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Ethics and Advocacy in Forecasting for Public Policy

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Introduction

Forecasting is one of the most important activities performed by professionals in support of public policymaking. In a world dominated by utilitarian thinking, policymakers regularly seek forecasts of the costs and consequences of alternative courses of action from planners, engineers, economists, and others. Many of the most interesting and complex ethical dilemmas facing these professionals arise from the complexity of the forecasting task and from the enormous political consequences of their forecasts. Forecasts are presented to the public as the results of unbiased scientific procedures, yet they are in reality often highly subjective exercises in advocacy. Professionals who must prepare forecasts are frequently confused by the mixed signals which they get. According to law, and in the eyes of the public, their forecasts are expected to provide analyses aimed at clarifying choices among courses of action. But their direct superiors and clients expect them to produce forecasts which will become part of the supporting documentation justifying a course of action which has already been chosen for political reasons. In the end, forecasts are often expected to be advocacy which at the same time can be presented to the public for political reasons as the results of unbiased analysis. For many forecasters this duplicity of purposes is deeply distressing, and for society at large it results in countless expenditures on projects and programs which are desired by politicians, but which could not be justified on the basis of utilitarian calculations.

In this paper, I will demonstrate first that there is indeed a serious ethical problem related to forecasting, which has serious political consequences for our democracy, and immediate personal consequences for those preparing the forecasts. Secondly, I will expand upon the conditions which lead to the ethical dilemmas for forecasters in public policymaking. Finally, I will suggest some actions which might be taken to provide those making forecasts with improved ethical guideposts to help them cope with these complex situations.

The Salience of Forecasts in Public Policymaking

As a reflection of the consequentialist orientation of American bureaucracy, the requirement to prepare forecasts is written into law and government regulation. The Reclamation Act of 1936, for example, directed the U.S. Army Corps of Engineers to undertake improvements to waterways only after formal benefit-cost analyses show that the forecast benefits over the life of a project, expressed in dollar terms, are in excess of the forecast costs. Similar forecasting requirements exist in virtually every area of public investment. Highway networks built in American metropolitan areas since World War II have been based upon a "comprehensive, continuing, and coordinated" transportation planning process codified in the Highway Act of 1964. The act required that highway plans be evaluated against 20-year forecasts of travel demand, with the forecasts being updated periodically to insure that the plans remain valid. The Urban Mass Transportation Administration requires that state and local governments submit "alternatives analyses" as part of requests for funds under its capital grants programs. Thus, if a city wishes to obtain federal grants to build a subway, it must forecast both the use and the cost of the facility, and demonstrate that the investment is cost effective. Airport authorities produce long-range forecasts of air traffic in their regions to arrive at proposals for new facilities, and metropolitan planning organizations base housing programs on forecasts of population growth and composition. National energy policy debates revolve around forecasts of future demand for alternative fuels, world supplies of fuels, and likely price ranges over coming years. And, of course military expenditures are frequently justified on the basis of forecasts of troop levels, weapons expenditures and technological capabilities of potential enemies.

The political salience of many forecasts and the technical complexity of the forecasting process combine to create for the forecaster an important ethical dilemma. Forecasts which support the advocacy of particular courses of action are often demanded by interest groups or public officials. Forecasters must usually rely upon so many assumptions and judgmental procedures that it is usually possible to adjust forecasts to meet such demands. On the other hand, forecasters are likely to view themselves as technical experts rather than as politicians. They consider themselves loyal to supposedly objective criteria of evaluation and to proven technical methods rather than to the acceptance of certain projects. Public policy heightens this dilemma by requiring, through laws and regulations, forecasts which are supposedly neutral and objective, while distributing political rewards in the

form of grants, contracts, promotions, and recognition to those whose forecasts are effective at proving their agencies' political positions most emphatically.¹

Some of the most egregious violations of the public trust to have occurred over the last several decades involve ostensibly objective forecasts which in retrospect can be seen to have been blatant attempts to manipulate public policy in order to promote certain interests at the expense of others. Nuclear power plants, for example, were justified on the basis of forecasts of high costs for petroleum and coal, low costs of nuclear power production, enormously inflated forecasts of growth in the demand for electric power, and forecasts of minimal environmental consequences associated with the production of nuclear power. It is now widely known that many of these forecasts were incorrect, and the public is often led to believe that many of these forecasts were, unfortunately, "in error," and that "forecasting is of course always fraught with uncertainties." In fact, many of the early optimistic forecasts associated with nuclear power were questioned by those making them. Investigations into the bankruptcy of the Washington Public Power Supply System, for example, show that forecasts, which failed to materialize, of low nuclear power costs and growing demand for power, were prepared at the behest of corporate managers who insisted that the forecasts be optimistic in order to influence investors and government officials. Technical experts who argued that the forecasts were misleading were told to be silent or to leave the project.

