MANAGEMENT SCIENCE
Vol. 24, No. 1, September 1977
Printed in U.S.A.

THE APPLICATION OF BEHAVIORAL AND PHILOSOPHICAL TECHNOLOGIES TO STRATEGIC PLANNING: A CASE STUDY OF A LARGE FEDERAL AGENCY*

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This paper describes the results of a two-and-a-half year effort in proactive planning at the Bureau of the Census in Washington, D.C. Most large-scale organizations merely react to their future(s) instead of actively planning for and thus anticipating the future(s) they would like to bring about; would the Bureau be bold enough to try and break out of this pattern by engaging in what Ackoff and others have termed proactive or interactive planning? This paper not only describes the substantive results of the effort, but more importantly, the methodology that was utilized and developed to achieve those results.

Approximately 120 self-selecting participants from all branches and levels of the Bureau (from secretaries to division heads to the Director) were first given the explicit instruction to think as freely as they could about the year 2000 (i.e., not to be hampered by current constraints in the internal or external environment) and to write out a scenario indicating what for them the Bureau *should* be like in the year 2000. Because of the difficulties that most people experience in freeing themselves from current operating constraints and in thinking significantly beyond the current time frame in which they exist, a series of psychological exercises were designed to make the participants aware (1) of the source of the difficulties and, as an important side benefit, (2) of the often deep and intense psychological differences between them. Above all, these exercises, including lectures on the philosophy of inquiring systems, were designed to make the participants more conscious of the different assumptions that different planners unconsciously bring with them to the planning process. What one type of planner often takes as a "given" another takes as a "taken," i.e., as an unwarranted assumption. Different planners have different innate preferences for different givens, sources of data, kinds of information, methodologies, etc.

One of the most important aspects of the methodology concerned the use of a recent social systems design technology developed by Ralph H. Kilmann, which was applied to cluster (via multivariate analysis) the *ideas* contained in the scenarios on the future and the *people* who produced them into a strategic-planning design (from questionnaire data on individuals' task and people preferences). The MAPS Design Technology (Multivariate Analysis, Participation, and Structure) thus answers the question, "Who is 'best suited' as a group to work on which set of ideas and issues?" Several such groups resulting from the MAPS analysis were utilized to write characteristically different reports on the future. When the groups were satisfied with their reports and when they and the project directors felt that the reports of the groups differed significantly from one another, representatives were selected from each MAPS group to form an executive group. The latter was charged with the task of integrating the diverse themes of the different MAPS groups and of writing a final report for presentation to the executive staff of the Census Bureau plus the advisory committees of various Professional societies and interest groups which advise and assist the Bureau and its programs.

> . . . The planner has to leave off being a precise scientist. He needs to encourage radical viewpoints. In fact, I would be tempted to say that whenever planning begins to look as though it is following tried and true procedures that have worked in the past then planning is in danger of becoming useless. Good planners are continuously asking the most searching, radical, and ridiculous questions (e.g.: Should banks be involved in the handling of cash? Should the post-office department be involved mainly in the transmittal of letters? Shouldn't the soft-drink companies be selling cheap nutrients to foreign countries? and so on). Since there is limited technology available in this area, the best way to proceed is to select planners with radical and unreasonable minds, if you can find them. If not beware of accepting the planner's version of what you can do and what you cannot do.
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> C. West Churchman, *The Systems Approach* [4, p. 164]

* Accepted by Burton V. Dean; received September 21, 1976. This paper has been with the authors 1 month, for 1 revision.

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Introduction

This paper constitutes a dual report. On the one hand, it is a report (a case history) of a specific planning project. On the other hand, it is a case history of the development of a methodology that is uniquely suited for strategic planning.

Although both of these aspects are of equal importance, if not virtually inseparable, this paper primarily concentrates on the issue of methodology. The reason is that we are in basic agreement with Churchman. There *is* limited technology available in the area of planning, particularly strategic planning. Indeed, because the term "technology" has such strong engineering connotations, it is in need of redefinition with regard to its proper sphere of meaning when it comes to planning. As will become clear, the term "technology" means for us a *set* of methods, exercises, procedures or processes for getting planners to inspect and confront their underlying assumptions. In Churchman's terms, we are concerned with the following questions: Can we get or train planners to think radically? To challenge their assumptions? To engage in dialectical or adversary planning [11]?

The Challenge Offered: Planning for the Year 2000

The effort, hereafter known as The Year 2000 Planning Program, was initiated at the suggestion of Russell L. Ackoff in approximately March of 1974. Like many governmental agencies, the Bureau of the Census (Washington, D. C.) is assisted by a number of advisory committees representing a wide array of professional and citizen groups. While the Bureau is under no obligation to follow any of the specific recommendations of these groups, it does take seriously its responsibility to consider and to respond to them.

In his capacity as a member of the advisory committee from The American Statistical Association, Ackoff hurled a strong challenge to the Bureau: most large-scale organizations merely react to their future(s) instead of actively planning for and thus anticipating the future(s) they would like to bring about; would the Bureau be bold enough to try to break out of this all-too-prevalent pattern by engaging in what Ackoff [1], [2] and others [18] have termed proactive or interactive planning? In short, would the Bureau be willing to take seriously the challenge to think about the future by reviewing its considerable technical operations in the context of strategic planning for the year 2000? To put it somewhat differently, would the Bureau be willing to expand its planning horizons? Instead of getting bogged down with the day-to-day details of running the Bureau as it currently is, would it be willing to consider the question seriously of what the Bureau *ought* to be like in the not-so-distant future, say the year 2000? As Ackoff has put it, many planning agencies, both within and without government, are merely geared to improving or reforming their *current* ways of operating. They are preoccupied with overcoming *immediate* barriers to change and to poor performance. Ackoff calls this reactive planning [1], [2]. This kind of planning often fails to examine long-term possibilities for the organization. Prospective (or interactive or proactive) planning would encourage the Bureau to look ahead—say, 25 years—and give serious thought to a wide range of alternative futures for the organization and its mission.

