school board labors is the fact that, except for school lunches, the board has no control over child health and nutrition, and there is little or no coordination between that highly important part of the child development program and the balance of the program which is conducted by the board of education. It is recommended that the city and county open negotiations for the transfer of all health work for children of school age to the board of education.

Here again is posed the dilemma of choosing between alternative, equally plausible, administrative principles. But this is not the only difficulty in the present case, for a closer study of the situation shows there are fundamental ambiguities in the meanings of the key terms—"purpose," "process," "clientele," and "place."

"Purpose" may be roughly defined as the objective or end for which an activity is

carried on; "process" as a means for accomplishing a purpose. Processes, then, are carried on in order to achieve purposes. But purposes themselves may generally be arranged in some sort of hierarchy. A typist moves her fingers in order to type; types in order to reproduce a letter; reproduces a letter in order that an inquiry may be answered. Writing a letter is then the purpose for which the typing is performed; while writing a letter is also the process whereby the purpose of replying to an inquiry is achieved. It follows that the same activity may be described as purpose or as process.

This ambiguity is easily illustrated for the case of an administrative organization. A health department conceived as a unit whose task it is to care for the health of the community is a purpose organization; the same department conceived as a unit which makes use of the medical arts to carry on its work is a process organization. In the same way, an education department may be viewed as a purpose (to educate) organization, or a clientele (children) organization; the forest service as a purpose (forest conservation), process (forest management), clientele (lumbermen and cattlemen utilizing public forests), or area (publicly owned forest lands) organization. When concrete illustrations of this sort are selected, the lines of demarcation between these categories become very hazy and unclear indeed.

"Organization by major purpose," says Gulick, ". . . serves to bring together in a single large department all of those who are at work endeavoring to render a particular service."¹ But what is a particular service? Is fire protection a single purpose, or is it merely a part of the purpose of public safety?—or is it a combination of purposes including fire prevention and fire fighting? It must be concluded that there is no such thing as a purpose, or a unifunctional (single-purpose) organization. What is to

be considered a single function depends entirely on language and techniques.² If the English language has a comprehensive term which covers both of two subpurposes it is natural to think of the two together as a single purpose. If such a term is lacking, the two subpurposes become purposes in their own right. On the other hand, a single activity may contribute to several objectives, but since they are technically (procedurally) inseparable, the activity is considered a single function or purpose.

The fact, mentioned previously, that purposes form a hierarchy, each subpurpose contributing to some more final and comprehensive end, helps to make clear the relation between purpose and process. "Organization by major process," says Gulick, ". . . tends to bring together in a single department all of those who are at work making use of a given special skill or technology, or are members of a given profession."³ Consider a simple skill of this kind—typing. Typing is a skill which brings about a means-end coordination of muscular movements, but at a very low level in the means-end hierarchy. The content of the typewritten letter is indifferent to the skill that produces it. The skill consists merely in the ability to hit the letter "t" quickly whenever the letter "t" is required by the content and to hit the letter "a" whenever the letter "a" is required by the content.

There is, then, no essential difference between a "purpose" and a "process," but only a distinction of degree. A "process" is an activity whose immediate purpose is at a low level in the hierarchy of means and ends, while a "purpose" is a collection of activities whose orienting value or aim is at a high level in the means-end hierarchy.

² If this is correct, then any attempt to prove that certain activities belong in a single department because they relate to a single purpose is doomed to fail. See, for example, John M. Gaus and Leon Wolcott, *Public Administration and the U.S. Department of Agriculture* (Public Administration Service, 1940.)

³ *Op. cit.*, p. 23.

¹ *Op. cit.*, p. 21.

Next consider "clientele" and "place" as bases of organization. These categories are really not separate from purpose, but a part of it. A complete statement of the purpose of a fire department would have to include the area served by it: "to reduce fire losses on property in the city of X." Objectives of an administrative organization are phrased in terms of a service to be provided and an area for which it is provided. Usually, the term "purpose" is meant to refer only to the first element, but the second is just as legitimately an aspect of purpose. Area of service, of course, may be a specified clientele quite as well as a geographical area. In the case of an agency which works on "shifts," time will be a third dimension of purpose—to provide a given service in a given area (or to a given clientele) during a given time period.

