

**MEASURING SOCIAL ADVANCE: AMBIGUITIES IN THE
ROLE OF STATISTICS IN A DEVELOPING SOCIETY ***

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The discipline of statistics has been in the past often enriched by a great part of the spectrum of human interests, and has been peculiarly sensitive to social demands and to the requirements of varied academicians. As a cohesive discipline statistics has its research traditions and perennial problems of inquiry, and is increasingly concerned with the integrative problem of its own philosophical underpinnings. Nevertheless, the pull of diverse social phenomena and societal demands remains strong. Consider for instance the origins of some of the approaches in statistics. As M. G. Kendall tells it:

Probability theory originated at the gaming table; the collection of statistical facts began with state requirements of soldiers and money; marine insurance began with the wrecks and piracy of the ancient Mediterranean; modern studies of mortality have their roots in the plague pits of the seventeenth century; the theory of errors was created in astronomy, the theory of correlation in biology, the theory of experimental design in agriculture, the theory of time series in economics and meteorology, the theories of component analysis and ranking in psychology, and the theory of chi-square in sociology (1968:224).

In retrospect, says Kendall, "almost every phase of human life and every science has contributed something of importance to the subject" (1968:224).

The demands of a changing society and the striving of the masses of the Third World for a "great transformation" in their diverse societies place a variety of new demands on statistics and statisticians. Controlled societal change requires systems

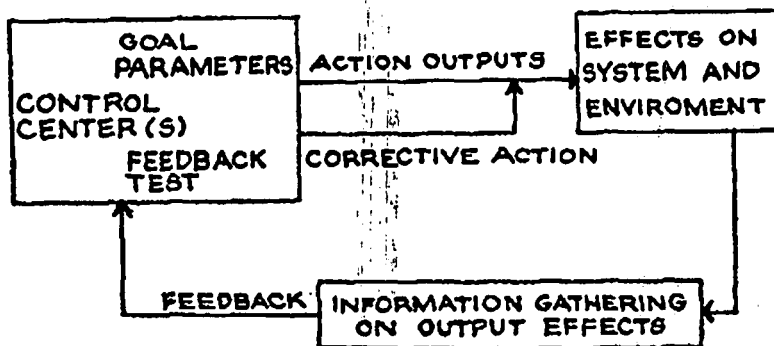
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of national accounting, to indicate where a society is, in relation to its goals, to precisely define its goals, and to determine, after the fact, if the goals have been reached. Equally important is the need for statistical guidance in the evaluation of the social and economic interrelationships that promote or retard particular social changes.

This paper essays a preliminary exploration of the demands made on statisticians by a changing society and by social scientists, particularly sociologists. One purpose is to identify particular points in the societal guidance process that create problems for the statistician involved in assessing social change.

Sociologists who, for several decades, have been concerned with value-free analysis of "functional" interrelationships among societal elements, are moving toward more value-involved, consciously directed societal models. A sociological analysis of social class, for instance, used to be a rather unchallenging evocation of different life styles and the functions that social class serves, but is more likely today to have a little Marxist fire, and to be oriented to the sources of class injustices and oppressions and to possible remedies. This concern with the direction of societies may also be seen in the work of Walter Buckley, who provides us with a model for the role of statistics in societal guidance.



(1969: 173)

This model incorporates social feedback to allow a continuous test of deviations from the goal parameters set by the societal control center. Buckley distinguishes five processes in the model:

- (1) A control center establishes certain desired goal parameters and the means by which they may be attained;
- (2) these goal decisions are transformed by administrative bodies into action outputs, which result in certain effects on the state of the system and its environment;
- (3) information about these effects are recorded and fed back to the control center;
- (4) the latter tests this new state of the system against the desired goal parameters to measure the error or deviation of the initial output response;
- (5) if the error leaves the system outside the limits set by the goal parameters, corrective output action is taken by the control center (1967:174).

