Borins, Jose Canela-Cacho, Hank Dempsey, David Dery, John Ellwood, Lee Friedman, David Garcia-Junco Machado, Nina Goldman, David Kirp, Jake Lavin, Leo Levenson, Martin A. Levin, Duncan MacRae, Carolyn Marzke, John Mendeloff, Michael O'Hare, Steven Page, Eric Patashnik, Beryl Radin, Andres Roemer, Larry Rosenthal, Mark Sabean, Eugene Smolensky, David Weimer, and Marc Zegans.

Bardach Eugene: "A Practical Guide for Policy
Analysis: The Eightfold Path to more Effective Problem
Solving." Chatham House : NY, 2000 P. xiii - 46.

Introduction

POLICY ANALYSIS is a social and political activity. True, you take personal moral and intellectual responsibility for the quality of your policy-analytic work. But policy analysis goes beyond personal decision making. First, the subject matter concerns the lives and well-being of large numbers of our fellow citizens. Second, the process and results of policy analysis usually involve other professionals and interested parties: it is often done in teams or officewide settings; the immediate consumer is a "client" of some sort like a hierarchical superior; and the ultimate audience will include diverse subgroups of politically attuned supporters and opponents of your work. All of these facts condition the nature of policy-analytic work and have a bearing on the nature of what is meant by *quality work*.

A policy analyst can work in any number of positions. Once upon a time, the term implied someone rather wonkish who worked in a large government bureaucracy serving up very technical projections of possible policy impacts for one or more policy alternatives to some undersecretary of planning. No longer. Policy analysts help in planning, budgeting, program evaluation, program design, program management, public relations, and other functions. They work alone, in teams, and in loose networks that cut across organizations. They work in the public, nonprofit, and for-profit spheres. Although their work is ideally distinguished by transparency of method and interpretation, the analysts themselves might explicitly bring to their jobs the values and passions of advocacy groups as well of "neutral" civil servants. The professional networks in which they work might contain—in most cases, do contain—professionals drawn from law, engineering, accounting, and so on, and in those settings the policy-analytic point of view has to struggle for the right to counter—or better yet, synthesize—the viewpoints of the other professionals. Although policy-analytic work products typically involve written reports, they may also include briefings, slide presentations, magazine articles, and TV interviews. The recipients of these products may be broad and diffuse audiences as well as narrowly construed paying clients or employers. The advice in this handbook is directed both to policy analysts in

practice and to students and others who, for whatever reasons, are attempting to look at the world through the eyes of a practitioner.

Policy Analysis: More Art than Science

Policy analysis is more art than science. It draws on intuition as much as method. Nevertheless, given the choice between advice that imposes too much structure on the problem-solving process or too little, most beginning practitioners quite reasonably prefer too much. I have therefore developed an approach I call the Eightfold Path. The primary utility of this structured approach is that it reminds you of important tasks and choices that otherwise might slip your mind; its primary drawback is that, taken by itself, it can be mechanistic.

The Eightfold Path

Define the Problem

Assemble Some Evidence

Construct the Alternatives

Select the Criteria

Project the Outcomes

Confront the Trade-Offs

Decide!

Tell Your Story

These steps are not necessarily taken in precisely this order, nor are all of them necessarily significant in every problem. However, an effort to define the problem is usually the right starting place, and telling the story is almost inevitably the ending point. Constructing alternatives and selecting criteria for evaluating them must surely come toward the beginning of the process. Assembling some evidence is actually a step that recurs throughout the entire process, and it applies particularly to efforts to define the problem and to project the outcomes of the alternatives being considered.

Iteration Is Continual

The problem-solving process—being a process of trial and error—is iterative, so that you usually must repeat each of these steps, sometimes more than once.

The spirit in which you take any one of these steps, especially in the earliest phases of your project, should be highly tentative. As you move through the problem-solving process, you will probably keep changing your problem definition, your menu of alternatives, your set of evaluative criteria, your sense of what evidence bears on the problem, and so on. With each successive iteration you will become a bit more confident that you are on the right track, that you are focusing on the right question, and so on. This can be a frustrating process, but it can also be rewarding—provided you can learn to enjoy the challenge of search, discovery, and invention.

Some of the Guidelines Are Practical, but Most Are Conceptual

Most of the concepts used will seem obvious. However, there are exceptions. First, technical terms are sometimes employed. Second, some commonsense terms may be used in a special way that strips them of certain connotations and perhaps imports others. For the most part, all these concepts will become intelligible through experience and practice.

The Concepts Come Embedded in Concrete Particulars

In real life, policy problems appear as a confusing welter of details: personalities, interest groups, rhetorical demands, budget figures, legal rules and interpretations, bureaucratic routines, citizen attitudes, and so on. Yet the concepts described in this handbook are formulated in the abstract. You therefore need to learn to "see" the analytic concepts in the concrete manifestations of everyday life.

Your Final Product

So what will your final product look like? Here is a very rough sketch of a typical written policy-analytic report: In a coherent narrative style you will describe some problem that needs to be mitigated or solved. You will lay out a few alternative courses of action that might be taken. To each course of action you will attach a set of projected outcomes that you think your client or audience would care about, suggesting the evidentiary grounds for your projections. If no alternative dominates all other alternatives with respect to all the evaluative criteria of interest, you will indicate the nature and magnitude of the trade-offs implicit in different policy choices. Depending on the client's expectations, you might state your own recommendation as to which alternative should be chosen.

The Spirit of the Eightfold Path

The spirit of the Eightfold Path is, I hope, an economizing and uplifting spirit. Analyzing public policy problems is a complex activity. It is easy to get lost, waste a lot of time, become demoralized. Other manuals and textbooks in policy analysis are very concerned that you get the analysis "right," in some sense. I hope this one will help in that respect too. But, even more, I hope that this one will help you get it done with reasonable efficiency as well.

PART I
The Eightfold Path

1. Define the Problem

YOUR FIRST PROBLEM DEFINITION is a crucial step. It gives you (1) a reason for doing all the work necessary to complete the project and (2) a sense of direction for your evidence-gathering activity. And in the last phases of the policy analysis, your final problem definition will probably help you structure how you *tell your story.*

Usually, the raw material for your initial problem definition comes from your client and derives from the ordinary language of debate and discussion in the client's political environment, language I call generically *issue rhetoric.* This rhetoric may be narrowly confined to a seemingly technical problem or broadly located in a controversy of wide social interest. In either case, you have to get beneath the rhetoric to define a problem that is analytically manageable and that makes sense in light of the political and institutional means available for mitigating it.

Use the raw material of issue rhetoric with care. It often points to some condition of the world that people don't like or consider "bad" in some sense, like "teenage pregnancy," "media violence," or "global warming." These evaluations do not necessarily need to be taken at face value. You will sometimes wish to explore the philosophical and empirical grounds on which you, your client, or others in your eventual audience should or should not consider the alleged condition "bad." Furthermore, issue rhetoric may point to some alleged—but not necessarily real—cause of the troubling condition, for example, "welfare" or "human wasteful-ness." You want not simply to echo the issue rhetoric in your problem definition, but to use it as raw material for a provisional problem definition that you hope will prove analytically useful.

Some issues may connote more than one problem. Depending on the audience, for example, "teenage pregnancy" might connote sexual immorality, the blighting of young people's and their children's life chances, exploitation of

taxpayers, and social disintegration. Usually you will want to determine a primary problem focus; otherwise you will find that the analysis gets out of hand. But if the problems aren't too complicated, you may feel you are willing to define more than one.

Think of Deficits and Excesses

It often—but not always—helps to think in terms of deficit and excess. For instance:

- "There are too many homeless people in the United States."
- "The demand for agricultural water is growing faster than our ability to supply it at an acceptable financial and environmental cost."
- "California's population of school-age children is growing at 140,000 per year, and our ability to develop the physical facilities in which to educate them is not growing nearly as fast."

It often helps to include the word *too* in the definition (e.g., "too big," "too small," "growing too slowly," "growing too fast"). These last two phrases (about "growing") remind us that problems deserving our attention don't necessarily exist "today" but are (at least potentially) in prospect for the future, whether near or distant.

However, it does not help to think in terms of deficit and excess when your problem is an already well-structured decision problem, for example, "Dump the dredging spoils either in the Bay or somewhere out in the Pacific Ocean." Nor does it help if your challenge is to invent *any* way to accomplish some defined objective, for example, "Find some grant funds to close the anticipated gap between revenues and expenditures." These decision- and invention-type "problems" are problems *for* the policy analyst but are not the sort of problems I am addressing in this section.

The Definition Should Be Evaluative

Remember the idea of a "problem" usually means that people think there is something wrong with the world. But note that *wrong* is a very debatable term. Not everyone will think that the facts you (or others) have defined as a problem are really a problem, for each person may apply a different evaluative framework to these facts. Unfortunately, there are no obvious or accepted ways to resolve philosophical differences of this type.