With this clarification of terminology, the next task is to reconsider the problem of specializing the work of an organization. It is no longer legitimate to speak of a "purpose" organization, a "process" organization, a "clientele" organization, or an "area" organization. The same unit might fall into any one of these four categories, depending on the nature of the larger organizational unit of which it was a part. A unit providing public health and medical services for school-age children in Multnomah County might be considered (1) an "area" organization if it were part of a unit providing the same service for the state of Oregon; (2) a "clientele" organization if it were part of a unit providing similar services for children of all ages; (3) a "purpose" or a "process" organization (it would be impossible to say which) if it were part of an education department.

It is incorrect to say that Bureau A is a process bureau; the correct statement is that Bureau A is a process bureau *within* Department X.¹ This latter statement would

¹This distinction is implicit in most of Gulick's analysis of specialization. However, since he cites as examples single departments within a city, and since he

mean that Bureau A incorporates all the processes of a certain kind in Department X, without reference to any special sub-purposes, subareas, or subclientele of Department X. Now it is conceivable that a particular unit might incorporate all processes of a certain kind but that these processes might relate to only certain particular subpurposes of the department purpose. In this case, which corresponds to the health unit in an education department mentioned above, the unit would be specialized by both purpose and process. The health unit would be the only one in the education department using the medical art (process) and concerned with health (subpurpose).

Even when the problem is solved of proper usage for the terms "purpose," "process," "clientele," and "area," the principles of administration give no guide as to which of these four competing bases of specialization is applicable in any particular situation. The British Machinery of Government Committee had no doubts about the matter. It considered purpose and clientele as the two possible bases of organization and put its faith entirely in the former. Others have had equal assurance in choosing between purpose and process. The reasoning which leads to these unequivocal conclusions leaves something to be desired. The Machinery of Government Committee gives this sole argument for its choice:

Now the inevitable outcome of this method of organization [by clientele] is a tendency to Lilliputian administration. It is impossible that the specialized service which each Department has to render to the community can be of as high a standard when its work is at the same time limited to a particular class of persons and extended to every variety of provision for them, as when the Department concentrates itself on the provision of the particular service only by whomsoever required, and looks beyond the interest of comparatively small classes.²

usually speaks of "grouping activities" rather than "dividing work," the relative character of these categories is not always apparent in this discussion (*op. cit.*, pp. 15-30).

²*Report of the Machinery of Government Committee* (H. M. Stationery Office, 1918).

The faults in this analysis are obvious. First, there is no attempt to determine how a service is to be recognized. Second, there is a bald assumption, absolutely without proof, that a child health unit, for example, in a department of child welfare could not offer services of "as high a standard" as the same unit if it were located in a department of health. Just how the shifting of the unit from one department to another would improve or damage the quality of its work is not explained. Third, no basis is set forth for adjudicating the competing claims of purpose and process—the two are merged in the ambiguous term "service." It is not necessary here to decide whether the committee was right or wrong in its recommendation; the important point is that the recommendation represented a choice, without any apparent logical or empirical grounds, between contradictory principles of administration.

Even more remarkable illustrations of illogic can be found in most discussions of purpose *vs.* process. They would be too ridiculous to cite if they were not commonly used in serious political and administrative debate.

For instance, where should agricultural education come: in the Ministry of Education, or of Agriculture? That depends on whether we want to see the best farming taught, though possibly by old methods, or a possibly out-of-date style of farming, taught in the most modern and compelling manner. The question answers itself.¹

But does the question really answer itself? Suppose a bureau of agricultural education were set up, headed, for example, by a man who had had extensive experience in agricultural research or as administrator of an agricultural school, and staffed by men of similarly appropriate background. What reason is there to believe that if attached to a Ministry of Education they would teach old-fashioned farming by new-fashioned methods, while if attached to a Min-

istry of Agriculture they would teach new-fashioned farming by old-fashioned methods? The administrative problem of such a bureau would be to teach new-fashioned farming by new-fashioned methods, and it is a little difficult to see how the departmental location of the unit would affect this result. "The question answers itself" only if one has a rather mystical faith in the potency of bureau-shuffling as a means for redirecting the activities of an agency.

These contradictions and competitions have received increasing attention from students of administration during the past few years. For example, Gulick, Wallace, and Benson have stated certain advantages and disadvantages of the several modes of specialization, and have considered the conditions under which one or the other mode might best be adopted.² All this analysis has been at a theoretical level—in the sense that data have not been employed to demonstrate the superior effectiveness claimed for the different modes. But though theoretical, the analysis has lacked a theory. Since no comprehensive framework has been constructed within which the discussion could take place, the analysis has tended either to the logical one-sidedness which characterizes the examples quoted above or to inconclusiveness.