It seems desirable to add a sixth stage: deviation from the goal parameters may, if serious and persistent, lead to a reformulation of these parameters. It is clear that this model is primarily normative rather than descriptive, telling us how a society that clearly defines its goals and mobilizes the popular will to meet them would, ideally, operate. In such a structured and disciplined society, statistics would be directly responsive to economic and social policies that serve to maximize basic societal values.

But it is a pleasant fact, and the basis for the intriguing appeal of the social sciences, that societies refuse to conform to "cybernetic" models. At each stage in the six-step process, there is considerable slippage between model and social reality, and in fact there are situations defined by particular goal constellations in which the model may be totally inapplicable. The following sections discuss these slippages, and some of the problems they pose for statisticians.

Ambiguities in Defining Goal Parameters

The first process in Buckley's paradigm is the establishment of goal parameters. This is the task, for Buckley, of the "control center" in society. It would be too restrictive to define the control center as the legislature, or even as all the government institutions combined. Beyond these, the center includes other institutions and individuals that influence decision making and that have impact on the way the society defines itself and its goals. The press, for instance, and the business elite, and the academy, are all vital parts of the societal center. Fundamentally the center is "a phenomenon of the realm of values and beliefs" (Shils, 1961), spatially bounded because spatial contiguity promotes the intensive interaction

that leads to the mutual confirmation of value universes, though not *per se* a territorial entity. To say every society has a center is to say that every society has some "official" religion that defines itself, its worth, and its uniqueness, even when it conceives itself as a secular, tolerant society.

In a society in transition the values of the center will not coincide with the values of the periphery. Only occasionally and fragmentarily will these two (or more) sets of values be articulated. For instance the values of *utang na loob*, *pakikisama*, "rootedness" in the land, and so on, while they may underlie the daily behavioral choices of many Filipinos, are not the ideal norms of the progressive, cosmopolitan center.

No cogent statement of current national aims and philosophy is available, but as a preliminary indication of the goals of the center let us take the basic goals of the Four-Year Development Plan (FY 1972-75). These are: high per capita income, wide-spread employment, more equitable income distribution, regional industrialization and development, and internal stability. The goals are predominantly economic, reflecting not only the readier measurement of economic quantities or the more "basic" nature of economic problems, but also the availability of specific, testable models for economic intervention and the faith of the technocracy in these models.

The goal of income equalization could obviously be extended to cover general social equalization. And the goal of internal stability, which seems deliberately vague, could cover not only economic but also political stability. Besides these, at least three more social goals seems to be important in the decision-making of the center. There is the value of democratic participation, on both the input and output sides of the political process. That is, each individual should have a proportional chance to influence public policy, and should receive a fair share of the benefits of government. Second, value is placed on providing individuals the opportunity to create a life of decency and dignity, which goes beyond the provision of economic essentials. Third, there is the desire for a positive, effective, respected, but realistic national identity.

The collection of data relevant to these goals is easier in the case of the economic goals for several reasons. (1) The conceptualization of economic goals is more definite, and measurement is much more advanced. (2) The commitment of economists to measuring the attainment of economic goals is much more firm than sociologists' recent flirtation with social indicators (e.g., Bauer, 1966; Duncan, 1969). Without dis-

disciplinary commitment, the intellectual resources for refining concepts, testing quantitative data, and generally expanding macrosociological interest will not be available. (3) Perhaps at a more fundamental level, economic goals are less ambiguous and conflictful than social goals. Take the goal of internal stability: what level of stability is necessary, and whether particular measures are acceptable to achieve it, such as the suppression of particular forms of dissent, is clearly problematic. Or, take the goal of a renewed sense of national identity: this goal brings into conflict those who seek radically different answers. There is no way to measure a national identity before one emerges, and emergence depends, to some extent, on creative ideological breakthroughs that are relatively rare and unpredictable.