The Challenge Accepted

Ackoff's challenge was accepted for a number of reasons: (1) the challenge was provocative and interesting in itself; (2) it came at an opportune time; i.e., the Director and the executive staff of the Bureau already felt the Bureau ought to be engaging in some form of long-range strategic planning; and (3) although the acceptance of the challenge involved the allocation of noticeable resources, there did not appear to be any significant risks.[1]

[1] It is pertinent to note that a lecture by the noted futurist Herman Kahn was instrumental in the decision to proceed with the project and to hire a consultant to evaluate it. Kahn's talk was highly influential in convincing the participants of the importance of such projects.

The project commenced with the sending of a general notice to all Bureau employees informing them briefly of the nature of the project and requesting those interested to attend a short informational meeting. The first phase started with about 120 self-selecting participants representing all job levels (from secretaries to division chiefs to the Director) and all divisions of the Bureau's operations. For organizational purposes, the 120 participants were split as evenly as possible into 16 working groups. In order to assure that the widest possible array of viewpoints would be represented, efforts were made to avoid having more than one member from each division in the same working group.

In line with Ackoff's initial challenge, the participants were given the explicit instruction to think of what the Bureau *ought* to be like in the year 2000 *as free as possible from current operating constraints*. That is, one of the prime, if not major, reasons why Ackoff issued his challenge was to get the Bureau to think beyond its current operating constraints. Ackoff wanted to know what the Bureau would look like were it not bound to the current set of constraints. Instead of using the current reality to constrain the future, Ackoff was interested instead in what would happen if one reversed the procedure; i.e., if one used an idealized conception of the future to dictate the constraints, not the reverse. The only constraint the participants were asked to observe were physical constraints that involved the violation of fundamental physical laws. For example, the participants were not asked to think of schemes that would involve the instantaneous transmission of matter. Other than that, the participants were asked to think as freely as they could with regard to what ought to be without regard for the constraints of the current environment.

Meeting weekly for about two months (with time off from their regular work assignments) the groups produced scenarios of what they thought the Bureau should be like in the year 2000. Almost no one could make all the meetings, and many who started found the pressure of regular work too much and dropped out, leaving approximately 80 persons who completed this initial part of the project. The outcome was a series of 16 reports or scenarios for the future.

It was at this point, approximately six months after Ackoff first offered his challenge, that the first author entered as a consultant to the project.[2] His assignment was: (1) to suggest a schema for evaluating the initial reports, (2) to assist in the evaluation of the reports, and (3) to assist in the formulation of recommendations with regard to the future of the project.

Phase One: The Jungian and Inquiring Systems Technologies

A behavioral technology based on the personality typology of C. G. Jung has been developed by the first and third authors for use in a wide variety of educational and training contexts [9], [13], [14]. For example, it has been used in workshop settings to give the participants direct experiential understanding of the differences in psychology between them. It was decided to use the Jungian based system for three basic reasons: (1) in contrast to other systems it possesses the advantage of getting the participants themselves directly involved in the evaluation of their own products, in this case, their reports; (2) it makes the participants explicitly aware of the differences in psychology between them, and hence, explicitly aware of the underlying reasons as to why different personality types tend to generate and to prefer very different idealized plans of the future; and (3) it would not only give the participants a better basis for deciding whether they wanted to go on with the project, but if they decided to do so, it would provide simultaneous preparation and training for future phases.

[2] It should be noted that the first author was recommended for this assignment by Ackoff by virtue of the author's familiarity with and interest in proactive and strategic planning.

It should be noted in regard to the last reason mentioned above that a preliminary review of the reports of the 16 groups by a few members of the executive staff led to the reluctant conclusion that the reports were too contemporary-bound. The general feeling was that the reports were too timid, that they had not departed enough from the constraints of the current operating environment, and that they had not taken seriously enough the injunction to think boldly about the future. (It was also felt that a number of them contained "between-the-lines lobbying" for special interests, i.e., that some of the participants had used the project to lobby for their own interests.) At best, the reports were planning documents for 1975, not 2000.

In more senses than one, this is neither surprising nor shocking. In a culture that seems obsessed with practicality, people need explicit training to think about the future, let alone to think boldly about it. In such a culture, it is not natural to think systematically and creatively about the future. People need, if not training then at the very least, an environment that will do everything in its power to encourage those who are able to think about the future.

The Jungian-based technology scheme generally starts with the administration of a relatively short test designed to measure an individual's personality type [16]. In this case the procedure was modified slightly. Prior to the testing session, the participants were asked to read the reports of each of the 16 groups and to choose the single report they liked most and the single report they liked least along with their reasons why. They were also asked to think about how they would modify their own individual group's report as a result of now having read all of them.