The Impasse of Administrative Theory. The four "principles of administration" that were set forth at the beginning of this paper have now been subjected to critical analysis. None of the four survived in very good shape, for in each case there was found, instead of an unequivocal principle, a set of two or more mutually incompatible principles apparently equally applicable to the administrative situation.

Moreover, the reader will see that the very same objections can be urged against

¹ Sir Charles Harris, "Decentralization," 3 *Journal of Public Administration* 117-33 (April, 1925).

² Gulick, "Notes on the Theory of Organization," pp. 21-30; Schuyler Wallace, *Federal Departmentalization* (Columbia University Press, 1941); George C. S. Benson, "International Administrative Organization," 1 *Public Administration Review* 473-86 (Autumn, 1941).

the customary discussions of "centralization" vs. "decentralization," which usually conclude, in effect, that "on the one hand, centralization of decision-making functions is desirable; on the other hand, there are definite advantages in decentralization."

Can anything be salvaged which will be useful in the construction of an administrative theory? As a matter of fact, almost everything can be salvaged. The difficulty has arisen from treating as "principles of administration" what are really only criteria for describing and diagnosing administrative situations. Closet space is certainly an important item in the design of a successful house; yet a house designed entirely with a view to securing a maximum of closet space—all other considerations being forgotten—would be considered, to say the least, somewhat unbalanced. Similarly, unity of command, specialization by purpose, decentralization are all items to be considered in the design of an efficient administrative organization. No single one of these items is of sufficient importance to suffice as a guiding principle for the administrative analyst. In the design of administrative organizations, as in their operation, over-all efficiency must be the guiding criterion. Mutually incompatible advantages must be balanced against each other, just as an architect weighs the advantages of additional closet space against the advantages of a larger living room.

This position, if it is a valid one, constitutes an indictment of much current writing about administrative matters. As the examples cited in this chapter amply demonstrate, much administrative analysis proceeds by selecting a single criterion and applying it to an administrative situation to reach a recommendation; while the fact that equally valid, but contradictory, criteria exist which could be applied with equal reason, but with a different result, is conveniently ignored. A valid approach to the study of administration requires that all the relevant diagnostic criteria be iden-

tified; that each administrative situation be analyzed in terms of the entire set of criteria; and that research be instituted to determine how weights can be assigned to the several criteria when they are, as they usually will be, mutually incompatible.

An Approach to Administrative Theory

THIS program needs to be considered step by step. First, what is included in the description of administrative situations for purposes of such an analysis? Second, how can weights be assigned to the various criteria to give them their proper place in the total picture?

The Description of Administrative Situations. Before a science can develop principles, it must possess concepts. Before a law of gravitation could be formulated, it was necessary to have the notions of "acceleration" and "weight." The first task of administrative theory is to develop a set of concepts that will permit the description, in terms relevant to the theory, of administrative situations. These concepts, to be scientifically useful, must be operational; that is, their meanings must correspond to empirically observable facts or situations. The definition of "authority" given earlier in this paper is an example of an operational definition.

What is a scientifically relevant description of an organization? It is a description that, so far as possible, designates for each person in the organization what decisions that person makes and the influences to which he is subject in making each of these decisions. Current descriptions of administrative organizations fall far short of this standard. For the most part, they confine themselves to the allocation of *functions* and the formal structure of *authority*. They give little attention to the other types of organizational influence or to the system of communication.¹

What does it mean, for example to say:

¹ The monograph by Macmahon, Millett, and Ogden,

"The department is made up of three bureaus. The first has the function of ———, the second the function of ———, and the third the function of ———?" What can be learned from such a description about the workability of the organizational arrangement? Very little, indeed. For from the description there is obtained no idea of the degree to which decisions are centralized at the bureau level or at the departmental level. No notion is given as to the extent to which the (presumably unlimited) authority of the department over the bureau is actually exercised or by what mechanisms. There is no indication of the extent to which systems of communication assist the coordination of the three bureaus or, for that matter, to what extent coordination is required by the nature of their work. There is no description of the kinds of training the members of the bureau have undergone or of the extent to which this training permits decentralization at the bureau level. In sum, a description of administrative organizations in terms almost exclusively of functions and lines of authority is completely inadequate for purposes of administrative analysis.