In a similar situation, the well-known C5-A military transport plane case involved enormous cost overruns which led to federal investigations in which whistleblowers testified that the poor cost estimates were not simply the result of technical errors. Rather, lower than realistic cost estimates were used in order to justify continuation of the project, and some technical experts who worked on the project had tried to protest but had been silenced by their superiors.

Similar experience is now being amassed with respect to urban rail transit systems. A recent federal study examined the actual patronage and the actual cost of ten different rail transit projects built in the United States, and compared these figures with those which had been forecast in reports which had been used to justify the investments. In every one of the ten projects (located in the nine cities of Washington, D.C., Atlanta, Baltimore, Miami, Buffalo, Pittsburgh, Portland, Sacramento, and Detroit) actual patronage was well below the forecasts which had been made prior to the funding of the projects; and in nine of the ten cases costs were higher than the forecast

costs. Because of the combined effects of cost overruns and patronage shortfalls, the cost per passenger served by these systems is shockingly high when compared with the forecasts, and when compared with alternative projects which might have relied more heavily on less expensive bus transit.

For example, when applying for funds for the new metro system in Miami, public officials there submitted to the federal government reports estimating that the system would today be costing \$1.73 per passenger served. The actual cost per passenger served is now \$16.77, a figure which is 872% of the forecast! If the passenger pays a fare of say one dollar, the taxpayer is left to subsidize the system to the tune of more than fifteen dollars per passenger served! The lowest cost per passenger served among the ten systems studied was twice the forecast value, while typical costs were four to five times the forecasts.² One can clearly see that the taxpayer is being taken for a ride, though not of the sort intended by our national transit subsidy program. The contractors who built the system surely made great profit from the project, and the politicians who supported them gained from their enormous campaign contributions.

I have interviewed public officials, consultants, and planners who have been involved in these transit planning cases, and I am absolutely convinced that the cost overruns and patronage overestimates were not the result of technical errors, honest mistakes, or inadequate methods. In case after case, planners, engineers, and economists have told me that they have had to "revise" their forecasts many times because they failed to satisfy their superiors. The forecasts had to be "cooked" in order to produce numbers which were dramatic enough to gain federal support for the projects whether or not they could be fully justified on technical grounds.³ One young planner, tearfully explained to me that an elected county supervisor had asked her to estimate the patronage of a possible extension of a light-rail (streetcar) line to the downtown Amtrak station. When she carefully estimated that the route might carry two to three thousand passengers per day, the supervisor directed her to redo her calculations in order to show that the route would carry twelve to fifteen thousand riders per day because he thought that number necessary to justify a federal grant for system construction. When she refused, he asked her superior to remove her from the project, and to get someone else to "revise" her estimates.

In another case, a planner admitted to me that he had reluctantly but repeatedly adjusted the patronage figures upward, and the cost figures downward to satisfy a local elected official who wanted to compete successfully for a federal grant. Ironically, and to the chagrin of that planner, when the

project was later built, and the patronage proved lower and costs higher than the published estimates, the same local politician was asked by the press to explain the outcome. The official's response was to say, "It's not my fault; I had to rely on the forecasts made by our staff, and they seem to have made a big mistake here." The planner who had made the forecasts was thus in double jeopardy. He had been chastised by the politician in the first place for being reluctant to change the forecasts. Yet, later he was assigned the blame for having made unrealistic estimates by the very politician who had ordered him to do so. The politician, however, was given credit for getting the rail line built, was labeled skillful at "cutting federal red tape," and escaped any blame whatsoever for having ordered the planner to falsify the forecasts.

This pattern has been well established for decades, yet it has been subject to surprisingly little scrutiny by political scientists or scholars of public administration. Forecasts are presented to the public as instruments for deciding whether or not a project is to be undertaken; but they are actually instruments for getting public funds committed to a favored project. Once the decision to build the project is made, the realization that the initial cost estimates were too low, or that the patronage estimates were too high, will rarely stop the project. Somehow, more money will always be found to complete a project which is already underway. This was well understood by Robert Moses, the master planner for fifty years of many of New York City's major bridges, tunnels, highways, and parks projects. Moses' biographer, Robert A. Caro, has written:

'Once you sink that first stake,' he would often say, 'they'll never make you pull it up.' . . . If ends justified means, and if the important thing in building a project was to get it started, then any means that got it started were justified. Furnishing misleading information about it was justified; so was underestimating its costs.