This is not to argue that economic statistics are adequate, or, that they do not suffer from serious drawbacks of their own. Nor is this to argue that data on social conditions are entirely lacking. Regarding national identity, for instance, there is data on the use of different dialects, on media consumption (crucial in knitting together any community), on voting by provinces and blocs, on political alliances, on such cognitions and attitudes as "what Filipinos are proud of." Regarding individual opportunity and the quality of life there would be relevant data on education and educational institutions, on health, on natural disasters, on pollution of various sorts. It may be argued that the data are poorly collected and unreliable. But there is a more serious poverty, a poverty of concepts and theories. The ambiguities inherent in the social values have to be worked through, and an understanding of the effects of commitments to different social goals must be achieved.

A working through of these values is difficult because of the orientation of the political system. Heterogeneity and competing aggregates do not in themselves reduce the validity of national goals. Goals always rest on some conflict or tension between different groups. However the lines of cleavage, in order to promote serious consideration of national problems, should be drawn between groups that have substantially divergent interests, so that their competition can generate serious debate and the development of creative alternatives. By contrast with this ideal, vertical mobilization rather than horizontal mobilization characterizes Philippine politics. "Notables" attach to themselves dependents and socially inferior groups, and these vertical aggregates compete in the distribution of benefits (Lande, 1964; Rudolph and Rudolph, 1967). Horizontal mobilization would involve direct ideological appeals to

classes or communities in terms of common interests in particular policies, and this is more the exception than the rule. It is generally accepted that political competition is between regions rather than between classes. In a recent survey, for instance, the second most important criterion for people's choice of a presidential candidate (after "honesty") was found to be "help given your area," which was considered "very important" by fully 65% of the respondents (Averch, Koehler and Denton, 1971:36). The effect is that no serious debate on social goals can really take place, and these ambiguities militate against the usefulness of social statistics.

Ambiguities in Goal Implementation

Ambivalences regarding basic values lead to murkiness and false compromises in the definition of specific programs of action. Popularly, we speak of government inefficiency, graft and corruption, and the intrusion of politics into technical decisions as causes of the insipidity of government programs. These are undoubtedly serious obstacles, with deep roots in patterns of interpersonal relations. But perhaps a more basic problem is the problem of the "soft state," as Myrdal has characterized it. The soft state is one in which "national governments require extraordinarily little of their citizens. There are few obligations either to do things in the interest of the community or to avoid actions opposed to that interest" (1968: 896). As a logical correlate the government demands little of itself and its bureaucrats, and is content to dawdle along until the next election.

This low level of social discipline, which Myrdal argues, characterizes South and Southeast Asian countries today, contrasts with the situation in pre-industrial Europe. Pre-industrial European societies had

widely ramifying and stratified systems of obligations defining, often in considerable detail, the duties of different categories of village inhabitants regarding the construction and upkeep of roads, bridges, and waterworks; the prevention and control of forest fires; policing the local community; participation in the country's defense, and so on (1968:896).

Urbanization and industrialization led to a shift in these obligations from personal to impersonal ones, from "status" obligations to "contract" obligations, but continued to bind individuals to specific commitments to the system. Such a shift has

not occurred in Southeast Asia, but nevertheless the old obligations have broken down. Of a farming community in Bulacan, Takahashi has observed sadly that community obligations and communal features have been almost lost. To take one example, in the use of the irrigation system, anarchy prevails.

Although the shortage of water is one of the most serious problems in farm production, the peasants make no efforts at all to exert self-control or to maintain effective use of the irrigation system (1969:120).

With discipline evaporating at the community level and unenforceable at the national level, there is no assurance that goals defined at the center will be pursued with any persistence or consistency.

This lack of follow-through in relation to defined goals means that program evaluation studies and statistics are on a very shaky footing. The dilution of programs means the dilution of the effect of the variables that could cause change, and reduces the chances of finding any significant effect. The failure to find change can lead to emphasizing the program over its effects, and to a skepticism about evaluation and about the usefulness of statistics that continually give pessimistic results.

The soft-state argument does not exhaust the sociocultural barriers to implementing change-producing programs, which vary with the program and include incompatible operational values, problems raised by the structure of alliance systems, attitudes toward work and authority, and a host of similar obstacles.