Consider the term "centralization." How is it determined whether the operations of a particular organization are "centralized" or "decentralized"? Does the fact that field offices exist prove anything about decentralization? Might not the same decentralization take place in the bureaus of a centrally located office? A realistic analysis of centralization must include a study of the allocation of decisions in the organization and the methods of influence that are employed by the higher levels to affect the decisions at the lower levels. Such an analysis would reveal a much more complex picture of the decision-making process than any enumeration of the geographical loca-

op. cit., perhaps approaches nearer than any other published administrative study to the sophistication required in administrative description. See, for example, the discussion on pp. 233-36 of headquarters-field relationships.

tions of organizational units at the different levels.

Administrative description suffers currently from superficiality, oversimplification, lack of realism. It has confined itself too closely to the mechanism of authority and has failed to bring within its orbit the other, equally important, modes of influence on organizational behavior. It has refused to undertake the tiresome task of studying the actual allocation of decision-making functions. It has been satisfied to speak of "authority," "centralization," "span of control," "function," without seeking operational definitions of these terms. Until administrative description reaches a higher level of sophistication, there is little reason to hope that rapid progress will be made toward the identification and verification of valid administrative principles.

Does this mean that a purely formal description of an administrative organization is impossible—that a relevant description must include an account of the content of the organization's decisions? This is a question that is almost impossible to answer in the present state of knowledge of administrative theory. One thing seems certain: content plays a greater role in the application of administrative principles than is allowed for in the formal administrative theory of the present time. This is a fact that is beginning to be recognized in the literature of administration. If one examines the chain of publications extending from Mooney and Reilley, through Gulick and the President's Committee controversy, to Schuyler Wallace and Benson, he sees a steady shift of emphasis from the "principles of administration" themselves to a study of the *conditions* under which competing principles are respectively applicable. Recent publications seldom say that "organization should be by purpose," but rather that "under such and such conditions purpose organization is desirable." It is to these conditions which underlie the application of the proverbs of administration

that administrative theory and analysis must turn in their search for really valid principles to replace the proverbs.

The Diagnosis of Administrative Situations. Before any positive suggestions can be made, it is necessary to digress a bit and to consider more closely the exact nature of the propositions of administrative theory. The theory of administration is concerned with how an organization should be constructed and operated in order to accomplish its work efficiently. A fundamental principle of administration, which follows almost immediately from the rational character of "good" administration, is that among several alternatives involving the same expenditure that one should always be selected which leads to the greatest accomplishment of administrative objectives; and among several alternatives that lead to the same accomplishment that one should be selected which involves the least expenditure. Since this "principle of efficiency" is characteristic of any activity that attempts rationally to maximize the attainment of certain ends with the use of scarce means, it is as characteristic of economic theory as it is of administrative theory. The "administrative man" takes his place alongside the classical "economic man."¹

Actually, the "principle" of efficiency should be considered a definition rather than a principle: it is a definition of what is meant by "good" or "correct" administrative behavior. It does not tell *how* accomplishments are to be maximized, but merely states that this maximization is the aim of administrative activity, and that administrative theory must disclose under what conditions the maximization takes place.

Now what are the factors that determine the level of efficiency which is achieved by an administrative organization? It is not

possible to make an exhaustive list of these, but the principal categories can be enumerated. Perhaps the simplest method of approach is to consider the single member of the administrative organization and ask what the limits are to the quantity and quality of his output. These limits include (a) limits on his ability to perform and (b) limits on his ability to make correct decisions. To the extent that these limits are removed, the administrative organization approaches its goal of high efficiency. Two persons, given the same skills, the same objectives and values, the same knowledge and information, can rationally decide only upon the same course of action. Hence, administrative theory must be interested in the factors that will determine with what skills, values, and knowledge the organization member undertakes his work. These are the "limits" to rationality with which the principles of administration must deal.

On one side, the individual is limited by those skills, habits, and reflexes which are no longer in the realm of the conscious. His performance, for example, may be limited by his manual dexterity or his reaction time or his strength. His decision-making processes may be limited by the speed of his mental processes, his skill in elementary arithmetic, and so forth. In this area, the principles of administration must be concerned with the physiology of the human body and with the laws of skill-training and of habit. This is the field that has been most successfully cultivated by the followers of Taylor and in which has been developed time-and-motion study and the therblig.