Misleading and underestimating, in fact, might be the only way to get a project started. Since his projects were unprecedentedly vast, one of the biggest difficulties in getting them started was the fear of public officials . . . that the state couldn't afford the projects, [which] beneficial though they might be, would drain off a share of the state's wealth incommensurate with their benefits.

But what if you didn't tell the officials how much the projects would cost? What if you let the legislators know about only a fraction of what you knew would be the project's ultimate expense?

Once they had authorized that small initial expenditure and you had spent it, they would not be able to avoid giving you the rest when you asked for it. How could they? If they refused to give you the rest of the money, what they had given you would be wasted, and that would make them look bad in the eyes of the public. And if they said you had misled them, well, they were not supposed to be misled. If they had been misled, that would mean they hadn't investigated the projects thoroughly, and had therefore been derelict in their own duty. The possibilities for a polite but effective form of political blackmail were endless.⁴

Caro believes that these practices by Robert Moses contributed directly to the fiscal crisis which gripped New York decades after these practices helped Mr. Moses implement many of his projects. I believe that these practices are so common that I have become skeptical of virtually all forecasts introduced into political debates by government agencies, consultants, or supposed technical experts.

The subject of forecasting is fascinating because it is complex and multifaceted. Forecasts play a particular role in modern public life which must be understood in order to grasp the ethical dilemmas which confront the forecaster. In the next sections, I will explain why forecasting is particularly susceptible to what I understand to be nearly universal abuse of this sort.

Characteristics of Forecasts

Forecasts Cannot be Verified Until the Intended Action is Actually Taken

The most essential characteristic of a forecast is that its accuracy cannot be verified with authority unless and until the action it was used to evaluate has been taken. Thus, if the real political purpose in making the forecast is to justify that action rather than to honestly evaluate its potential social utility, then the accuracy of the forecast is irrelevant to its political utility. In other words, if the contractors who wish to build a nuclear power plant or a subway have as their goal getting the project built rather than honestly evaluating its social benefits, then the exaggerated forecast of demand and the cost underestimates have properly served their purpose once the project is built. Later revelations by opponents who claim that the projects never should have been built are rather harmless to those who have already put the construction

profits in the bank, or to those who have already attained higher office on the basis of being the "person who got the project built."

At the same time, criticisms of forecasts can always be turned aside on the grounds that "the proof of the pudding is in the eating," and claims that the opposition is merely standing in the way of progress. The criticisms, in other words, can be said to be not valid until the building of the project provides the opportunity to test them. But that position, of course, is completely self serving if the purpose of the forecast is only to advocate the building of the project.

I have been active for twenty years in opposing the construction of a rail transit system Los Angeles, on the grounds that it is unnecessarily costly and that it will provide poorer service than an alternative system of express buses. I have made many public presentations and have written newspaper editorials in which I have meticulously shown that the forecasts used to support the construction are based on unrealistic assumptions. I have also shown that similar assumptions in other cities have led to cost overruns and failures to achieve the forecast patronage. Officials responsible for making the forecasts in Los Angeles, and their well-paid consultants, offer the same stock responses over and over again. First, they simply agree that there have been terrible cost overruns and patronage forecasting failures in other cities. The current forecasts, however, are said to be informed by those failures, and to have incorporated appropriate responses. "We have learned from the mistakes made elsewhere, and have been ultra conservative," it is stated, and "there will be no cost overruns here, nor patronage overestimates." Secondly, they merely state that while the assumptions made in other cities were inappropriate to those cities, the assumptions made in Los Angeles are appropriate to Los Angeles. When the project is built you will see that we are correct!

The project in Los Angeles is now under construction. It is tens of million of dollars over budget and, according the script which has been played out time and again, it is receiving augmentations of additional public funds in excess of those which were initially budgeted for the project. My earlier criticisms are remembered as no more than an annoyance as the project proceeds through construction. I am completely confident, however, that the Los Angeles rail line will never carry as many as half of the forecast daily patrons, but that doesn't seem to matter to a large bureaucracy and its consultants who repeatedly portray their opponents as a naysayers who wish to stand in the way of progress.