Immediately after taking the personality test, each individual was assigned to one of four groups, depending upon his or her personality type. Thus, all the individuals of the same personality type were assembled in the same group. Each group was then asked to come to a group decision (consensus) as to which of the 16 reports they liked most, which they liked least, and why. The reasons for this procedure are twofold: (1) putting all the individuals of the same personality type in the same group generally has the effect of emphasizing the personality differences between groups thus making them easier to observe and to discuss [9], [13], [14]; (2) analyzing and discussing the rankings of only four groups is, to put it mildly, considerably easier than discussing the reports of forty or so individuals.

After the four groups had completed their rankings but *prior to* the sharing of each group's rankings with one another, the basis of the Jungian system was explained and *a priori* predictions were made as to which particular reports which groups would prefer and why. The purpose of this explicit prediction was not merely to explain the basis of the Jungian system but to demonstrate the potential power of the system as a predictor of behavior. This is not to set the system up for more than it can possibly hope to deliver. It is to set the stage for a potentially dramatic event. The impact of the system is strong indeed if the predictions of it are borne out in actual behavior.

The Jungian system predicts that individuals or groups will prefer most those reports whose ideas, themes, style, and concepts come closest to matching those of their own personality type. Conversely, it also predicts individuals will like least those reports which are farthest away from their type. The four particular Jungian types used to classify the reports and the individuals were: (1) Sensing-Thinking, or ST; (2) Intuition-Thinking, or NT; (3) Intuition-Feeling, or NF; and (4) Sensing-Feeling, or SF. Since the Jungian system has been explained in detail elsewhere [9], [13], [14], a brief description suffices here.

Sensing-Thinking types generally tend to prefer, and hence to generate, reports which are highly detailed and specific and which overwhelmingly deal with technical or scientific issues in an impersonal way. In a word, ST's are problem-solvers [9], [13], [14]; i.e., they prefer to work on very concrete, very specific, already-defined, pre-

existent technical/scientific problems. They are neither problem-finders nor problem-generators [9], [13], [14], nor are they especially sensitive to personal, moral, or value issues. Indeed, one of the strong defining characteristics of ST's is that they believe that moral or ethical issues are either meaningless in themselves or devoid of substantive content *precisely because* they cannot be formulated precisely, impersonally, and technically, or at least not to the satisfaction of ST's [9], [13], [14].

Intuitive-Thinking types generally tend to prefer reports which are highly global, broad, far-ranging, and which deal with a wide range of overwhelming technical/scientific issues in an impersonal manner. In a word, NT's are problem-inventors, problem-finders, or problem-generators. They prefer working on the new and innovative to the tried and true. Like their ST counterparts, they tend to be insensitive to personal, moral, and value issues. This is not so much because they feel moral issues are meaningless unless they can be formulated in detailed specifics (indeed, unlike ST's, they are not interested in the details of issues, but rather with their over-all or holistic features); rather, it is because NT's are more interested in scientific and technical ideas than they are in people.

Like NT's, NF's also tend to take a global approach to issues and problems. This is due to the common N or intuitive side of their personality which they share. The essential difference is that where NT's are primarily interested in treating all matters from an impersonal or technical point of view, NF's are primarily interested in treating them from a personal, human, moral, and ethical point of view. For NF's people are the overriding concern. Like NT's, NF's are also problem-generators. However, the difference is (again) that NF's are problem-generators of people problems. All problems are, for them, in the first and last resort people problems.

SF's are like ST's in their strong liking and preference for specificity, detail, and well-formulated problems. Like ST's, they tend to be problem-solvers rather than problem-generators. They differ, because of the F component of their personality, in their preference for people. For SF's, as for NF's, people are always the overriding concern. The main difference is that where NF's like people in general (humanity), SF's like people in particular, i.e., their immediate circle of friends, associates, neighbors, etc. Anything which fails to relate directly and specifically to their immediate circle of friends is either irrelevant or meaningless. Another way to put it is to say that they find abstract, theoretical, and scientific solutions utterly cold, impersonal, and meaningless.

To summarize, ST's can be characterized as real-time, operational-technical, problem-solvers; NT's are future-time, strategic-technical, problem-generators; NF's, future-time, strategic-people, problem-generators; and SF's, real-time, operational-people, problem-solvers [9], [13], [14]. Compared to N's, the planning horizon of S's is extremely short. In the extreme, S's are not interested in planning at all. They do not believe that one can talk *sensibly* about the future because one cannot *sense* it directly. The most extreme example of this viewpoint was represented in one of the 16 reports. This group rejected the whole concept of the year 2000 project with the crisp statement that there was nothing one could sensibly say about the future and hence there was nothing they had or wanted to say. As a result, their report, which was turned in, was empty! Their report, needless to say, was universally judged by the respondents to be the worst. It was called a nonreport and judged to be a "cop-out."

Rough content analyses of the 16 reports according to categories developed by the first and third authors [13] established that the reports distributed themselves nearly equally between the three cells ST, NT, and NF. That is, the themes, style, and content of the reports when classified according to the Jungian typology were sufficient to sort them into three approximately equal categories. There were no reports that were judged to fall into the SF category.

More important than the first and third authors' judgmental classification of the reports were the reactions of the participants themselves to the reports. While the reports were nearly equally distributed between the three cells ST, NT, and NF, the reports preferred most were nearly universally concentrated on the NT and NF cells. In fact, the more a report was perceived to be N in its content and style, the more it was generally preferred; the more it was felt to depart from current operating assumptions and hence to satisfy the objectives of the year 2000 project. Conversely, the more a report was judged to be S, the less it was preferred.