A common philosophical as well as practical question is "What private troubles

warrant definition as public problems and thereby legitimately raise claims for amelioration by public resources?" It is usually helpful to view the situation through the *market failure* lens.[1] In its simplest formulation, market failure occurs when the *technical properties* of a good or service

- make it hard to collect payment from all the potential beneficiaries—for instance, the large number of people who profit, albeit indirectly, from advances in basic science;
- make it hard to collect from the beneficiaries of consumption the true economic cost of making use of the good or service—fresh air that vehicle owners use as a sink for their auto emissions;
- make it hard for consumers (and sometimes suppliers) to know the true qualities of the good or service they are acquiring—many repair-type services, including those performed by physicians as well as those performed by auto mechanics;
- make the cost of producing the marginal unit lower than the average cost within the relevant range of demand—a magazine article distributed via the Internet.

It is hard to overestimate the importance of this point, for in most—though not all—situations where no actual market failures can be identified, people's private troubles *cannot* typically be ameliorated by even the most well-intentioned governmental interventions. And even when some amelioration is possible, there are usually many adverse side effects. In some cases, it may nevertheless be worthwhile to pay the price of these side effects, but such calculations must be done carefully and scrupulously.

Besides market failures, the main situations where private troubles can warrant definition as public problems are

- breakdowns of systems, such as family relationships, that occur largely outside markets;
- the concern of many citizens about low living standards that arise precisely *because* markets function well and do not reward individuals very generously if they lack marketable assets;

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1. See chapter 5 in David L. Weimar and Aidan R. Vining, *Policy Analysis: Concepts and Practice* (Upper Saddle River, N.J.: Prentice Hall, 1999). For a persuasive analysis of most traditional market failures in transaction cost terms, see Richard O. Zerbe Jr., and Howard E. McCurdy, "The Failure of Market Failure," *Journal of Policy Analysis and Management* 18, no. 4 (1999): 558–78. Zerbe and McCurdy also emphasize the rich variety of interventions besides those undertaken by government to remedy traditionally conceived "market failures."

- the existence of discrimination against racial and other minorities;
- the failure of government to function well in areas where it is traditionally expected to act effectively (e.g., in providing public schools).

Quantify If Possible

The definition should, insofar as possible, include a quantitative feature. Assertions of deficit or excess should come with *magnitudes* attached. How big is "too big"? How small is "too small"? How about "too slowly"? How about "too fast"? In the examples above, how many homeless people are there in the United States? How many acre-feet of water are used now, and how does that amount compare with the demand in some specified future year (given certain assumptions about water pricing)? Exactly what is "our ability to develop physical facilities," and how do we expect it to grow, or shrink, over time?

If necessary, gather information to help you calibrate the relevant magnitudes. See the discussion under "Assemble Some Evidence."

In many or most cases, you will have to estimate—or "guesstimate," more likely—the magnitudes in question. Sometimes you should furnish a *range* as well as a *point* estimate of magnitudes (e.g., "Our best guess of the number of homeless persons in families is 250,000, although the truth could lie between 100,000 and 400,000").

Conditions That Cause Problems Are Also Problems

Some problem conditions are not experienced as troublesome per se by citizens but are perceived by them, or by analysts working on their behalf, to be causes of troubles. It is sometimes useful to diagnose one or more alleged causes of this type and to define these as problems to be mitigated or removed, for instance, "One of the problems in the air pollution area is that states have not been willing to force motorists to keep their engines tuned up and their exhaust systems in proper order."

Note that this sort of problem definition is not merely descriptive but is also *diagnostic*. It implicitly asserts that some condition, which may or may not be troubling to people per se, is an important *cause* of some other condition that is indeed troubling. Problem definitions that pretend to some diagnostic power can be useful, but they can also be treacherous. Suppose, after all, that the causal diagnosis is mistaken or misleading, for example, that states' unwillingness to enforce engine maintenance routines is *not* in fact a very important cause of air pollution. Because *definition* in some contexts connotes legitimate arbitrariness ("I'll define 'justice' to mean . . .") the causal claims implicit in diagnostic problem

definitions can easily escape needed scrutiny. See "Project the Outcomes" for further discussion.

Missing an Opportunity Is a Problem

A special case of "a problem" is an opportunity missed. Is it not rather small-minded to think of policy analysis as devoted merely to the amelioration of "problems"? May policy analysis not rise above the tedious and uninspiring business of patching and fixing? Can we not aspire to a world in which we can identify opportunities to do creative—not to say wonderful—things? "If it ain't broke, don't fix it" is a confining idea, and certainly policy analysts, policymakers, and public managers ought not to allow the "problem" focus to restrict the search for plausible opportunities. Unfortunately, the working agenda of most policy professionals is set by complaints, threats, worries, and troubles. There is often little time or energy left over to think about improvements that no one has identified as missing. Still, if latent opportunities are really lying around, it would be a pity to ignore them.

Where do we find opportunities for creative policy improvements that haven't first been identified by complaints, threats, and so on? Little academic or technical theory is available to answer this question. But Box I.I (p. 6) contains a list that is suggestive.

Common Pitfalls in Problem Definition

Problem definition is a deceptively simple step. It is a step beset by at least two dangerous pitfalls.

Defining the solution into the "problem." Your problem definition should not include an implicit solution introduced by semantic carelessness. Projected solutions must be evaluated empirically and not legitimated merely by definition. Therefore, keep the problem definition stripped down to a mere description, and leave open where you will look for solutions.

- *Don't say:* "There is too little shelter for homeless families." This formulation might inadvertently imply that "more shelter" is the best solution and might inhibit you from thinking about ways to prevent families from becoming homeless in the first place. *Try instead:* "There are too many homeless families."
- *Don't say:* "New schools are being built too slowly." This formulation could imply "more schools" as the solution and could inhibit you from thinking about ways to use existing facilities more efficiently. *Try instead:*

BOX I.I. SOME GENERIC OPPORTUNITIES FOR SOCIAL IMPROVEMENT THAT OFTEN GO UNNOTICED

By-products of personal aspirations. It is possible to structure new incentives or create new opportunities for personal advantage or satisfaction that can indirectly result in social benefit (e.g., offering to share the benefits of cost-reducing innovations with public sector employees who conceive them and implement them).

Complementarity. Two or more activities can be joined so that each makes the other more productive (e.g., public works construction and combating unemployment).

Development. A sequence of activities or operations may have the potential to be arranged to take advantage of a developmental process (e.g., assessing welfare clients for employability and vocational interest before, rather than after, sending them out on a job search).

Exchange. There are unrealized possibilities for exchange that would increase social value. We typically design policies to exploit those that simulate market-like arrangements (e.g., pollution permit auctions, and arrangements to reimburse an agency for services it renders another agency's clients or customers).

Multiple functions. A system can be designed so that one feature can be used to perform two or more functions (e.g., when a tax administrator dramatizes an enforcement case in such a way as both to deter potential violators and to reassure nonviolators that they are not being made into suckers for their honesty).

Nontraditional participants. Line-level employees of public agencies often have knowledge of potential program improvements that could usefully be incorporated into the agencies' policies and operations. The same is true of the agencies' customers or clients or the parties that they regulate.

Rationalization. Purely technical rationalization of a system is possible (e.g., shortening queues by deliberate spacing of arrival times, or creating contracts to solidify informal agreements that are vulnerable to decay and misunderstanding).

Rummaging. By rummaging mentally, one might discover novel uses in seemingly improbable but readily available materials (e.g., using the automobile registration system as a vehicle for carrying out voter registration as well).

Underutilized capacity. An example, in many communities, is school facilities that are utilized for relatively limited purposes for only part of the day and for only part of the year—although school officials would be quick to warn that using this capacity without harming school functions is not always easy.

"There are too many schoolchildren relative to the currently available classroom space."

A tipoff that you're probably smuggling an implicit solution into the problem definition is to hear yourself saying, "Aha, but that's not the real problem; the real problem is . . ." While there are better and worse ways to conceptualize a problem, or to solve a problem, it stretches ordinary usage too much to say that one problem could be "more (less) real" than another.

Be skeptical about the causal claims implicit in diagnostic problem definitions. I said above that "conditions that cause problems are also problems." However, the causes must be real, not merely assumed. You have to evaluate the causal chain that goes from the situation itself to the bad things it is alleged to cause, and to convince yourself that the causal chain is real. For instance, for some people, "cocaine use" is not a problem in itself, but it might be a problem if it *leads to* crime, poor health, family disintegration, and so on. But does it lead to these outcomes, and to what degree? The evidence on this question should be evaluated very carefully before you decide it's okay to work with a problem definition involving "too much cocaine use."