Forecasts are Technically Complex

Elaborate data bases and complex mathematical models are used to make forecasts of the demand for and the cost of large public works. The technical reports in which the forecasts are presented are weighty, written in technical jargon, and replete with mathematical equations and tables of computer printouts. They are often prepared by consultants or by highly trained technical staff members of public agencies. The forecasts which justify the construction of a rail transit system, a dam, or a nuclear power plant, may take years to prepare, may involve dozens of staff using several computers, and may involve data bases collected from a number of public agencies. The budget for forecasting studies may be in the millions of dollars. Consequently, very few people other than those who prepare them can ever fully review and critique them.

Politicians who commission the studies can rarely themselves understand them, and they tend to quote the results in summary form, placing great confidence in numbers which support their preconceived positions; and expressing skepticism of those which do not. Lay citizens and public interest groups rarely have the technical expertise, the time, or the budget to replicate or verify the forecasts. And, to make matters worse, I have found that the technical reports are often so partial that even when I have determined to plow my way through them as a trained expert in forecasting, I have not been given adequate data to do so despite thousands of pages of documents. In short, it is often very difficult to prove that forecasts were adjusted for political reasons. Consultants who might do so would have to be paid great sums of money in order to replicate the work of others, and those opposing big public works projects rarely have the resources to commission independent experts who in any case might not have the data to fully critique the forecasts.

Forecasts Always Require Subjective Assumptions

The technical complexity of forecasts is in fact quite misleading. While equations, computers, and enormous data bases give the forecasts an aura of "science," which invests them with certain authority in the political arena, the most critical data needed to make a forecast often consists of assumptions about the future. The simplest population forecast, which might employ any one of a number of mathematical models to forecast population, will always require assumptions about, for example, future birth rates, death rates, and migration rates. Future rates of these sorts can never be known with

certainty; we often assume that recent trends will continue for a decade or more, but they may not. By changing an expected migration rate for the coming decade, we can easily change the outcome of a forecast. William Ascher, an expert on forecasting methods, explains the need for assumptions as follows:

The core assumptions underlying a forecast, which represent the forecaster's basic outlook on the context within which the specific forecasted trend develops, are the major determinants of forecast accuracy. Methodologies are basically the vehicles for determining the consequences or implications of core assumptions that have been chosen more or less independently of the specific methodologies. When the core assumptions are valid, the choice of methodology is either secondary or obvious. When the core assumptions fail to capture the reality of the future context, other factors such as methodology generally make little difference; they cannot 'save' the forecast.⁵

Despite the fact that assumptions play a larger role in forecasting than do the methods which elaborate on them, forecasters are usually drawn from the ranks of social scientists, engineers, and planners whose education and professional identities are based primarily on technical methodological skills. They are likely to believe and to promote the idea that forecasting is impossible without the use of computers, mathematical models, and complex data sets.

Sophistication in the technique of forecasting is more apparent than real, however, because of the critical role of assumptions. Computers are used because there is often a great deal of data, many variables, many units of analysis for each, and several time periods. These conditions lead to the requirement for training and experience in mathematics, statistics, data manipulation, and computer programming. But together these skills require no special perspective on the future, and there is relatively little theory included in professional education to help one arrive at reasonable core assumptions. While we train professionals to manage data bases and operate computer models, we don't--and probably can't--educate them to make better assumptions. Consequently, they are quite vulnerable when asked to adjust their assumptions in order to change the outcome of a supposedly "unbiased" analysis.

The complex mathematical models and large data bases characteristic of modern forecasts thus obfuscate the fact that they are all elaborations of

relatively simple assumptions about the future, and they hide from the public the fact that the assumptions included in the forecast can be selected to help advocate certain courses of action for political purposes. In addition, should a critic point out that assumptions used in developing a forecast seem self serving or unrealistic, the response is often that the critic's assumptions are no more supportable than those of the consultant making the initial forecast. A wise colleague has pointed out to me that politicians who agree with her recommendations have never challenged her assumptions; while those who oppose her conclusions almost always challenge her assumptions.