On a second side, the individual is limited by his values and those conceptions of purpose which influence him in making his decisions. If his loyalty to the organization is high, his decisions may evidence sincere acceptance of the objectives set for the organization; if that loyalty is lacking, personal motives may interfere with his administrative efficiency. If his loyalties are

¹ For an elaboration of the principle of efficiency and its place in administrative theory see Clarence E. Ridley and Herbert A. Simon, *Measuring Municipal Activities* (International City Managers' Association, 2nd ed., 1943), particularly Chapter I and the preface to the second edition.

attached to the bureau by which he is employed, he may sometimes make decisions that are inimical to the larger unit of which the bureau is a part. In this area the principles of administration must be concerned with the determinants of loyalty and morale, with leadership and initiative, and with the influences that determine where the individual's organizational loyalties will be attached.

On a third side, the individual is limited by the extent of his knowledge of things relevant to his job. This applies both to the basic knowledge required in decision-making—a bridge designer must know the fundamentals of mechanics—and to the information that is required to make his decisions appropriate to the given situation. In this area, administrative theory is concerned with such fundamental questions as these: What are the limits on the mass of knowledge that human minds can accumulate and apply? How rapidly can knowledge be assimilated? How is specialization in the administrative organization to be related to the specializations of knowledge that are prevalent in the community's occupational structure? How is the system of communication to channel knowledge and information to the appropriate decision-points? What types of knowledge can, and what types cannot, be easily transmitted? How is the need for intercommunication of information affected by the modes of specialization in the organization? This is perhaps the *terra incognita* of administrative theory, and undoubtedly its careful exploration will cast great light on the proper application of the proverbs of administration.

Perhaps this triangle of limits does not completely bound the area of rationality, and other sides need to be added to the figure. In any case, this enumeration will serve to indicate the kinds of considerations that must go into the construction of valid and noncontradictory principles of administration.

An important fact to be kept in mind is

that the limits of rationality are variable limits. Most important of all, consciousness of the limits may in itself alter them. Suppose it were discovered in a particular organization, for example, that organizational loyalties attached to small units had frequently led to a harmful degree of intra-organizational competition. Then, a program which trained members of the organization to be conscious of their loyalties, and to subordinate loyalties to the smaller group to those of the large, might lead to a very considerable alteration of the limits in that organization.¹

A related point is that the term "rational behavior," as employed here, refers to rationality when that behavior is evaluated in terms of the objectives of the larger organization; for, as just pointed out, the difference in direction of the individual's aims from those of the larger organization is just one of those elements of nonrationality with which the theory must deal.

A final observation is that, since administrative theory is concerned with the non-rational limits of the rational, it follows that the larger the area in which rationality has been achieved the less important is the exact form of the administrative organization. For example, the function of plan preparation, or design, if it results in a written plan that can be communicated interpersonally without difficulty, can be located almost anywhere in the organization without affecting results. All that is needed is a procedure whereby the plan can be given authoritative status, and this can be provided in a number of ways. A discussion, then, of the proper location for a planning or designing unit is apt to be highly inconclusive and is apt to hinge on the personalities in the organization and their relative enthusiasm, or lack of it, toward the planning function rather than upon any

¹ For an example of the use of such training, see Herbert A. Simon and William Divine, "Controlling Human Factors in an Administrative Experiment," 1 *Public Administration Review* 487-92 (Autumn, 1941).

abstract principles of good administration.¹

On the other hand, when factors of communication or faiths or loyalty are crucial to the making of a decision, the location of the decision in the organization is of great importance. The method of allocating decisions in the army, for instance, automatically provides (at least in the period prior to the actual battle) that each decision will be made where the knowledge is available for coordinating it with other decisions.

Assigning Weights to the Criteria. A first step, then, in the overhauling of the proverbs of administration is to develop a vocabulary, along the lines just suggested, for the description of administrative organization. A second step, which has also been outlined, is to study the limits of rationality in order to develop a complete and comprehensive enumeration of the criteria that must be weighed in evaluating an administrative organization. The current proverbs represent only a fragmentary and unsystematized portion of these criteria.

When these two tasks have been carried out, it remains to assign weights to the criteria. Since the criteria, or "proverbs," are often mutually competitive or contradictory, it is not sufficient merely to identify them. Merely to know, for example, that a specified change in organization will reduce the span of control is not enough to justify the change. This gain must be balanced against the possible resulting loss of contact between the higher and lower ranks of the hierarchy.

Hence, administrative theory must also be concerned with the question of the

weights that are to be applied to these criteria—to the problems of their relative importance in any concrete situation. This question is not one that can be solved in a vacuum. Arm-chair philosophizing about administration—of which the present paper is an example—has gone about as far as it can profitably go in this particular direction. What is needed now is empirical research and experimentation to determine the relative desirability of alternative administrative arrangements.