Ambiguities in System Monitoring

In the former colonies of the Third World, the civil service is a colonial legacy. While a functioning civil service means that procedures of government decision-making are relatively systematic and rationalized, such procedures can easily degenerate into ritual paper-shuffling, buck-passing, and attendance at round-robin meetings, because the procedures are grafted onto a base of non-rational, status-preserving, and primary-group-oriented social relations. The same ritualism may apply to government statistics, which are part of the busy-work of the bureaucracy but are seldom seen in the context of specific decisions.

Another consequence of colonial origin is that, as a system imposed from above, statistical reporting is highly centralized and the statistics reported are highly aggregated, making it difficult to plan at a level lower than the national level. Besides these problems, the statistical system has the same problems of government social statistics anywhere: the non-theoretical definition of variables, so that groups or types of institutions or attitudes that the social scientist may consider important are not distinguished, and the lack of particular bits of information vital to social interpretation, such as measures of the discrepancy between the supply of and demand for housing, education, and other social services. (cf. Rosenberg, 1971). Even if goals were clearly defined and effective programs devised to meet them, the weakness of the information-gathering infrastructure would make evaluation difficult.

Ambiguities in Evaluation and Reformation of Goals

Given that goals and policies are unclear and inconsistent, and that the data bearing on them are self-serving and improperly conceptualized, it is not surprising that, overall, very little systematic evaluation of programs is carried out. There are, however, additional problems introduced in this stage of the societal guidance process. The relatively low level of media availability means that evaluation takes place mainly at the center. This is as it should be in Buckley's model, but contradicts one of the basic goals discussed previously. Modern societies have experienced what Shils considers a "dispersal of charisma," which, no longer lodged in the king or the emperor, is now lodged in the masses, whose will and whose interests legitimize government activity. Particularly in the reformulation of goals, popular participation is part of the ideology of the modern state. When one considers that the Constitutional Convention is a major attempt to reformulate national goals, and that only 24% of the non-students surveyed in a 1970 study had heard or read anything about the Convention (De Jesus and Benitez, 1970), it is obvious how divorced the evaluative activities of the center are from the awareness of the periphery.

As with most other resources, a limitation on the supply of relevant and reliable information increases its price, whether this price be paid in actual currency or in such coin as social status and prestige, possibly encouraging the use of substitutes. Instead of evaluation of programs in terms of their intended effects, evaluation can take place in terms of the character of program administrators, or in terms of individual complaints, or over generalized personal intuitions. Thus much popular

evaluation is in terms of cliches and common place gripes so that continuous complaining about "high prices" and "graft and corruption" takes the place of meaningful evaluation of corrective programs and policies. Thus limitations on the dissemination information tend to restrict political participation to judgments on image and prejudice that do not threaten the hegemony of the center.

This information gap between the center and the periphery may be one source of the curious patterning of optimism and pessimism about the prospects of the nation as a whole. Both urban and rural dwellers see an improving future for the country, with the rural people being somewhat more sanguine (De Jesus and Benitez, 1970; Cantril, 1965). However, the view from the press and from scholarly articles and the view from abroad are often negative and quite gloomy. (Averch, Koehler and Denton, 1971:3). Finally among those drafting plans and making policy the view can be quite rosy, with forward-looking programs and minor victories over inaction and stagnation prevailing. Myrdal believes that policy makers are generally "biased in an optimistic direction" (1968-720). These inconsistent points of view are among the effects of lack of systematic public evaluation, and obviously make it difficult to agree on satisfactory goals.

Let us consider only two viewpoints: (1) the viewpoint of a government planner and policy maker, and (2) that of a student radical. The planner has a need to deal with problems that have solutions, with problems that validate his sense of dealing effectively with his social reality. This produces a bias in the choice of problems toward the more manageable, and a bias in the evaluation of the importance of manageable problems, and possibly a bias in the evaluation of effects. Such optimistic biases need not operate with the student radical, whose commitment to the social system is still tentative and not yet tied down by a large number of institutional commitments. Hence he can be more pessimistic, and can propose more radical solutions to more serious problems. While for the planner the cybernetic system we have been discussing may be ideal, this system is not viable in relation to the student radical's goals. Where radical change is sought, systems analysis breaks down, because it can only deal with incremental advances under the assumption of relatively stable background conditions. It is not possible to fine-tune a society undergoing fundamental restructuring. When basic assumptions regarding civil liberties, the institution of property, government intervention in the economy, and similar issues change, statistics being gathered must be

seen in a new light. Information systems to evaluate such basic changes are unreliable, because of the operation on the societal level of Heisenberg's uncertainty principle: the information systems themselves will be modified by radical societal change.