Some statistics are helpful at this point; they are both revealing and instructive. Of the 45 people who were both able and interested in sitting through the Jungian exercise and hence interested in continuing on with the project, 3 were ST's, 15 were NT's, 23 were NF's, and 4 were SF's. In other words, only 7 out of 45 or 16% of the participants at this point in time were S's. Little wonder why the more N reports were preferred! 84% of the participants self-selecting to go on with the project were N's. But then this is not surprising. If it is one of the prime characteristics of N types that they are oriented to the future [7], [9], [13], [14], [16], then one should expect to find them overrepresented in a project which primarily draws upon one of their major characteristics. One should expect a project like the year 2000 to be unappealing to S types.

If the above is true, one may ask why there were so many ST reports contained in the initial 16 reports. The answer is due essentially to three factors: (1) The Bureau was judged by the participants themselves to be an overwhelmingly ST organization [9], [13], [14]. Not only was the structure of the Bureau judged to be ST (a bureaucratic organization), but the style of thinking that seemed to be preferred within the Bureau was also judged by the participants to be ST. As a result, it was to be expected that this ST atmosphere would filter through the reports.

(2) The composition of the groups producing the initial 16 reports was mixed. As a result, both the environment of the Bureau and whatever dominant personalities which were present in any one group set the general tone of a group's report. This fact may indeed be the strongest argument for forming pure personality groups. In such groups one has the chance to witness pure personality effects uncontaminated or damped out by other factors which generally prevent them from being witnessed. As a result, in everyday life people generally tend to be oblivious to the differences in personality between them. They can at best only sense or feel that there is something different but not really understand why in any deep sense [7], [16].

(3) The third factor may well be the dropping out of a high proportion of S types from the original cast of project volunteers. Since we have no data on this we can only speculate that this was the case. Indeed, the point is that the types that dropped out did so before we could measure their type. All we can do is speculate that this was the case based on findings from similar projects and anecdotal evidence from the remaining participants themselves.

The point is that while the planning of the future is too important to be left in the hands of any one type or group, it is unrealistic to expect that all the types will have the necessary psychological orientation that will allow them to participate freely in a project of the kind represented by the year 2000. If respect for the constraints of current reality is one of the defining characteristics of S types, then asking such types to suspend such concerns is near to impossible. It is directly akin to asking someone to give up a vital part of their personality, the very thing that makes them what they are. For this reason, one can at best only encourage the participation of as many S's as possible. One has to do everything in one's power to structure the environment to keep them in. This is no mean task, since what is best for an ST is worst for an NF, the direct personality opposite of the ST. This is why we have laid such great stress on

having the opposing types share their competing views of reality. Through such a process we have hoped at least to soften the differences between them in the sense of having them understand the basis for the differences, even if we cannot and should not eliminate them all together.

The Jungian group exercise was followed over a series of many weeks by a number of lectures dealing with various approaches to planning and problem solving. The Inquiry Systems (ISs) of C. West Churchman [3] were particularly emphasized. Frequent reference and link-up to Jungian types were made by pointing out that it was also one of the characteristics of the Jungian types that each of them typically preferred one and only one of Churchman's ISs. A point of particular emphasis was the fact that there was growing empirical evidence that all of the Jungian types were valuable and needed in planning but at different stages of the process [9], [13]. Thus, N's were better suited at the strategic phase of planning, whereas S's were better suited for translating strategic ideas into operational plans. Both need as well as depend upon one another. To recast a famous aphorism of Kant's, strategic planning without operational content is empty; operational plans without strategic vision are limited and confining, i.e., narrow in scope and vision.[3]

Particular emphasis was placed on the Dialectical IS (DIS). It was pointed out that of all the ISs described by Churchman [3], the DIS was the one that was "most suited" to strategic planning [11]. The DIS basically requires of a planner that he or she be prepared to confront their most cherished, underlying assumptions by attempting to construct an equally plausible counter-plan to challenge their thinking with regard to a preferred plan. That is, the DIS posits that all planning, but especially strategic planning, basically proceeds from a largely implicit, unarticulated set of world-view assumptions. In order to get planners to bring their underlying and implicit world-view assumptions up to the surface for conscious examination and direct challenge, the DIS requires the planner to construct both a plan and a strongly antithetical counter-plan. The purpose of both plans is not only to argue the respective and individual merits of at least two separate ways of looking at the same issue (and thereby to show explicitly that there is more than one way of planning for the future) but also for each plan to provide the strongest possible challenge to the other. The hypothesis is that no one can challenge a position as strongly as someone who is committed to a counter-position.

Since no one has a perfect window on the future and therefore planning for the future is largely an exercise in projected hopes, dreams, and aspirations, there may be no better way of planning for the future than by encouraging planners to examine radically different visions in an explicit manner. In line with this notion, lectures were given by Professor Richard O. Mason and the first and third authors with regard to how to construct a dialectical strategic plan [11]. With the completion of these lectures, the evaluation of the first phase of the project was essentially finished.