Forecasts are the Product of "Many Hands," and Moral Responsibility is Hard to Fix

Because forecasts are prepared by large organizations, such as consulting firms which are in turn employed by government departments, and because complex computer models and data bases are managed by teams, it is invariably difficult to identify one person or small group of people who can be held responsible for critical decisions, such as the making of core assumptions, which lead to self-serving outcomes. The larger the number of people involved, and the greater the complexity of the forecasting procedures, the less likely it is that each participant in the process will feel morally responsible for the consequences. This is a general problem in large organizations, as pointed out by Dennis F. Thompson:

... an official cites a *novus actus interveniens*--a subsequent act by another official who can control whether the first official's action has any effect and therefore supposedly bears the entire responsibility for any harmful consequences. It is sometimes said, for example, that advisors are not responsible for the results of policies since the person whom they advise is free to accept or reject their counsel.⁶

As Thompson points out, however, Hobbes maintained that it is reasonable to consider advisors not responsible for the actions of public officials only when advisors are understood as providing instrumental counsel for achieving ends that are not in dispute.⁷ Thompson believes it reasonable to ask, whether instrumental analysis of means or advocacy of ends is the appropriate role for an advisor to assume. In the case of forecasting the assignment, by its nature, is supposed to require the advisor to consider the

likely outcomes of alternative ends, and it does not seem obvious in that situation that the forecaster should be able to escape responsibility for the consequences so easily if he or she merely provides a rationalization for a client's choice of a particular course of action.⁸

The client or superior is clearly much more responsible, in the eyes of the public, for the decision which is to be made. It follows, then, that the consultant or technical expert is a subordinate, and as a subordinate he or she is expected to defer to the authority of the superior. As Herbert Simon put it, in these situations:

A subordinate is said to accept the authority whenever he permits his behavior to be guided by the decision of a superior, without independently examining the merits of the decision. Hence, the subordinate "holds in abeyance his own critical faculties for choosing between alternatives and uses the formal criterion of the receipt of a command or signal as his basis for choice."⁹

The problem with this, in the case of forecasting, is that the person preparing the forecast has a *prima facie* responsibility to exercise critical faculties, so that the superior will be able to choose between alternatives according to formal criteria which are established by law, regulation, or professional convention. When the outcome of that analysis is specified in advance--when the superior lets it be known that his or her choice has already been made and that the analysis must support that choice--the forecaster is caught in a contradiction. He is, in effect, told to use his critical faculties to reach an independent professional judgement which must be consistent with the superior's predetermined conclusion! Loyalties to scientific objectivity conflict with organizational loyalties, and in most cases the organizational loyalties dominate because they determine whether or not promotions will be granted or consulting contracts renewed. The fact that those preparing forecasts are often cast in the role of counselor or advisor in a long chain of public decisionmakers allows them to rationalize their behavior in some amazing ways. I had the occasion to engage in a discussion with the president of a large consulting firm which had prepared many forecasts for public agencies. I had examined many of these forecasts, and had concluded that they were egregious examples of advocacy clothed in the guise of technical objectivity. I asked how his firm could repeatedly underestimate the cost of large public works projects in order merely to satisfy political leaders and government agencies which wanted to gain approval of funding agencies for

these projects. The president of the firm responded by becoming quite moralistic. He said that he was against the wasting of public funds, and consequently he saw it as his moral duty to estimate that projects would cost less than their critics thought they would. By underestimating project costs he insisted that he was providing public officials with an incentive to meet those low cost estimates and thereby to save the public's money. "Higher cost estimates," he said, "would merely be an incentive for wasteful contractors to spend more of the taxpayers' money." He could not be responsible for cost overruns, he insisted, but he could try to provide every possible incentive for cost saving in public works projects. In response, I pointed out that more honest and realistic cost estimates might result in decisions not to build those projects, and that in turn would save the taxpayers even more money. "That," he said, "is not my responsibility since I only estimate the costs but I do not decide whether or not to build the facility."

Another consultant told me that success in the consulting business requires the forecaster to adjust results to conform with the wishes of the client. Some *other* consultants, he said, were all too willing to prostitute themselves by forecasting whatever the client demanded, without any regard to technical objectivity. By accommodating to the needs of the client to a modest extent, said this consultant, he was able to obtain many important contracts, and by getting those contracts he was able to be certain that abuses of the truth were held to much less damaging levels than would be the case if those *other* irresponsible consultants got the contracts, for *they* would distort the facts far more than he would!