Iterate

Problem definition is a crucial step. But because it is hard to get it right, you might take that same step again and again. Over the course of your analytic work, your empirical and conceptual understanding will evolve. Also, as you begin to rule out alternative approaches to solving or mitigating your problem, you will probably want to sculpt the problem definition so that, in the end, you and the political system will have some chance of attacking the problem successfully. Finally, if you are working in an office or agency context, you will implicitly be negotiating a mutually acceptable problem definition with your analyst colleagues and your hierarchical superiors.[2]

2. Assemble Some Evidence

All of your time doing a policy analysis is spent in two activities: thinking (sometimes aloud and sometimes with others) and hustling data that can be

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2. Some analysts also claim that it is simply not worthwhile to define as "problems" conditions that cannot be ameliorated: "Problems are better treated as opportunities for improvement; defined problems, as problems of choice between alternative means to realize a given opportunity. The process of problem definition would then be one of search, creation, and initial examination of ideas for solution until a problem of choice is reached." David Dery, *Problem Definition in Policy Analysis* (Lawrence: University Press of Kansas, 1984), 27.

turned into evidence. Of these two activities, thinking is by far the more important, but hustling data takes much more time: reading documents, hunting in libraries, poring over studies and statistics, interviewing people, traveling to interviews and waiting for appointments, and so on.

The real-world settings in which policy analysis is done rarely afford the time for a research effort that would please a careful academic researcher. In fact, time pressure is probably almost as dangerous an enemy of high-quality policy analysis as politically motivated bias, if not more so. Therefore, it is essential to economize on your data collection activities. The key to economizing is this: Try to collect only those data that can be turned into "information" that, in turn, can be converted into "evidence" that has some bearing on your problem.

For the logically minded, here are some definitions: *Data* are facts—or, some might say, representations of facts—about the world. Data include all sorts of statistics but go well beyond statistics, too. Data also include, for instance, facts about an agency manager's ability to deal constructively with the press. *Information* is data that has "meaning," in the sense that it can help you sort the world into different logical or empirical categories. The prevalence of cigarette smoking in five different countries is data, but these data become information when you decide it is interesting to array the countries comparatively (e.g., from lowest to highest prevalence). *Evidence* is information that affects the existing beliefs of important people (including yourself) about significant features of the problem you are studying and how it might be solved or mitigated. Differential prevalence of smoking, for instance, can become evidence bearing on hypotheses about differential levels of concern about personal health across countries.

You need evidence for three principal purposes. One purpose is to assess the nature and extent of the problem(s) you are trying to define. A second is to assess the particular features of the concrete policy situation you are engaged in studying. For instance, you may need to know—or guess—about agency workloads, recent budget figures, demographic changes in a service area, the political ideology of the agency chief, the competency of the middle-level managers in the agency, and the current attitudes of some other agency that nominally cooperates with this one on some problem. The third purpose is to assess policies that have been thought, by at least some people, to have worked effectively in situations apparently similar to your own, in other jurisdictions, perhaps, or at other times.[3] All three purposes are relevant to the goal of producing realistic projections of possible policy outcomes.

Because each of these purposes becomes salient in different phases of the

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3. Sometimes these situations will have been evaluated statistically, and sometimes not: see Part III, " 'Smart (Best) Practices' Research."

policy analysis process, this "Assemble Some Evidence" step on the Eightfold Path will be taken more than once, but with a different focus each time.

Think Before You Collect

Thinking and collecting data are complementary activities: you can be a much more efficient collector of data if you think, and keep on thinking, about what you do and don't need (or want) to know, and why. The principal—and exceedingly common—mistake made by beginners and veterans alike is to spend time collecting data that have little or no potential to be developed into evidence concerning anything you actually care about. People often do this because running around collecting data looks and feels productive whereas first-rate thinking is hard and frustrating. Also, the people paying for your work tend to be reassured that, when they see you busily collecting data, somehow they are getting their money's worth.

The value of evidence. Since most evidence is costly to produce, you must weigh its likely cost against its likely value. How is its likely value to be estimated? The answer may be cast in a decision-analytic framework (decision trees), though you should remember that the process of making a decision involves a great many elements prior to the moment of actual choice, such as defining a useful problem, thinking up better candidate solutions, and selecting a useful model. In general, the value of any piece of evidence depends on

- the likelihood that it will cause you to substitute some better decision for whatever decision you would have made without it (which might have been an "acceptable" decision in and of itself);
- the likelihood that the substituted decision will, directly or indirectly, produce a better policy outcome than the outcome that would have been produced by the original decision;
- the magnitude of the difference in value between the likely-to-be improved outcome and the original outcome.

Self-control. It is surprising how well you can do in many cases by gathering no evidence at all but simply sitting down and thinking something through and then making some serious educated guesses. There is nothing shameful about acting on such guesstimates and thereby conserving your data-collecting time and energies for answering questions for which good evidence is really necessary. See Part II, "Gathering Data for Policy Research."

A helpful check on yourself, to prevent yourself from collecting useless data, is to ask yourself the following questions before embarking on some data collection venture:

- "Suppose the data turn out to look like so-and-so as opposed to thus-and-such. What implication would that have for my understanding of how to solve this problem?"
- "Compared to my best guess about how the data will look once I've got them, how much different might they look if I actually took the trouble to get them?"
- "How much is it worth to me to confirm the actual difference between what I can guess and what I can learn about the world by really getting the data?"

It is this sort of critical attitude about the value of expensive data collection that often leads good and experienced policy analysts to make do with back-of-the-envelope estimates. However, none of the above is meant to be an excuse for shirking the job of getting good data—and sometimes lots of them, at huge costs in time and money—when you've convinced yourself that the investment really would pay off. There's an obvious and critical difference between justifiable and unjustifiable guesstimates.

Do a Literature Review

There is hardly a problem without some academic discipline or professional association doing research on its causes and solutions. It is easy to find journals and various professional publications disseminating research results, theories, case studies, the musings of experienced practitioners, and so on. The Internet brings much of this to your desktop, but some of the best vehicles are better accessed by browsing the periodical shelves of university or government libraries.

Advocacy organizations often publish a great deal of interesting work and may take special pains to disseminate their work on the Internet. However, there is a danger of relying too much on such sources just because they are readily available.

Survey "Best Practice"

The chances are that the problem you are studying is not unique, and that policymakers and public managers in other jurisdictions, perhaps not very different from the one you are studying, have dealt with it in some fashion. See if you can track down some of these past solutions and see if you can extrapolate them to the situation you are studying. The extrapolation process is complicated, though. See Part III, "'Smart (Best) Practices' Research: Understanding and Making Use of What Look like Good Ideas from Somewhere Else."

Use Analogies

Sometimes it pays to gather data about things that are, on the surface, quite unlike the problem you are studying but that, under the surface, show instructive similarities. For instance, your understanding of how a merit pay plan for compensating managers in the public sector might work could perhaps be improved by seeing how similar schemes work in the private sector. Or if you are working on the problem of how a state can discipline, and perhaps disbar, incompetent attorneys, you might usefully spend a good deal of your time learning about how the medical profession handles problems of physician incompetence. If you are working on how to reduce neighborhoods' resistance to accepting low-income housing projects, you could usefully look into the literature on community resistance to accepting solid-waste incinerators.

As these examples suggest, some analogies are easier to perceive, and to make sense of, than others. It takes a little imagination to see instructive analogies and, occasionally, a little daring to try to convince others to see both the usefulness of the analogy and its inevitable limitations.

Start Early

You are often dependent on the busy schedules of other very busy people whom you ask to furnish you with information or opportunities for interviews. It is extremely important to put in requests for information, especially interviews, well in advance of when you expect to want to have completed the data collection.[4]

Touching Base, Gaining Credibility, Brokering Consensus

The process of assembling evidence inevitably has a political as well as a purely analytical purpose. Sometimes it entails touching base with potential critics of your work so that they will not be able to complain that you ignored their perspectives. By making yourself known to potential supporters of your work, you may also be able to create a cadre of defenders.

A more complex objective, where appropriate, might be to blend policy analysis with the process of improving a policy idea or decision during the course of implementation. (See the following discussion of "improvability" as a criterion.) This entails obtaining "feedback" from participants, usually in an iterative process,

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4. For a useful description of how to conduct literature reviews, library searches, phone interviews, and personal interviews, see Weimer and Vining, *Policy Analysis*, chap. 10A. See also Part II, "Gathering Data for Policy Research."

and sharing some of your own reactions with them. You become more of a partner in the process than an outside observer and diagnostician. An even more complex and challenging role is for you to become a particular type of "partner," a facilitator and broker, whether by acting as a transmission belt from one person to another or by convening meetings and other gatherings.

Freeing the Captive Mind

In exchange for access to data and a ready-made worldview, researchers sometimes uncritically accept problem definitions and preferred solutions from kindly informants (not to mention from paying clients or employers). To counter such temptations, be sure to make contact with individuals or factions whom you would expect to disagree—the more sharply the better—with your kindly informants. A time-saving, but only partial, substitute is to ask your kindly informant, "Who might object strongly to your point of view about this, and why might they do so?"

3. Construct the Alternatives

By *alternatives* I mean something like "policy options," or "alternative courses of action," or "alternative strategies of intervention to solve or mitigate the problem."

Start Comprehensive, End Up Focused

In the last stages of your analysis, you won't want to be assessing more than three or four principal alternatives. But in the beginning, you should err on the side of comprehensiveness: Make a list of all the alternatives you might wish to consider in the course of your analysis. Later on you will discard some obvious losers, combine others, and reorganize still others into a single "basic" alternative with one or more subsidiary "variants." For your initial list, though, where should you turn for ideas?