Phase Two: The MAPS Design Technology

The decision to proceed with the project for at least one additional phase was made by the Director on the basis of the following: (1) in spite of the general difficulty the participants experienced in thinking much beyond the present, it was felt that there were still sufficiently promising ideas that deserved further development; (2) although the participation had dropped off significantly (from where it had been initially) because of the press of day-to-day job demands, there was still sufficient interest in the project by a reasonable number of persons (39) to warrant continuance; (3) it was

[3] We are referring of course to Kant's dictum that rationalism (pure introverted thinking) without empiricism (extroverted sensation) was empty speculation and that empiricism (pure extroverted sensation or data collection) without rationalism was blind, i.e., it didn't know what to observe.

felt that as a result of the exercises involved in the evaluation of the phase I reports, the participants were better prepared to depart even further from current operating constraints; and (4) the first and third authors were able to justify a specific process for proceeding with phase II.

The process utilized for phase II was developed by Kilmann [8], [12] and is known as the MAPS Design Technology (Multivariate Analysis, Participation, and Structure). The process utilizes the responses to two types of questionnaire items to form coherent task and people clusters. The task clusters were formed by asking the respondents to indicate (on a seven point scale) which substantive planning issues from phase I they preferred most to work on in phase II. The people clusters were formed by asking the respondents to indicate (on a seven point scale) which of the respondents they preferred to work with most in phase II. Given the input from these two questionnaires, MAPS finds (1) which tasks (substantive issues) are seen by the participants as fitting or clustering together in a meaningful sense, (2) which people are seen as clustering together for effective interaction potential, and (3) which clusters of people are best fitted to working on which clusters of tasks. In other words, MAPS is set up to find the best assignment (according to OR/MS assignment algorithms) of clusters of people to clusters of task items.

Table 1 shows the clusters of substantive issues that emerged from the MAPS analysis. The analysis showed that five clusters gave the best fit or sorting of the issues into orthogonal or independent sets. Table 1 also shows the identifying slogan or motto that each group came up with in order (1) to differentiate itself as a separate interest group from each of the other groups, (2) to increase its cohesiveness and help consolidate its identity, and finally, (3) to provide a quick means of identifying the particular set of issues with which it was primarily concerned.

The tactic of having the people in each cluster develop an identifying slogan or motto for their group was done for several reasons. For one, the idea of a motto was one of the more interesting themes to emerge from phase I. It was felt that in comparison to other more glamorous, easily identifiable, and visible governmental agencies, the Bureau did not enjoy a particularly exciting image. In order to improve its visibility, one of the phase I reports suggested that the Bureau attempt to identify itself as the "Fact Finder for the Nation." The merits of this particular slogan are not at issue here.[4] The fact that a slogan was even suggested showed the underlying concern that was being manifested.

The second reason for having the participants come up with a slogan was to get them involved with their particular group. The third reason, however, may be the most important of all. MAPS is essentially a factor analysis routine. As anyone who has worked with factor analysis knows, one of the most challenging tasks is that of making sense out of the factors and giving them appropriate names. If the factors have high internal consistency, the tasks of making sense and naming them are relatively easy. Whether the factors are clear-cut or not, all too often (indeed, we would be tempted to say that for all practical purposes, always) it is the social researcher who names and gives an interpretation to the factors. Since we wanted to get the participants as deeply involved as we could in every phase of the project, we asked them to name the factors. Since they would be required to make sense of their clusters and to write a report integrating them together in some meaningful sense, it seemed more than appropriate to ask them to come up with an initial unifying theme or name.

As can be seen from Table 1, with the exception of the group working on task cluster 3, every group was able to come up with a name for their group that represented their over-all feeling toward the issues in their clusters. In those cases

[4] Indeed, this particular motto is not even new. It was suggested as far back as the 1950's.

TABLE 1

Issue Clusters Produced by MAPS

Cluster	Issues	Identifying Motto of Associated People Cluster
1	1. Greater interaction and participation of the general public in the Bureau's internal affairs.	"The User Education Committee"
	2. Greater education of users so that they could more effectively use the Bureau's data, material, information, etc.	
	3. Improved and greater dissemination of census data to all interested parties.	
2	4. Improved technical operations capability and data handling (management) procedures.	"Confusion" (Objectives plus Structure for the Bureau in the Year 2000)
	5. Greater centralization of Bureau's activities.	
	6. Design of new kinds of statistical data bases.	
	7. Design of continuous review and planning mechanisms for the Bureau.	
	8. Improvement of the working, organizational climate of the Bureau.	
3	9. Improved data collection and dissemination procedures.	"Committee 3" (Improved Data Collection)
	10. Greater decentralization of Bureau's activities.	
	11. Continuous collection and reporting of census data.	
	12. Design of new kinds of nonstatistical data bases.	
4	13. Development of social and quality of life indicators.	"Lift" (Enhancement of Quality of Life, Humanistic Statisticians)
	14. Greater development of the Bureau in the interpretation of census data e.g. a more active role in policy analysis.	
	15. Issues of social welfare, leisure.	
5	16. Improvement of Bureau's external public image.	"The Dissatisfied"
	17. Design and implementation of an identifiable public motto, an identifying slogan for the Bureau.	
	18. Issues of privacy and confidentiality in data bases.	

where it is not immediately obvious to the reader what the name was intended to respresent we have supplied a less cryptic label in parenthesis. It can be seen that in general the issues within each cluster do group together in meaningful ways. The primary exception is cluster No. 2. This cluster is the most heterogeneous of all the clusters; hence, the term "confusion" supplied by this group for their name. However, there is another way to put this. Group 2 cuts across more issues than any other group. It spans ST issues (greater centralization, improved technical operations), NF issues (improved work "climate"), and NT issues (new kinds of data bases, planning mechanisms). The only concerns missing are SF themes. The point is that while MAPS generally tends to select relatively homogeneous clusters, it can also select clusters of heterogeneous issues if those issues are perceived as clustering together by a significant proportion of the respondents. It will also select the particular group of people that is most suited to working on those issues.