The Political Uses of Forecasts¹⁰

Governments with limited resources to allocate, and citizens who rely on public services and pay their costs, would seem on the surface to assume that forecasts of future need and cost are executed with objectivity. As shown earlier in this paper, however, the complexity of pluralist and technological societies places many burdens on those who prepare forecasts which make objectivity difficult to attain. Public resource allocation is competitive in that the decision to fund a project in one jurisdiction may deprive another of a similar opportunity. Political influence, financial gain, jobs, and prestige all now flow from "winning" competitions for public projects. Technical experts are often employed by agencies which advocate particular solutions to certain problems: highways versus rapid transit for transportation, nuclear versus fossil fuels for energy; and so forth.

A forecaster might be in the employ of an engineering firm which received a small contract to estimate the need for a bridge. If the bridge is shown to be justified, additional consulting fees for design and engineering might produce much more income than that derived from preparing the forecast itself. If the bridge is shown to be unnecessary, no further contracts may be awarded. In such settings, it is obvious that forecasters are under pressure to adjust their predictions for self serving purposes.

This pressure is intensified by the issues mentioned earlier: a forecast is inherently unverifiable; the outcome of a forecasting exercise is to a great extent determined by its core assumptions; and the activity of forecasting is technically complex, revealing to most users its results but not its mechanisms or assumptions. It is indeed difficult to withstand pressures to produce self serving forecasts which are cloaked in the guise of technical objectivity. By politely agreeing to speak of forecasts as objective, those who prepare them can maintain their self image and professional identity. Simultaneously, advocates of particular positions gain strength for their arguments by virtue of the supposedly "unbiased" technical analyses which they can cite. And politicians who finally make resource allocations calmly accept forecasts which confirm their particular preconceptions with far less critical review than those which do not. All three sets of actors—technical forecasting experts, advocates for a particular point of view, and politicians—gain by pretending that a forecast is an objective scientific statement, and gain even more if it is also an effective statement of advocacy in a contest over resources.

In keeping with the illusion of technical objectivity, when the passage of time has shown the vast majority of demand and cost forecasts for public services to have been inaccurate, those involved have generally contended that "imperfect techniques" and "inadequate data" were the sources of the problems. Rarely has it been argued that forecasts have deliberately been designed to put certain projects in a favorable light and others at a disadvantage. Rarely has it been argued that the structure of governmental decisionmaking makes such ethically troublesome uses of forecasts inevitable.

Some Suggestions in the Public Interest

Our society has structured programs on the presumption that public actions can be selected based on utilitarian calculations which compare the benefits to the costs of alternative choices. Many have argued that this is an illusion. They believe that in public policymaking there is no such thing as an unbiased analysis. All policymaking is the result of power struggles among competing

interests, and objective comparison of alternatives is impossible.¹¹ While I believe that a strong case can be made for the argument that better methods and better science cannot ever make for better public decisionmaking, I am essentially a pragmatist, and cannot foresee a situation in which we abandon analysis and make decisions solely on the basis of political judgments and deals, unaided by quantitative comparisons of alternatives. Thus, while intellectuals may argue that complex forecasts are in practice so subjective that they should be ignored or abandoned, I expect that they will continue to be common requirements of public programs. Given this situation, and my concern that forecasting methods are widely abused in the service of advocacy, I would recommend that several steps be taken to control the damage which is widespread.

First and foremost, I think that the public must be educated to understand the difference between objectivity and advocacy, and to be suspicious of allegedly objective forecasts. Journalists should compare forecasts with the actual costs and demand for services and projects which are funded by the public, and should encourage criticisms of forecasts by impartial experts. I am pleased to say that during the past decade I have seen citizen activists becoming much more sophisticated, and today fewer neighborhood associations seem to be very impressed with the arguments given by public agencies that "our forecasts prove that this facility is needed." Public skepticism and pressure can expose the most obvious abuses in forecasting, and are doing so to an increasing extent.

Secondly, I believe that laws are needed to provide greater protection to "whistleblowers" who expose such abuses. I am aware of at least five individuals who have been fired and blacklisted from employment in the field of urban planning because they have objected to instructions to "revise" their forecasts to suit the needs of their clients or supervisors, or because they have given newspapers information showing that forecasts made in support of a proposed public program have been distorted for political reasons. In general, the defense that they were upholding established professional standards of behavior has been inconsequential. These people have had no forum in which their side of the story could be told; and no authority which could reinstate them or clear their professional reputations.