- Note the alternatives that key political actors are actively proposing or seem to have on their minds. These may include people's pet ideas, institutions' inventories of "off-the-shelf" proposals that simply await a window of opportunity, and prepackaged proposals that political ideologues are perennially advocating.

- Try to *invent* alternatives that might prove to be superior to the alternatives currently being discussed by the key political actors. It's good to brainstorm, to try to be creative—but don't expect that you'll necessarily produce much better ideas than other people have already thought about. One way to coax your creativity is to refer to the checklist in Appendix A, "Things Governments Do." For each entry on the list, ask yourself, "Might it make sense to try some version of this generic strategy to help mitigate this problem?"[5] Because it is a long and comprehensive list, the answer with respect to any single strategy will usually be negative. Going through the list systematically is worthwhile, however. Because the list is not very long, with experience you will need to spend only a few minutes to decide whether any ideas there might be worth considering further.
- Always include in your first approach to the problem the alternative "Let present trends continue undisturbed." You need to do this because the world is full of naturally occurring change, and some of these ongoing changes might mitigate the problem on which you are working. (Note that I am not characterizing this alternative as "Do Nothing." It is not possible to "do nothing." Most of the trends in motion will probably persist and alter the problem, whether for better or for worse.)

In most cases, however, this "let-present-trends-continue" option will drop out of your final analysis. This happens because, if you do your problem definition work well, you will end up with an important problem in your sights that in most cases can be mitigated to some degree by some affirmative action.

Inspect the most common sources of "natural" change in the public policy environment to see if any will affect the scope of the problem:

1. Political changes following elections, as well as changes induced by the prospects of having to contest an election
2. Changes in unemployment and inflation rates that accompany the business cycle
3. The changing "tightness" or "looseness" of agency budgets caused by overall taxing and spending policies
4. Demographic changes, such as population migration patterns and population "bulges" moving through certain ages.

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5. See also the very valuable discussion on generic policy instruments in Weimer and Vining, *Policy Analysis*, chap. 9.

Model the System in Which the Problem Is Located

We often think about alternative approaches to the problem as possible *interventions* in the system that holds the problem in place or keeps it going. Logically, it is not necessary to model the causes of a problem in order to cure it—pharmaceutical manufacturers can testify that many of their successful products work by unknown causal routes on conditions whose causes are not at all understood. But a good causal model is often quite useful for suggesting possible "intervention points." This is especially true when the problem is embedded in a complex system of interacting forces, incentives, and constraints—which is usually the case. Consider, for instance, a system that produces "too much traffic congestion" at some choke point like a bridge or a tunnel. A sketch of the relevant causal model would include the demand for travel along the relevant route, the available modes of travel, the amount of roadway capacity, and the price to users of roadway capacity. An efficient and simple—but usually politically unpopular—intervention might be to increase the price to users so as to reflect the degree to which each user contributes to congestion and increased travel times.

How elaborate, rigorous, and self-conscious should your causal model be? Many social scientists who devote themselves to policy analysis would hold, "The more the better." I say, "Yes, but . . ." Self-consciousness is highly desirable. Elaborateness (or comprehensiveness, in this case a near synonym) is desirable because it decreases the risk of missing important causal connections. But it can blur the analytic focus and blunt creativity in designing intervention strategies. Rigor is desirable if it prevents you from relying on unarticulated and false assumptions. But its down side is that you might exclude factors that are important—for instance, the personalities of certain actors—because you don't know how to model their effect rigorously and/or because you have only hunches regarding the nature of the relevant personalities.

Many models are best thought of as elaborations of some fundamental metaphor. Some elaborations can be mathematical and quite precise, while others are verbal and evocative. Some commonly used metaphors that are the bases for models of particular value in designing alternatives are discussed here:

- *A market where disaggregated suppliers exchange goods or services with disaggregated demanders.* Note that market models can apply to unpriced goods and services. The main idea behind the market model is really equilibration through exchange. Hence, the market model can be applied to many phenomena other than the production and allocation of textbook goods like widgets or apples.

  For instance, you might try to understand the flow of patients into a state mental hospital system in terms of supply and demand: there is a

short-run "supply" of available beds in state hospitals and a per-diem charge for each, while there is a complex "demand" for their use generated by police departments, county psychiatric emergency units, judges, members of the public, and so on.

A standard intervention strategy for improving markets that are not working as well as they might be is to find some way to raise or lower the prices faced by either suppliers or demanders.

- *Production models.* Unfortunately, there is not much of an academic literature about the operating logics of the common types of production systems found in public policy (e.g., command-and-control regulation, the provision of information, and all those other "Things Governments Do" briefly described in Appendix A).[6] In any case, the main concern in understanding production systems should be to identify the parameters whose values, when they move out of a certain range, make the systems most vulnerable to breakdown, fraud and abuse, egregious diseconomies, and the distortion of intended purpose. It is also helpful to know about those parameters that matter most when we try to upgrade a production system from mere adequacy to performance levels we might think of as "excellent." (See Part III on smart practices.)

  Another way to look at production models is through optimization lenses. Operations research models (e.g., queuing, inventory management, Markov processes) are relevant here.[7]

- *Evolutionary models,* constructed of three important subprocesses: variation among competitors, selection, and retention. Suppose, for instance, that, in an agency enforcing health-related standards in the workplace, the complaints disproportionately concerned visible and annoying problems which were not, however, as hazardous to worker health as less visible and annoying problems. In this case, the evolutionary model suggests several plausible intervention points. The agency might try to educate workers to detect and complain about more serious problems, and try thereby to swamp the less serious problems (thus changing the pool of "competitors"). It might start screening the complaints for their likelihood of being associated with more fruitful targets (thus changing the se-

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6. However, see chapter 9 on "generic policies" in Weimer and Vining, *Policy Analysis.* Also see Lester Salamon, ed., *Beyond Privatization: The Tools of Government Action* (Washington, D.C.: Urban Institute Press, 1989).
7. For a good, brief discussion, see Stokey and Zeckhauser, *A Primer,* and Andres G. Victorio, *Applied Models in Public Policy* (Manila: Ateneo de Manila University, 1995). Also see the models, particularly that of case management, in Stephen R. Rosenthal, *Managing Government Operations* (Boston: Little, Brown, 1982).

lection mechanism). Or it might attempt to persuade workers, and perhaps their union representatives, to reduce their propensity to complain about matters the agency wishes to hear less about (thus changing the "retention mechanism," workers' attitudes).[8]

Reduce and Simplify the List of Alternatives

The final list of alternatives—the one you include in your presentation to your client and other audiences—will almost certainly look quite different from the one you started with. Not only will you have thrown some out that just don't look very good, but you will also have done some work to *conceptualize* and *simplify* alternatives.

The key to conceptualization is to try to sum up the basic strategic thrust of an alternative in a simple sentence or even a phrase. This is difficult but usually worth the effort. It usually helps to use very plain, short phrases stripped of jargon. When the Environmental Protection Agency (EPA) was created, the first administrator confronted (a partial list of) alternatives that might have been described thus: "Let the states do the work; let the feds give them the money"; "Remove impediments to firms cooperating on antipollution research"; and "Sue the bastards" (meaning the large, visible polluting firms and industries, the prosecution of which would help build political support for the new agency).

The key to simplification is to distinguish between a basic alternative and its variants. The basic element in many policy alternatives is an intervention strategy, such as regulatory enforcement or a subsidy or a tax incentive, that causes people or institutions to change their conduct in some way.[9] But no intervention strategy can stand alone; it must be implemented by some agency or constellation of agencies (perhaps including nonprofit organizations), and it must have a source of financing. Usually the variants on the basic strategy are defined by different methods of implementation and different methods of financing.

The distinction between a basic strategy and variants based on implementation details is especially helpful when you have a lot of possible solutions to consider and you need to reduce the complexity involved in comparing them. Making

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8. For other ideas and an excellent discussion of the uses of models generally, see Charles A. Lave and James G. March, *An Introduction to Models in the Social Sciences* (New York: Harper and Row, 1975).

9. Often, though not always, the basic element is something like a smart practice, that is, an intervention strategy that attempts to take advantage of some qualitative opportunity to create valued change at relatively low cost and/or risk. See Part III, "'Smart (Best) Practices' Research."

the distinction puts you in a position to break your analysis into successive steps. In the first step you might compare three "basic" alternatives, say, while ignoring the details described by their "variants." Then, once you have decided on one of these "basic" alternatives, you would turn to comparing the variants. Here are two examples:

- You want to decrease the prevalence of heroin use in your county by 50 percent over the next five years. You consider three basic alternatives: methadone maintenance, law enforcement pressure, and drug education. Variants for each one have to do with the funding sources, in that state, federal, and county money can be used in different degrees (although not all mixes of funds available for one approach are also available for the other two). Variation is also possible according to who administers the program(s): nonprofit organizations, county employees, or state employees.
- You can also consider variants of scale and scope. You might wish to consider two possible sizes for your methadone program, for instance.