Because of the press of normal work commitments, the demands of the task, and the commitment of the persons involved to produce a good report, it took until April 1975 for each of the five MAPS groups to produce an individual phase II report. That is, in order to lessen the burdens on each individual participant, each group was responsible only for producing a report dealing with its particular subject of issues.

When each group was satisfied with its individual report, phase II entered its final stage. It had been previously agreed that each MAPS group would select at least one person who would serve as a member of a final drafting group whose responsibility was to integrate the reports of the individual groups. The rationale for this procedure was the same as that for the original MAPS groups, to keep the number of participants as small as possible for effective group interaction.[5] A first version of the phase II integrated report was available at the end of January 1976 for initial discussion. A second slightly revised version was available in March 1976 for presentation to the advisory group which had started the effort, the American Statistical Association.

Before commenting on the nature of the integrated report and its reception by various advisory groups, a few words are in order about the individual phase II reports. With the possible exception of one report, all of the reports were considerably more open-ended and challenging than the phase I reports. In particular, the reports of groups 2 and 4 (Table 1) were the most far-ranging in envisioning the most radical changes both internal to and external to the Bureau and their mutual impacts on one another. The styles of the reports ranged from crisply technical (group 3, improved data collection) to openly poetic (group 2, confusion). For example, group 2 opened their report with the following statement which was purposefully designed to set the mood for what followed:

> This is a little book, full of fun and fancy. We have raised some questions and answered others. We have made assumptions, and reconsidered them. As a group we have discussed and agreed and disagreed. We make small claim to dialectic; if at all, it's Kierkegaard's intuitive, qualitative kind. Far removed Hegel's dialectic of reason, we are more psycho-logic than logic. Our little offering is incomplete—a thing of bits and pieces. It is prefaced by assumptions. Each member's contribution is strategic as a separate chapter. It is more promise than process. But you are welcome to question and discuss it.

In the best sense of the term, this report was a prime example of an intuitive-feeling and even a sensing-feeling report. It was an explicitly acknowledged highly personal

[5] The members of the group were: Ms. Janelle Fowler, Survey Statistician, Statistical Methods Division; Mr. Jerry Jennings, Statistician, Population Division; Mr. Quentin Ludgin, Contributing Researcher, Statistical Research Division; Dr. Irene C. Montie, Chief, Sampling Procedures Branch, Statistical Methods Division; Mr. Paul O. Oyer, Chief, Training Branch, Systems Software Division; Mr. Ronald R. Ramsay, Statistician, Housing Division; Ms. Janet Tippett, General Statistician, Housing Division; and Mr. James L. O'Brien.

and partisan view of the future produced by one very special and unique group of people.

Tables 2 and 3 present a brief summary of the major ideas contained in the phase II integrated report. Table 2 shows that the major ideas could be classified in terms of two major dimensions: (1) environment and (2) content or subject matter. The environment dimension refers to whether a strategic idea originated by considering the possible impacts of a changed Bureau *on itself*, i.e., *internally*, versus whether an idea originated by considering possible impacts of the *external environment on the Bureau* and the Bureau on the external environment. The content dimension refers to whether an impact was primarily *social* (or behavioral) in nature versus *technical*.[6] Table 3 provides a somewhat longer description of the entries in Table 2.

Four ideas in particular deserve special mention. They were judged by the participants, the director and members of the executive staff, as well as various advisory committees to be the most highly sensitive (controversial) and/or deserving of further consideration; in this latter category were judged to be some of the most exciting and innovative ideas. The most highly sensitive idea was the suggestion that the Bureau consider seriously what would happen if it were to become *the* central statistical agency for all governmental agencies. Needless to say whatever the considerable

TABLE 2

2 × 2 *Summary of Phase II Substantive Ideas*

ENVIRONMENT	Content: SOCIAL (feeling)	Content: TECHNICAL (Thinking)
INTERNAL (Sensing)	Broadened Mission Organization Management Census University Decentralization/Centralization Interdisciplinary Professionalism Professional Arbitrator for Idea Development—An Ombudsman Career Development Confidentiality Research Analysis Permanent Institutionalization of a Long Range Strategic Planning Group	Technology Data Management Satellite Relay of Responses Computer Memories Major/Minor Data Banks Census University: Practice of Statistics Practice of Computing Computer Assisted Instruction (CAI)
EXTERNAL (Intuitive)	Independence Public Policy Public Trust Bureau Image Privacy User Needs Social Indicators Analytical Capability Census Bicentennial Celebration Census University Changed Climates of Opinion: Protectionist Limited Inquiry Free Inquiry	Cathode Ray Tubes Computerized Interaction with Business Localized Information Output Direct and Instantaneous Data Input by Respondents Greater Access to Data User Education and Training

[6] If we identify the internal orientation with the Jungian S dimension, the external with N, the social with F, and the technical with T, then Table 2 reproduces the four Jungian types or positions SF, ST, NT, and NF.