The methodological framework for this research is already at hand in the principle of efficiency. If an administrative organization whose activities are susceptible to objective evaluation be subjected to study, then the actual change in accomplishment that results from modifying administrative arrangements in these organizations can be observed and analyzed.

There are two indispensable conditions to successful research along these lines. First, it is necessary that the objectives of the administrative organization under study be defined in concrete terms so that results, expressed in terms of these objectives, can be accurately measured. Second, it is necessary that sufficient experimental control be exercised to make possible the isolation of the particular effect under study from other disturbing factors that might be operating on the organization at the same time.

These two conditions have seldom been even partially fulfilled in so-called "administrative experiments." The mere fact that a legislature passes a law creating an administrative agency, that the agency operates for five years, that the agency is finally abolished, and that a historical study is then made of the agency's operations is not sufficient to make of that agency's history an "administrative experiment." Modern American legislation is full of such "experiments" which furnish orators in neighboring states with abundant ammunition when

¹ See, for instance, Robert A. Walker, *The Planning Function in Urban Government* (University of Chicago Press, 1941), pp. 166-75. Walker makes out a strong case for attaching the planning agency to the chief executive. But he rests his entire case on the rather slender reed that "as long as the planning agency is outside the governmental structure . . . planning will tend to encounter resistance from public officials as an invasion of their responsibility and jurisdiction." This "resistance" is precisely the type of non-rational loyalty which has been referred to previously, and which is certainly a variable.

similar issues arise in their bailiwicks, but which provide the scientific investigator with little or nothing in the way of objective evidence, one way or the other.

In the literature of administration, there are only a handful of research studies that satisfy these fundamental conditions of methodology—and these are, for the most part, on the periphery of the problem of organization. There are, first of all, the studies of the Taylor group which sought to determine the technological conditions of efficiency. Perhaps none of these is a better example of the painstaking methods of science than Taylor's own studies of the cutting of metals.¹

Studies dealing with the human and social aspects of administration are even rarer than the technological studies. Among the more important are the whole series of studies on fatigue, starting in Great Britain during World War I and culminating in the Westinghouse experiments.²

In the field of public administration, almost the sole example of such experimentation is the series of studies that have been conducted in the public welfare field to determine the proper case loads for social workers.³

Because, apart from these scattered examples, studies of administrative agencies have been carried out without benefit of

control or of objective measurements of results, they have had to depend for their recommendations and conclusions upon *a priori* reasoning proceeding from "principles of administration." The reasons have already been stated why the "principles" derived in this way cannot be more than "proverbs."

Perhaps the program outlined here will appear an ambitious or even a quixotic one. There should certainly be no illusions, in undertaking it, as to the length and deviousness of the path. It is hard to see, however, what alternative remains open. Certainly neither the practitioner of administration nor the theoretician can be satisfied with the poor analytic tools that the proverbs provide him. Nor is there any reason to believe that a less drastic reconversion than that outlined here will rebuild those tools to usefulness.

It may be objected that administration cannot aspire to be a "science"; that by the nature of its subject it cannot be more than an "art." Whether true or false, this objection is irrelevant to the present discussion. The question of how "exact" the principles of administration can be made is one that only experience can answer. But as to whether they should be logical or illogical there can be no debate. Even an "art" cannot be founded on proverbs.

¹ F. W. Taylor, *On the Art of Cutting Metals* (American Society of Mechanical Engineers, 1907).

² Great Britain, Ministry of Munitions, Health of Munitions Workers Committee, *Final Report* (H.M. Stationery Office, 1918); F. J. Roethlisberger and William J. Dickson, *Management and the Worker* (Harvard University Press, 1939).

³ Ellery F. Reed, *An Experiment in Reducing the Cost of Relief* (American Public Welfare Administration, 1937); Rebecca Staman, "What Is the Most Economical Case Load in Public Relief Administration?"

⁴ *Social Work Technique* 117-21 (May-June, 1938); Chicago Relief Administration, *Adequate Staff Brings Economy* (American Public Welfare Association, 1939); Constance Hastings and Sava S. Schwartz, *Size of Visitor's Caseload as a Factor in Efficient Administration of Public Assistance* (Philadelphia County Board of Assistance, 1939); Simon *et al.*, *Determining Work Loads for Professional Staff in a Public Welfare Agency* (Bureau of Public Administration, University of California, 1941).

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