Design Problems

This handbook assumes throughout that you are working on a problem of policy choice. However, a special case of policy choice occurs when you wish to, or have to, *design* at least one policy alternative to put into the menu of possibilities. Perhaps you are just not satisfied with the menu of alternatives that people in the policy environment are already talking about. Or perhaps the problem you are dealing with is so new or unique that you will be the first, or even the only, person to oversee the needed design work.

Consider what is involved in designing a house, an office building, a living room, a dance production, a theater set, a fund-raising event, a political campaign, a graduate public policy curriculum, a nonprofit environmental education organization to operate on a national scale, or a profit-seeking organization to manufacture and market cyberwidgets in ten to twenty national markets. Clearly, design is a complex process, requiring many iterations, in which you both explore different ways to accomplish a certain set of objectives and alter the set of objectives in light of what you learn about what is actually practicable.

In some cases, the policy analyst works on the design problem more or less alone, like some brooding master architect. More likely she does her work in loose or tight conjunction with other policy professionals who bring different sorts of expertise (e.g., legal, engineering, fiscal) to the table, and who bring different viewpoints and priorities as well. In any case, sooner or later, the design

work will be held out for much more public view. Interested stakeholders, and perhaps the general public, who have previously been unaware of the design work going on seemingly behind the scenes, will see what you're up to. And they will make their comments. The comments—sometimes explicit, sometimes transmitted in body language or other code—will approximate these five types:

- "Great work. Keep it up; we're for it."
- "We're for it provided you make the following changes: . . . Otherwise, we're against it."
- "We're for it provided you don't cave in to those who will seek changes in . . ."
- "It's awful, 'dead-on-arrival.'"
- "We can hardly believe the undemocratic way in which you've excluded us, but we can be mollified if . . ."

You will want to use such reactions for two purposes: to improve your design according to criteria which you and your client think are important, including the criterion of political feasibility, and to respond in such a way as to increase the political support (and decrease the opposition) that come your way, now or later, on process grounds alone. I shall not discuss here the strategy and tactics involved in how to communicate with different audiences or the sequence in which to do so. I limit discussion to the question of just how *rough* or *polished* the design should be that you first subject to relatively public review and comment.

Not surprisingly, a middle ground is best. A very rough design may leave out important points, creating a sort of vacuum that outside interests will rush to fill on their own terms. You will then be forced onto the defensive, as you try to forestall the solution they have been first to suggest. Moreover, a very rough design might signal that the design work is at such a preliminary stage that it is not worth the trouble (or the risk of early-mover vulnerability) for any of the stakeholders to react at all. On the other hand, an overly polished design might signal stakeholders that you are not interested in consulting them. In that case, they might feel that they have no choice but to oppose your design more vehemently than they otherwise might have done—unless, of course, they conclude that they have no choice but to get onboard and negotiate for the best terms they can manage.

Assuming you put out a rough-but-not-too-rough design and elicit a range of fairly thoughtful opinion as a result, you will need ways to keep in touch with the variety of actors who now expect—and whom you may wish—to be part of an ongoing, if rather diffuse, design process. Keeping in touch implies a communications infrastructure (telephone, fax machine, e-mail), of course. It also

implies efforts on your part to develop the sort of network relationships that
permit rapid and reasonably trustworthy interpersonal communications.

A Linguistic Pitfall

Alternative does not necessarily signify that the policy options are mutually exclusive. Policy analysts use the term *alternative* ambiguously. Sometimes it means that choosing an alternative implies forgoing another, and sometimes it means simply one more policy action that might help solve or mitigate some problem, perhaps in conjunction with other alternatives. You should be aware of the ambiguity in other people's usage, and in telling your story (Step 8), you should be sure that no such ambiguity enters your own usage.

Sometimes you won't be entirely sure whether two alternatives are or are not mutually exclusive. For instance, the mayor might have promised enough money to either fix potholes or provide homeless shelters (but not both), but you may have made such a great case for both programs that the mayor might decide to increase the budgetary allocation.

4. Select the Criteria

It helps to think of any policy story (see Step 8) as having two interconnected but separable plot lines, the analytical and the evaluative. The first is all about facts and disinterested projections of consequences, while the second is all about value judgments. Ideally, all analytically sophisticated and open-minded persons can agree, more or less, on the rights and wrongs in the analytical plot and on the nature of its residual uncertainties. But this is not true with regard to the evaluative plot—where we expect subjectivity and social philosophy to cavort more freely. The analytical plot will reason about whether X, Y, or Z is likely to happen, but it is in the evaluative plot that we learn whether we think X or Y or Z good or bad for the world.

The step in the Eightfold Path called "Select the criteria" belongs to the evaluative plot line. It is the most important step for permitting values and philosophy to be brought into the policy analysis, because criteria are evaluative standards used to judge the goodness of the projected policy outcomes associated with each of the alternatives.

Apply Evaluative Criteria to Judging Outcomes, Not Alternatives

Please note that evaluative criteria are *not* used to judge the alternatives, or at least not directly. They are to be applied to the projected outcomes. It is easy to

get confused about this point—and to get the analysis very tangled as a result. This confusion is encouraged by a commonsense way of speaking: "Alternative A looks to be the best; therefore let's proceed with it." But this way of speaking ignores a very important step. The complete formulation is "Alternative A will very probably lead to outcome O_A, which we judge to be the best of the possible outcomes; therefore, we judge Alternative A to be the best." Applying criteria to the evaluation of outcomes and not of alternatives makes it possible to remember that we might like O_A a great deal even if, because we lack sufficient confidence that A would actually lead to O_A, we decide not to choose Alternative A after all. With that judgment on the table, it would be possible to look for other alternatives with a greater likelihood of producing O_A.

Criteria Selection Builds on Problem Definition—and Continues

Of course, the most important evaluative criterion is that the projected outcome will solve the policy problem to an acceptable degree. But this is only the beginning. After all, any course of action is likely to affect the world in many ways, some desired and some not. Each of those effects—or projected outcomes, to return to our Eightfold Path language—requires a judgment on our part as to whether and why it is thought desirable. Our set of criteria embodies such judgments. Because any significant impact cries out for such a judgment to be made, the greater the variety of significant impacts, the richer will be the set of evaluative criteria we will need to deal with them.

Evaluative Criteria Commonly Used in Policy Analysis

Efficiency. Typically, the efficiency criterion is the most important evaluative consideration in cost-effectiveness and cost-benefit studies. I use *efficiency* more or less as the term is used in economics, for maximizing the aggregate of individuals' welfare as *welfare* would be construed by the individuals themselves: in economic jargon, "Maximize the sum of individual utilities," or "Maximize net benefits."

Note that although *efficiency* has an antiseptic, technocratic, and elitist ring to it, the insistence here that *utility* is to be assessed according to individual citizens' construction of their own welfare is thoroughly democratic. Indeed, siding with efficiency—on average, across most policy issues and policy decisions—is a way to produce more humanistic policy results, too. The reason is not that efficiency is so very humane, but that policy decisions failing to consider efficiency very often fail to take account of the welfare of the little guy at all. The little guy may be little, but in a proper efficiency analysis, he at least shows up to be

counted. Efficiency analysis imposes a moral check (for whatever that is worth in the real world of politics) on political visionaries eager to relocate entire populations so as to make room for dams, and on special interests eager to impose seemingly small price increases on large numbers of consumers through protectionist measures in order to maintain the incomes of a relatively small number of producers.

We should observe, though, that from the point of view of social justice, the efficiency criterion might be somewhat limited. First, because analysts typically estimate people's "utility" by inferring their willingness to pay money for some benefit (or to be spared some deprivation), people with less money do not, in an analytical sense, have as much clout as those with more. Just how big a limitation this analytical anti-egalitarianism turns out to be will depend on particular cases, however. Second, if the values at stake have few or no human defenders, and therefore no human pocketbooks to back an estimate of willingness to pay, the efficiency criterion might underestimate these values even if by some conception of justice they ought to be weighted heavily. In theory, ecological values are the main example, although in fact some ecological values do have human defenders who derive enormous utility from preserving them, a utility that would be accounted for in a proper efficiency analysis.

Although cost-effectiveness (CE) analysis and benefit-cost (BC) analysis sound alike and are frequent traveling companions, they are not the same, and their uses can be quite different. True, both conceptualize a domain of benefits accruing to individual citizens valued in terms of their utility. And both construe the policy problem as involving some production relationship between resources and welfare-increasing outcomes. However, CE takes one or the other of these (either resources or outcomes) as fixed or targeted; the analysis then tries to find the best means to manipulate the other one (either maximizing the benefits given the level of assumed resources or minimizing the number of resources given the targeted outcome requirement). BC, on the other hand, allows both resources and outcomes to be treated as variable in scale. It is therefore more complicated than CE, for while both BC and CE concern themselves with the productive efficiency of the program or project, BC is additionally concerned with the program's scale.