Thirdly, I believe that professional codes of ethics should be clarified to be certain that they are clear in supporting the efforts of professionals to offer technical forecasts based upon their best judgement rather than on the wishes of their clients. Examination of several codes of ethics show that they differ widely with respect to this important question. I am a member of the

American Institute of Certified Planners (AICP), for example, and its "Code of Ethics and Professional Practice" gives only weak support for planners who wish to counter pressures to amend their forecasts to benefit their clients. On the one hand the code specifies that:

A planner's primary obligation is to serve the public interest. While the public interest is formulated through continuous debate, a planner owes allegiance to a conscientiously attained concept of the public interest.

A planner could certainly find some support in this statement for resisting pressures to revise forecasts at the behest of a politician or client, especially if he or she clearly felt that such action would lead to a violation of the public interest. On the other hand, the AICP code also says:

A planner must accept the decisions of a client or employer concerning the objectives and nature of the professional services to be performed unless the course of action to be pursued involves conduct which is illegal or inconsistent with the planner's primary obligation to the public interest.

It is usually not illegal to amend the assumptions incorporated in a forecast for political reasons, and it is actually quite difficult to argue that one's employer's favored project is not in the public interest.

By comparison, a few other professional codes include statements which are much more specific and much more helpful to a professional who wants to stick to his or her guns in the face of pressure. For example, the "Ethical Guidelines for Statistical Practice" of the American Statistical Society require that their members: "present their findings and interpretations honestly and objectively," and "avoid, untrue, deceptive, or undocumented statements." Similarly, the following canons are included in the Code of Professional Ethics and Practices of the American Association for Public Opinion Research:

- We shall recommend and employ only those tools and methods of analysis which, in our professional judgment, are well suited to the problem at hand;
- We shall not select research tools and methods of analysis because of their capacity to yield misleading conclusions;

- We shall not knowingly make interpretations of research results, nor shall we tacitly permit interpretations that are inconsistent with the data available;
- We shall not knowingly imply that interpretations should be accorded greater confidence than the data actually warrant.

Inclusion of canons such as these in a larger number of professional codes of ethics will surely not eliminate the abuses of forecasting which have been discussed in this paper. They will, however, at least establish that organized professional associations encourage their members exert independent judgment and to resist pressures to serve special interests.¹²

Finally, I would argue that the ethical dimensions of forecasting should be addressed in educational programs for planners, economists, engineers and others who are called upon to prepare forecasts in their professional work. If we train our students to apply methods and to operate computer models without alerting them to the political context in which they will be working, they will be poorly prepared for the conditions they will soon encounter in their daily practice.

Notes

1. Martin Wachs. "Ethical Dilemmas in Forecasting for Public Policy," *Public Administration Review*, Vol. 42, No.6 (November-December 1982), pp. 562-567.

2. Research and Special Programs Administration, Transportation Systems Center. *Urban Rail Transit Projects: Forecast Versus Actual Ridership and Cost*, Prepared for the Office of Grants Management, Urban Mass Transportation Administration, U.S. Department of Transportation, October 1989.

3. Martin Wachs. "Technique Versus Advocacy in Forecasting: A Study of Rail Rapid Transit," *Urban Resources*, Vol. 4, No.1 (FaU 1986), pp. 23-30.

4. Robert A. Caro. *The Power Broker: Robert Moses and the Fall of New York*. New York: Vintage Books, 1975. pp.218-219.

5. William Ascher. *Forecasting: An Appraisal for Policy-Makers and Planners*. Baltimore: Johns Hopkins University Press, 1978, p. 199.

6. Dennis F. Thompson. "Moral Responsibility of Public Officials: The Problem of Many Hands," *American Political Science Review*, Vol. 74 (Sept./Dec., 1980), pp. 905-916.

7. Thomas Hobbes. *Leviathan*. New York: Collier, 1962.

8. John Ladd. "Morality and the Ideal of Rationality in Formal Organizations," *Monist*, Vol. 54 (1970), pp. 488-516.

9. Herbert A. Simon. *Administrative Behavior*, Second Edition. New York: Free Press, 1955, pp. 11; see also p. 126 .

10. This section was included in substantially similar form, in an earlier paper: Martin Wachs, "Ethical Dilemmas in Forecasting for Public Policy," *Public Administration Review*, Vol. 42, No.6 (November/December 1982), pp. 562-567.

11. Charles W. Anderson. "The Place of Principles in Policy Analysis," *American Political Science Review*, Volume 73 (1979), pp. 711-723.

12. Martin Wachs. "When Planners Lie With Numbers," *Journal of the American Planning Association*, Vol. 55, No.4 (Autumn, 1989), pp. 476-479.