TABLE 3

Summary of Phase II Integrated Report

1. Potentially Different Societal Climates of Opinion Affecting Whether It Will Be Possible to Collect Mass Data in the Future.
   a. Protectionist climate.
   b. Limited inquiry climate.
   c. Free inquiry climate.
   d. "1984."
2. Mission.
   a. The Bureau of the Census will become *the* Federal Statistical Agency.
   b. The Federal Statistical Agency will develop comprehensive data bases on the local level, for individual users, as well as for jurisdictions, planning groups, and special interest or concerned citizens' groups.
   c. The Federal Statistical Agency will function independently of any other mission oriented department.
3. Program.
   a. The Agency's program will incorporate research in both substantive and methodological areas.
   b. The Agency's program will include an analytical, interpretative role.
   c. The Federal Statistical Agency's program includes integration of economic and demographic data, as well as development of new series and composite measures, reflecting the acceleration and complexity of data needs.
   d. The Agency's program will emphasize periodic review and evaluation of all current data series.
4. Technology and Data Management. The Agency will collect, process and disseminate data through a decentralized, paperless, automated system.
   a. Improved query capacity.
   b. Increased data protection safeguards.
   c. "Paperless" automated data collection.
   d. Flexibility to meet changing public needs will be a prime consideration of the Agency's automation systems.
   e. Instruction by computer.
5. Structure.
   a. Organization. The Agency will have both centralized and decentralized functions.
   b. Management. The Agency's participatory management program provides full use of all human resources and encourages individual career development.
   c. Advisory bodies. (1) The Agency's advisory bodies will represent the full spectrum of current and potential data users. (2) The Agency establishes a permanent Long-Range Planning Group which recommends plans to the Executive Staff.
6. User and Public Interaction with Agency.
   a. The Agency's Office of Ombudsman intercedes with operating divisions on behalf of users.
   b. The Agency communicates freely with Federal and local, public and private data users.
   c. The Agency's internal and external continuing education programs become the Census University.

economic merits of centralized data collection, processing, and dissemination, such an idea would not exactly be taken lightly by other agencies involved in the same activities. Such a suggestion would also not be taken lightly by civil libertarians who would rightly raise the potential dangers in having one and only one agency collect data on all Americans.

The three ideas which provoked the most discussion and excitement were: (1) the establishment of an ombudsman's office within the Bureau to intercede in behalf of any citizen's group that felt that they had been treated unfairly by the Bureau; (2) the establishment of a permanent long-range strategic planning group (LRSPG) within the Bureau—in effect the permanent institutionalization of a year 2000 type project—

with service on such a project taken as mandatory before promotion to higher management levels of the Bureau; this idea was proposed in an attempt to insure that upper levels of management would be formally encouraged and trained to think strategically and not merely tactically; and (3) the establishment of a University of the Census.

The last idea, the establishment of a University of the Census, was perhaps the most potentially innovative and far ranging of all the ideas proposed. Although the idea involved taking advantage of the fact that the Bureau was already recognized for its considerable problem-solving and statistical skills, much more was involved. The basic idea was that of a University which was organized around the concept of real-world strategic problem-solving, i.e., a University which combined training for strategic problem-solving by having students work on a wide range of real-world problems. A fundamental part of their concept involved the utilization of external professors from other universities as well as in-house employees. Unfortunately, space is not available here to describe in detail how this idea differs fundamentally from similar sounding concepts that have been proposed by other institutions.

The Reception of the Report and the Future of the Project

At the time of the writing of this paper (June 1976), the integrated report has recently been presented for review and comment to three advisory committees of the Bureau: the American Statistical Association, the American Marketing Association, and the American Economic Association. While the reactions to the report have been mixed, as a general rule it was received with moderate approval. In fact, the reactions to the report say more, or at least as much, about the present make-up of the advisory committees as they do about the report. It would seem that those who have been able to appreciate the report as a strategic document have been in a small minority compared to those who have approached the report with a tactical frame of mind. Even though the report was prefaced by two separate statements, one by the first author and another by the second author, which explicitly stressed the strategic substance, tone, and quality of the report, and even though the report was explicitly laid out to allow people to make comments in the margins of the report and especially asked people if they disagreed with the report's *strategic* vision of the future to offer their own, very few advisory members chose to do this. Most persons responded with operational concerns to a document that was explicitly intended *not* to be operational but strategic. In fairness, it should be pointed out that the charge that has been traditionally assigned to them has been one of tactical criticism, not that of strategic appreciation.

This is not to say that the committee members as a whole were not able to appreciate some of the ideas that were considered most important. In particular, most members applauded the idea of a Year 2000 project and felt that it ought to be continued in some form, perhaps even permanently. Indeed, most members agreed that serious thought ought to be given to the establishment of a permanent long-range strategic planning group and that the working out of the details of such a group ought to form a natural next phase of the project.

Although a few members (again, a small minority) felt that the report was not strategic enough in the sense of not being visionary enough, there was some praise for the report's imaginativeness. In particular, the ideas of an ombudsman and a University of the Census were singled for special mention along with a number of more technically minded innovations. In this same vein, the report was also praised for the considerable thought that had been given to the greater involvement of the ultimate users of Census data as well as those who would be affected by it in the internal design of various censuses.

If the criteria of success in strategic planning are the ability of a report to challenge current assumptions and to come up with *at least one* innovative idea, then in terms of these criteria the report must be judged a success. If the criterion for success is the general enthusiasm of the participants and more especially direct behavioral evidence that the thought patterns of many of the participants had been significantly altered in the sense of their deep appreciation for and internalization of the ability to think strategically, then the project must be judged an overwhelming success. Similarly, if a criterion of success is the willingness of the Director to apply the methodology of the project to current very important problems (e.g., having various groups engage in dialectical planning), then the project must be judged an even bigger success.