CE analysis is much more common than BC analysis. Indeed, a surprisingly large number of policy issues can be simplified and stylized as CE problems, even though on the surface they may not appear to be likely candidates at all for this sort of treatment, for example:

- The Mudville mayor wishes to respond to business complaints that building permits "take forever" to obtain. The CE framework might suggest minimizing delay arising from purely procedural and bureaucratic sources, given that you can spend no more than $500 and are permitted

to change the work flow in the city planning office, but not personnel
assignments.
- Quake City must upgrade the seismic safety of several thousand buildings
  constructed of unreinforced masonry. You have a twenty-year time span
  and no immediate budget constraint, but you wish to accomplish the job
  with minimum disruption to the lives (and incomes) of the residents and
  small businesses that may be temporarily displaced by the building reno-
  vation process.

Equality, equity, fairness, "justice." There are, of course, a great many
different, and often opposed, ideas about what these terms do, or should, mean.
Not only ought you yourself to think hard about these ideas, but sometimes you
should also take your audience through some of that thinking.

- In California, drivers who do not carry liability insurance leave persons
  whom they injure in auto accidents at risk of being undercompensated.
  Many of those who "go bare" are relatively poor. Many other drivers pur-
  chase their own insurance against exactly this risk ("uninsured-motorist
  coverage"). A policy proposal to pay for all drivers' liability insurance out
  of a fund created by surcharges at the fuel pump was denounced by
  some observers as "inequitable" to the poor, who currently go bare of in-
  surance. Other observers said that those who go bare impose inequitable
  premium expenses or risks of undercompensation on the rest of society,
  including many individuals who are themselves poor or not very well off.
  Clearly the analyst needs to include a discussion of the idea of equity.
- The current debate over whether to retain affirmative action preferences
  in university admissions for African-Americans and certain other minori-
  ties is sometimes said to pit fairness to individuals against justice to social
  groups. This is odd, though, since some philosophers and most ordinary
  folk, too, suppose that no system claiming to be just could contain any
  features deemed unfair. Again, the analyst has a job to do in sorting out
  ideas and language.

Freedom, community, and other ideas. To stimulate thought, here is a (far
from complete) list with more ideas about evaluative criteria of possible relevance:
free markets, economic freedom, capitalism, "freedom from government control,"
equality of opportunity, equality of result, free speech, religious freedom, privacy,
safety (especially from chemicals, various environmental hazards, etc.), neighborli-
ness, community, sense of belonging, order, security, absence of fear, traditional

family structure, egalitarian family structure, empowerment of workers, maintenance of a viable nonprofit sector, voluntarism.

Weighting Conflicting Evaluative Criteria

As we saw in the case of defining the problem, when values are at issue, as they are in regard to criterion selection, too, we must reckon how to weight opposing values. There are two general approaches to this problem.

The political process takes care of it. One approach is simply to allow existing governmental and political processes to make the weighting. Typically, this approach will accord primacy to the analyst's employer or client, with derivative influence exercised by those parties in the relevant arena who are in turn important to the employer or client.

The analyst imposes a solution. A second approach is for the analyst himself or herself to modify—though not replace—the weighting accorded by the employer or client by reference to some overarching philosophical and political conception. The justification usually offered for this approach is that because certain interests, and perhaps philosophies, are typically "underrepresented" in government and politics, and because the analyst is in a better position than most other participants in the process to see or understand or appreciate this problem of underrepresentation, the analyst is duty-bound, or at least permitted, in the name of fairness and democracy, to right the balance.

For instance, some would argue that were it not for policy analysts, efficiency-related criteria would rarely be heeded and that as a consequence, analysts should in effect speak up for the taxpayers whose interests would be squeezed out by better organized advocacy groups. A related argument is sometimes made that certain conceptions of equity—in particular those having to do with the idea that the beneficiaries of publicly provided goods or services should pay for them—are underrepresented except among policy analysts. (This conception of equity normally excludes public expenditures deliberately intended to redistribute wealth among citizens.) Other interests that people sometimes claim are underrepresented and therefore need representation by analysts are future generations, children, people who live outside the jurisdiction making the decisions, ethnic and racial minorities, women, the poor, consumers, and animals and plants (ecological entities).

A variant of this approach introduces the idea of an educational process. Depending on circumstances, the analyst might encourage influential political parties—perhaps including the analyst's boss or principal client—to rethink their existing criteria in the light of facts or arguments the analyst can draw to their

attention. In this case the analyst is responsible for opening up a dialogue, and perhaps for trying to infuse it with reason and insight, but then allows the political process to take over.

Practical Criteria

Not all criteria that come into play in an analysis are part of the evaluative plot line. Some are purely practical and are part of the analytical plot line. These have to do with what happens to an alternative as it moves through the policy adoption and policy-implementation processes.[10] The main ones are legality, political acceptability, robustness under conditions of administrative implementation, and improvability.

Legality. A feasible policy must not violate constitutional, statutory, or common law rights. However, remember that legal rights are constantly changing and are often ambiguous. It is sometimes worth taking a gamble on a policy that might—or might not—be adjudged illegal when tested in court. (In such cases, advice of counsel is clearly in order to help craft the policy so that its survival chances are enhanced).

Note, however, that rights alleged to be natural or human are conceptually quite different from legal rights, despite the semantic similarity. Examples are abortion rights or right to life or a woman's right to her own body. Alleged natural or human "rights" are sometimes controversial in that some people would like to have them recognized as rights while others would oppose such recognition.

Political acceptability. A feasible policy must be politically acceptable, or at least not unacceptable. Political unacceptability is a combination of two things: too much opposition (which may be wide or intense or both) and/or too little support (which may be insufficiently broad or insufficiently intense or both).

Do not take a static view of unacceptability, however. Always ask yourself the question "If my favorite policy solution doesn't look acceptable under current conditions, what would it take to change those conditions?" You might discover that creative political strategizing can open up options that haven't been seriously considered before.

In assessing strategic limitations and possibilities, it will help to make use of various models of the political process. As I observed above, models are based on metaphors, and the ones that are likely to be most valuable in this case are these:

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10. I said above that criteria apply to outcomes and not to alternatives. However, this statement needs a slight amendment in the case of practical criteria. These criteria apply not to outcomes but to the *prospects* an alternative faces as it goes through the policy adoption and implementation process.

- A complex game in which well-organized and well-positioned minorities enjoy special advantages
- A theater, in which the actors are elected officials who strive, with or without a basis in reality, to create a good appearance—to themselves, to each other, to the critics, and to the audience (whose approval, ultimately, is all-important)
- A marketplace of slogans, symbols, and ideas, with a mix of honorable merchants and hucksters as sellers and a mix of sophisticates and innocents as buyers
- A school in which elected officials learn how to do good policy design work and sometimes share their results and their methods with their classmates.

How exactly is one to "make use" of such models? Think of them as conceptual lenses. Observe the relevant political process through each of them in turn, and identify the probable pitfalls and opportunities brought into focus by each.[11]

Robustness and improvability. Policy ideas that sound great in theory often fail under conditions of actual field implementation. The implementation process has a life of its own. It is acted out through large and inflexible administrative systems and is distorted by bureaucratic interests. Policies that emerge in practice can diverge, even substantially, from policies as designed and adopted. A policy alternative, therefore, should be robust enough so that even if the implementation process does not go very smoothly, the policy outcomes will still prove to be satisfactory.

Some adverse implementation outcomes usually worth worrying about are long delays; capture of program or policy benefits by a relatively undeserving and unintended constituency; excessive budgetary or administrative costs; scandal from fraud, waste, and abuse that undermines political support and embarrasses supporters; and administrative complexities that leave citizens (and program managers) uncertain as to what benefits are available or what regulations must be complied with.

Even the best policy planners cannot get all the details right at the design stage. They should therefore allow room for policy implementers to improve on the original design. The most common vehicle for such improvement is participation in the implementation process by individuals and groups whose expertise or point of view was not included in the design phase.

However, note that the openness that makes for improvability can also, by opening the door to hostile political interests, diminish robustness. Hence, a

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11. An analogous procedure was first given prominence by Graham Allison, in *Essence of Decision: Explaining the Cuban Missile Crisis* (Boston: Little, Brown, 1971).

very careful evaluation of the current factual situation—personalities, institutional demands and incentives, political vulnerabilities and so on—is usually in order.

In estimating robustness and improvability, models of bureaucracy can serve as useful conceptual lenses, as suggested above with regard to carrying out political analysis. I find the most useful metaphors about bureaucracy to be these, listed in no particular order:

- An automaton enacting preprogrammed routines ("standard operating procedures," or "SOPs")
- A person in an environment, driven by a will to survival, self-enhancement, and, under some conditions, self-actualization
- A political arena where individuals and factions jockey for influence over the organization's mission, access to its decision systems, and its prerequisites
- A tribe with its own rituals and an array of safeguards against contamination by "outsiders"
- A society of individuals cooperating towards a more-or-less common set of goals—though with various frictions and misunderstandings and some explicit and implicit bargaining over terms
- A structure of roles and interrelationships that are intended to complement one another in a rational division of labor
- An instrument used by "society" for "society's" own objectives.