Conclusion

Given these ambiguities that limit the application of a rational feedback model in a developing society, the weaknesses and defects of information systems and statistical reporting systems are not surprising. To sum up for the Philippines in the words of Averch, Koehler and Denton:

The information system produces data that are late, aggregative, inconsistent, and badly matched with the needs of policy-makers. Even if politicians were interested in specific programs—and the evidence is that they are not—their ability to devise intelligent programs would be severely limited by the nature of the information system. The bureaucracy, parts of which may be interested in devising programs, must deal with the same ambiguities (1971:113).

In reviewing the role of statistics within a model for societal guidance, we have so far slighted the significance of autonomous developments within statistics as a discipline, and the role they may have in improving the quality of statistical information and indirectly in democratizing the decision-making process in society while focusing it more sharply on proper priorities for debate. As Katz has observed, "a discipline gains internal autonomy as it renounces some external autonomy" (1968:158). That is, the more it acknowledges the limits of its intervention for social change, the greater freedom a discipline has in defining its problems and setting its standards of investigation. These reflections have been premised on the assumption that statistics has not progressed very far in this regard (if you choose to consider this progress). That statistics, and the social sciences, are still forces in the shaping of modern societies is ironically demonstrated by W. H. Auden's (1946) reactionary tract:

Thou shalt not answer questionnaires
Or quizzes upon World-Affairs,
Nor with compliance
Take any test. Thou shalt not sit
With statisticians nor commit
A social science.

It is not the argument here that this meddling in social affairs (for good or ill) should stop. It should however take note of limitations, and these limitations may suggest at least one direction for statistics.

Given the ambiguities masked by rational cybernetic models and the inapplicability of many other Western models, including the Marxist, it is necessary to understand societal functioning in societally idiosyncratic ways, and to build different theories to account for specific societal transitions. The need for "New paths" has been observed by Hunter, who compared peasant societies in Asia and Africa:

The developing countries, from their relative weakness, cannot and may not wish to follow the same course as the Western countries . . . Though many similar things will have to be done if the daily life of peasant societies is to be enriched and liberated, their path of change will be unique. It will not be exactly the same things which are done, nor in the same order, nor by the same methods, nor in the same modality (1969:281).

The discovery of new models rather than the testing of imported models seems to be the more urgent need. Exploratory studies are necessary, as we hear repeatedly in the social sciences, but exploratory studies have to be matched with exploratory statistics, and techniques for exploration as opposed to statistical confirmation are relatively unemphasized. As Tukey tells it,

Once upon a time, statisticians only explored. They then learned to confirm exactly — a few things under a few circumstances. Their techniques became, inevitably less flexible. The connection of their techniques with past insights was weakened and anything to which a confirmatory procedure was not explicitly attached was denigrated by the word "descriptive". We no longer need take this view. We can be flexible in our explorations, and still we can apply confirmation procedures to the results of our explorations (1970:P1-P2).

By taking a greater interest in such exploratory data analysis, statisticians may be able to contribute to clearing up some of the depressing ambiguities we have discussed.

A basic assumption of this paper is that a society beginning to modernize in these decades, given the disadvantages it faces relative to earlier modernizers, cannot afford to just

muddle along, cannot afford the "malabo" mentality, but must cut through confusion images of itself and make hard choices among the goals it pursues and the means it must use. The use of statistics lends some discipline to the evaluation of national goals, but without clear public consensus and mechanisms for public understanding, statistics become the privileged communications media of the manipulators and Machiavellians in the society rather than part of the lingua franca of debate on political programs.

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