In terms of other criteria however, the picture is not as bright. Because of the sensitive nature of some of the ideas contained in the report and because it was felt that the ideas could be easily misconstrued as official policy of the Bureau, none of the advisory committees was willing to recommend that the report be turned out as an official document of the Bureau. For example, most committee members felt that the *idea* of the Bureau as *the* central statistical agency for the Federal government would be open to serious misunderstanding. It was felt that the distinction between the *idea* as a *mere* possibility raised for purposes

of discussion *only* and the *idea* as a serious possibility would be lost on most readers. As a result, it was recommended that the report be turned out only as an unofficial internal document available to anyone within the Bureau. Given the intense commitment of the participants to the project, they were understandably disappointed by this decision.

This did nothing to help allay a number of fears the participants had regarding the anticipated reactions of the executive staff of the Bureau who would ultimately have to read the report and approve of the project if it were to continue in some form. The general fear was summed up as follows: "How can we expect those who have not been through what we have to properly evaluate our report? It is not possible to evaluate a strategic-type document with a tactical-like mind!" While these fears may ultimately prove to be unfounded, since the executive staff was not unknown for its receptivity to strategic planning, they were not entirely unfounded. Except for the director and one or two other members, few members of the executive staff had attended any of the training and planning sessions of the project.[7] The fear of the participants was that because the executive staff was so overwhelmed with the considerable day-to-day details and decisions of running the Bureau, they would react even more critically (i.e., with a more tactical-like outlook) than the advisory committee members had. At this point, it can only be said that this remains to be seen.

Concluding Remarks

It is fitting to close a paper of this kind with a brief discussion of the differences between operational or tactical planning and interactive or strategic planning.[8] The preceding paragraph illustrates one of the many main differences. In a number of senses, the process of strategic planning is nonterminating as compared to operational planning where specific decisions must be made at definite points in time. This in turn only leads one to more fundamental differences.

Operational planning deals with relatively well-structured, i.e., well-defined, problems whereas strategic planning deals with relatively ill-structured or ill-defined problems. In strategic planning the basic problem is to define what the problem is, whereas operational planning deals with finding the solution to an already well-defined problem [15].

Operational planning problems are problems that can be solved by conventional OR/MS planning techniques and methodologies. In general they are governed by the search for a single, optimal or "best" solution within the constraints of current reality or a limited planning horizon. Operational planning problems are relatively independent of the personality of the particular analyst, i.e., different analysts will tend to come up with the same formulation and/or solution to the problem. In this sense, operational planning problems are consensible. In terms of Kuhn's terminology, operational planning problems fall within normal science [10].

Strategic planning problems possess none of these characteristics. They are not consensible; they are not independent of personality factors. Analysts of different personality, background, education, etc., will tend to see the "same" problem in very different ways. For this reason, as we have repeatedly stressed throughout this paper, strategic planning analysts need to be consciously aware of their own personality and how it differs from that of others. This is why we have also repeatedly stressed that training in personality awareness is a vital aspect of strategic planning, a point that some members of the advisory committees seemed unable to appreciate.

Strategic planning is governed by the search for the most widely varying formulations of the problem and the explicit examination of these different formulations. Strategic planning is governed by the uncovering and challenging of deeply-held, underlying, implicit assumptions.

Finally, it is pertinent to recall that this project began with a challenge issued by Ackoff. It is therefore appropriate to close with a challenge:

> In the Machine Age, the world was viewed as a closed system to be understood through analysis. Therefore, ultimate and final solutions were believed to be obtainable. It was an era which John Dewey characterized by its "quest for certainty" [or alternately by its intolerance for ambiguity]. In the Systems Age, systems are conceptualized as open and dynamic . . .

[7] In order to urge the participants to believe that the project would be fundamentally different from every day affairs, the Director and executive staff purposefully did not involve themselves to any great extent lest it appear that they were trying to influence it unduly. This was unfortunately interpreted by many as an indication that the project did not have "top level" interest. In retrospect, the Director and executive staff should have participated more fully. Such participation is crucial to the success and acceptance of such projects.

[8] It is neither the purpose of this section nor of this paper to discuss the relationship of the planning processes discussed here and theory of other techniques. For an excellent overview and discussion of other planning methodologies, see [6]. Of the techniques discussed in [6], this paper comes closest to the notion of "open-ended planning" described by Ozbekhan [17] and Gabor [5].

> Problems and solutions are in constant flux; hence *problems do not stay solved* . . . Solutions to problems become obsolete even if the problems to which they are addressed do not. [2, p. 31].

If, as we have argued, problems are the intense personal creations of problem-solvers, then the understanding of why different personality types formulate problems in very different ways is absolutely vital to a theory of strategic planning. The challenge is to formulate a methodology of planning that more fully understands what this means.[9]

[9] This article is a slightly revised version of the paper which won first prize for the best case study of planning sponsored by the 1976 TIMS College of Planning.

The authors would like to express their appreciation to Mr. James L. O'Brien, Program Coordinator, Statistical Research Division and Mr. Theodore Clemence, Chief, Program and Policy Development Office, Bureau of the Census for their comments on an earlier draft. The paper is stronger as a whole because of their comments. We of course bear full responsibility for the account offered in this article. Mr. O'Brien deserves special mention for the key role he played in coordinating the various phases of the project.

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