Criteria in Optimization Models

Criteria such as efficiency, equity, political acceptability, and robustness are substantive. But we can think of criteria of a purely formal sort as well. For instance, we can distinguish between criterion values that we wish to *maximize*, those that must be *minimally satisfied*, and those for which "*more is better*."

It is helpful to focus initially on one primary criterion, a *principal objective to be maximized* (or minimized). Typically this principal objective will be the obverse side of your problem definition. For instance, if your problem is too many homeless families, then your principal objective would probably be to minimize the number of homeless families. If the problem is that the greenhouse effect is growing too rapidly, a good statement of a principal objective might be "Minimize growth of the greenhouse effect." Naturally, there are other criteria to judge outcomes by, such as costliness, political acceptability, and economic justice. These should all enter into the final evaluation. However, it is very likely that unless you focus—initially, at least—on a single primary criterion and array others around it, you will find yourself getting very confused. As you get deeper

into the analysis, and feel more comfortable with a multiplicity of important objectives, you may wish to drop your emphasis on a primary criterion and work on a more complex *objective function,* in the language of mathematical programming.

Linear programming. A mathematical (and now computer-accessible) technique for optimizing choice when you have a principal objective or an objective function and a scarce stock of resources for maximizing it is called *linear programming.*[12] Often, at least some of the resources (e.g., the agency budget and the available physical facilities promised by a nonprofit agency) are constrained. Even if the problem is not subject to simple quantitative assessment, analysts often find it useful to take advantage of the logical structure of linear programming to conceptualize their task. The conventional formulation then sounds like this: Maximize this objective (or objective function) subject to such-and-such resource constraints.

Here is an example from the homelessness problem: "Maximize the number of homeless individuals housed on any given night; subject to the constraints of $50,000 per night total budgetary cost to Agency X and to not putting shelters into Neighborhoods A and B for political reasons, and trying to give 'more' choice to the beneficiary population as to where they will take shelter."

Improving linguistic clarity. If it is possible to sort your criteria into those that refer to values to be maximized, values that stand as constraints, and values that have a more-is-better quality, keep the different statuses of the criteria in mind. Be conscious of them. You can do this with a simple verbal trick: As appropriate, define your criteria as "Maximize such-and-such value"; "Satisfy such-and-such value constraint"; and "Get more of such-and-such value."

5. Project the Outcomes

Now, for each of the alternatives on your current list, project all the outcomes (or impacts) that you or other interested parties might reasonably care about.

This is the hardest step in the Eightfold Path. Even veteran policy analysts do not usually do it very well. Not surprisingly, analysts often duck it entirely, disguising their omission by a variety of subterfuges. Hence, the most important advice about this step is simple: Do it.

There are (at least) three great practical as well as psychological difficulties. First, "policy" is about the future, not about the past or the present, but we can never really be certain about how the future will unfold, not even if we engage it with the best of intentions and the most thoughtful of policy designs. Second,

12. See Stokey and Zeckhauser, *A Primer,* chap. 11.

"Project the outcomes" is another way of saying, "Be realistic." Yet, realism is often uncomfortable. Most people prefer optimism. Policy can actually affect people's lives, fortunes, and sacred honor, for better or for worse. Making policy, therefore, imposes a moral burden that is heavier than many people care to acknowledge. Understandably, we would rather believe that our preferred or recommended policy alternative will actually accomplish what we hope and that it will impose fewer costs than we might realistically fear. Thirdly, there is what is sometimes called "the 51-49 principle." That is, in the thick of the policy fray, we are driven out of pure self-defense to treat 51 percent confidence in our projection as though it deserved 100 percent confidence, with the result that we sometimes mislead not only others but ourselves as well. The first difficulty—namely, that we can never have wholly convincing evidence about the future—compounds the second and third, inasmuch as our wishful thinking is not readily disciplined by reference to empirical demonstrations and proofs.

These cautionary notes notwithstanding, remember that we do not wish to swing toward pessimism either. Realistic projection is our goal.

Projection = Model + Evidence

In this section I discuss, in a very general way, the logic of combining models and evidence to produce useable projections of policy outcomes attached to the various alternatives being considered. The logic is largely that of common sense, but with some important additions.

The first addition is that of metaphor. Policy analysis, as we have seen, makes use of the metaphors behind the models—metaphors such as "bureaucracy as automation" and "politics as theater" and "this piece of the world as production system"—to yield qualitative insights about important causal relationships. The especially important relationships are those that might afford useful intervention points in complex systems and that present potential pitfalls in policy adoption or implementation processes.

Second, policy analysis uses social science to the degree that it can. A great deal of social science is directed towards answering the question "Is Model X of this piece of the world realistic?" Social scientific studies of this type can often be useful for diagnosing the existence of problems, mapping trends, and deciding whether some seemingly smart practice (see Part III) is worth trying to replicate. You should be careful, however, to avoid using the social scientific standard of adequacy for judgments about the realism of a model, which are quite conservative. In policy analysis the looser, but more appropriate, standard should be whether reliance on a model can lead to better results and avoid worse results, than less disciplined guesswork.

Third, policy analysis, as we have seen, uses multiple models. Most social science, in imitation of the hard sciences, looks for "the best" model (and, for some practitioners, "the true" model). Because all models abstract from reality, however, even the best models are never complete. While such abstraction can advance the progress of science, in the world of policy, where real consequences of policy choices are to be experienced by real people, no facet of a problem or the possible alternatives to be adopted can be exempted from analysis. Whatever models *can* be employed to illuminate some important facet of the problem or of the possible outcomes *should* be employed—even if doing so results in an inelegant and ad hoc multiplication of subanalyses.

When it comes to employing multiple models, common sense, unfortunately, is no more enthusiastic than social science. The public debate over whether, or how, to attack Microsoft's dominance in computer software, for instance, features the company as either a monopolistic rent-seeker or a powerful innovator and promoter of standardization, whereas it is clearly all these at the same time.

Finally, even when you have embarked on using adequately realistic models of sufficient number and variety, they still need to be used in conjunction with evidence about "initial conditions," or the facts on the ground as they currently exist. Although the projections of many models are not particularly sensitive to initial conditions, some are. These are the models that bear on projections of political acceptability and on the robustness of an alternative to the stresses of the implementation process.

Attach Magnitude Estimates

Projecting outcomes often requires you to think not just about the general direction of an outcome but about the magnitude as well. Typically it's not enough to say, "We expect this program to have a very positive effect on reducing unwanted teenage pregnancies." Instead, you'd want to say, "We expect this program to reduce by one-hundred to three-hundred the number of unwanted teenage pregnancies per year in this community over the next five years."

Sometimes a point estimate of your single best guess about some magnitude will suffice. But in some cases you should provide a range.

Break-Even Estimates

A convenient way to handle uncertainty in estimation is with *break-even estima- tions.* These use what you do know or can reasonably assume in order to *frame the residual uncertainty* in a way that is meaningful for decision making. Break-even analysis takes advantage of the binary accept-or-reject logical framework that

decision makers generally use. It is this framework that helps structure the estimation of residual uncertainties.

Suppose, for instance, that some youth-guidance-oriented policy meant to reduce incarceration of juveniles is under consideration and has known costs of $1 million, but the level of effectiveness is speculative. You build a frame for the remaining uncertainty in four steps:

1. Locate the point of minimum acceptable effectiveness given the costs. Ask, "What is the minimum level of effectiveness this policy would have to achieve in order to justify our spending $1 million?" Your answer: "Different observers have different opinions about how much avoiding an incarceration is worth, but leaving that aside and going with my own values, I'd say that three-hundred a year, or a 15 percent reduction, is the minimum I would accept given the expenditure of $1 million."[13]

2. Referring back to your model of the processes that create the problem and hold it in place, ask, "What new processes, or changes in old ones, could conceivably produce this level of effectiveness?" This is largely a qualitative analysis. The answer might be "Based on previous documentation of how the guidance process works, we can safely say that it works in different ways with different sorts of kids—when it works at all, that is. It can provide about half the kids more constructive life choices; in about a quarter of the cases it works through heightening the (realistic) perception of punishment; and in about a quarter of cases we are just crossing our fingers."

3. You estimate how likely (or unlikely) it is that the processes for improvement thus identified will actually produce the required—that is, the break-even—level of effectiveness. It is particularly helpful to ask whether the break-even level (15 percent in this case) looks like a plausible number given what is known or assumed about the effectiveness in similar circumstances of similar sorts of interventions. If the number is implausibly high, you might then go on to ask whether special circumstances of some sort might be at work in this case to help achieve it. Note that in this and the previous step you must rely on what we might think of as "theory," or self-conscious and evidence-based reasoning about the way causal processes work. Typically, these are the weakest links in the chain of policy-analytic reasoning. That is why it is particularly important—and

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13. Some people speak of *switchpoint analysis* and would refer to the 15 percent here as the switchpoint at which a decision maker would switch from a favorable view of this policy to an unfavorable view or vice versa. Others refer to *threshold analysis* and would call the 15 percent figure the threshold level of effectiveness we would need to assume in order to justify choosing this alternative.

particularly difficult—to take this step as thoughtfully, self-critically, and responsibly as possible.

4. Estimate the probability of failure and the political and other costs of having to accept failure—asking yourself whether they would be tolerable should they be incurred.

Here are two more examples:

- Policy X for establishing a chain of wildlife refuges looks like an excellent choice to implement a broader conservation agenda, provided the funding really comes through as planned. But it might not, because federal grant-in-aid resources might not be forthcoming, or the governor might give the policy lower priority than she now promises, or some development interests that have their eye on two of the designated sites might find a way to block it. You interview your client, a state environmental agency director, and determine that she likes the program so much that she is willing to go for it if it has at least a 50-50 chance of working out. Your analysis can then focus her attention on why, after considerable research, you have concluded that it has a somewhat better (or somewhat worse) chance than 50-50, even though you would find it impossible to specify exactly how much better (or worse).

- Building a new stadium for the Hometown Heroes looks like a good idea, given the nature of the costs and benefits, if average daily attendance turns out to be no less than 10,000. That's the break-even attendance figure for you and the relevant decision makers. Then it's up to them to decide (1) how confident they are that this break-even level will be reached and (2) whether that degree of confidence is enough to warrant making an affirmative decision. You would then organize your presentation of facts and opinions so that it focuses on these two key issues.[14]

Here is a semantic suggestion for making use of the logic of break-even analysis. Assuming for the moment that benefits are uncertain while costs are not, ask yourself these two questions: (1) "Given what I know for sure about the

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14. A special case of break-even estimation is a fortiori estimation. If you hypothesize worst-case estimates of all important parameters that are still uncertain and the policy alternative still satisfies your decision criterion, the alternative will, a fortiori, prove satisfactory even if more careful estimates were to be more favorable. In that case, the more careful estimates are unnecessary. See MacRae and Whittington, *Expert Advice,* 218–19, on a fortiori analysis and, more generally, 209–24 on the question of precision versus approximation in projecting outcomes.

costs of this alternative, what is the minimum help we need to get from Condition X to ensure adequately offsetting benefits?" and (2) "How reasonable is it to believe that Condition X will actually produce that minimum?" Question 1 can also be framed in terms of known benefits and the conditions that would yield minimally acceptable costs.

The Optimism Problem

Great ventures require optimism. Because even small ventures by government can affect so many lives, they are in their own way "great." Hence, a little optimism is beneficial. But how do you guard against excessive optimism?

Scenario writing. What scenarios might cause the proposal to fail to produce the desired outcome (e.g., solving or sufficiently mitigating the policy problems)? Do not create such scenarios from whole cloth. Be realistic. And yet, let your imagination run a little, so that you have a good chance of thinking of the most dangerous possibilities. In particular, think about the dangers of the implementation process, political and otherwise. Scenario writing also benefits from thinking about possible failures from a vantage point in the future looking backward. For instance:

- In a health or safety regulatory program, the scientific or technical knowledge necessary to produce rational and legally defensible standards might prove to be lacking. As a result, five years from now, symbolic politics, corruption, industry capture, or excessive regulatory zeal will have filled the vacuum.
- Time passes, and budgetary resources and political support that were once available slip away under the impact of electoral change and changes in the economy. The program, begun under nurturant leaders and accompanied by editorialists' applause, becomes consolidated with another program, will have been taken over by a different bureaucratic unit, and eventually disappears.
- A successful state program designed to furnish technical assistance to extremely poor rural counties will have added a mandate to aid many not-so-poor urban counties, with the result that scarce program resources will have been dissipated and squandered.[15]
- A program that subsidizes research and development of "fish protein concentrate," intended as a cheap and nutritious food additive, is launched with great fanfare. Five years from now it will prove to have been stalled,

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15. I call this scenario *piling on.* See Eugene Bardach, *The Implementation Game: What Happens after a Bill Becomes a Law* (Cambridge, Mass.: MIT Press, 1977).

permanently, by the Food and Drug Administration, which will not have been able to assimilate this product into its standard operating procedures for regulatory review.

Notice that these scenarios are written in the future perfect tense. This encourages concreteness, which is a helpful stimulant to the imagination.[16] It often helps your scenario-writing to start with a list of adverse implementation outcomes and to conjure up one or more scenarios about how each of these might occur. Remember the list above of such outcomes: long delays; "capture" of program or policy benefits by a relatively undeserving and unintended constituency; excessive budgetary or administrative costs; scandal from fraud, waste, and abuse that undermines political support and embarrasses supporters; and administrative complexities that leave citizens (and program managers) uncertain as to what benefits are available or what regulations must be complied with.

The other-guy's-shoes heuristic. Imagine yourself in the other guy's shoes. Say to yourself, "If I were X, how would I act?" And then proceed to crawl into X's mind and play out, in your own mind, what X might do. Do this systematically for each of the important stakeholders or other affected parties. The value of doing this is that you will discover them to be adapting in surprising ways to the new policy situation you might be creating, and with results that might cause trouble for your policy design.

For example, under chemical right-to-know laws, workers have the right to know what substances they have been exposed to, and they may examine health records maintained by employers. If you were a worker, how might you use this law? Might you use the information to quit your present job? Demand a higher wage? Demand protective equipment? Sue your employer? Put pressure on your union representatives?

And how would your union representative react to such pressure? Might this pressure make the representative's job harder—or perhaps easier in some way?

Now, suppose you were an employer. Given what you expect your workers might do, you would face incentives to make adaptations or countermoves. Might you stop keeping all health records not explicitly required by law? Might you continue keeping records but permit doctors to perform only selected lab tests? And if you were a worker and saw your employer doing these things, what countermoves would you make?

Not all the moves and countermoves of players wearing the other guy's shoes will necessarily lead to trouble for the policy alternative you are evaluating. Many such adaptation sequences may prove to be helpful, in the sense that they may

16. For more details, see Karl E. Weick, *The Social Psychology of Organizing*, 2d ed. (Reading, Mass.: Addison-Wesley, 1979), 195–200.

help society adjust to the changes set in motion by the new policy. At some point in the 1970s the Federal Trade Commission (FTC) attacked the problem of retailers' evading implied warranty obligations for defective products by selling installment debts to banks and other collectors that had no duty, under the so-called holder-in-due-course doctrine, to fix the product or to refrain from collecting on the installment debt. The FTC solution was, in effect, to abolish the protections of the holder-in-due-course doctrine. Banks complained that they did not want to go into the toaster repair business. But if you put yourself in the shoes of a bank manager suddenly obliged to become a toaster repairer, might you not have thought of contracting out your repair obligations to repair specialists, or perhaps arranging, for example, not to buy installment debts from retailers who you believed could not be relied upon to make good on their implied warranties?

Undesirable side effects. Analysts are often cautioned to think about *unanticipated consequences*. But this term is not appropriate, for it is often used to refer to perfectly anticipatable, though undesirable, side effects. Here are some common undesirable but anticipatable side effects in public programs:

- *Moral hazard* increases. That is, your policy has the effect of insulating people from the consequences of their actions. For example, increasing the size of unemployment benefits has the side effect of blunting the incentives to search for a replacement job.
- *Overregulation in the health and safety areas.* One possible adverse result of setting health or safety standards "too high" and enforcing them "too uniformly" is that you increase private sector costs beyond some desirable optimum. For instance, given most people's private preferences for safety, imposing auto bumper standards that cost some $25 per vehicle but that have only trivial effects on improving vehicle crashworthiness would not pass a conventional benefit-cost test. A second adverse result might be that you inadvertently cause a shift away from the regulated activity into some other activity that—perversely—is less safe or less healthful. For instance, some observers argue that overregulating the safety features of nuclear power production has caused a shift toward coal, which they argue is much more hazardous than nuclear power.
- *Rent seekers*—that is, interests looking out for profitable niches protected from full competition—distort the program to serve their own interests. It is not inevitable that suppliers of goods and services to the government, including civil servants, will find ways to capture "rents." But it often happens (e.g., with many defense contractors). Rent seeking also occurs in less obvious ways (e.g., when some regulated firms successfully lobby for regulations that impose much higher compliance costs on their competitors than on themselves).

The ethical costs of optimism. It is hard to overstate the importance of worrying about the possible adverse side effects of otherwise "good" policies, not to mention the possibility that even intended "good" main effects may fail to materialize under many circumstances.[17] The ethical policy analyst always poses the question, "If people actually were to follow my advice, what might be the costs of my having been wrong, and who would have to bear them?" And keep in mind that the analyst typically is *not* one of the parties who have to bear the costs of his or her mistakes.

The Outcomes Matrix

The step of projecting outcomes leads you into a dense thicket of information. You will not want to present or discuss all of it in your final report. But at any point along the way you might need to be able to stand back and assess complex and uncertain scenarios for up to eight or ten basic alternatives combined with their principal variants. A convenient way to get an overview of all this information is to display it in an outcomes matrix. A smaller version of such a matrix might also prove useful in your final report.

The typical outcome matrix format arrays your policy alternatives down the rows and your evaluative criteria across the columns. Any cell, then, contains the projected outcome of the row alternative as assessed by reference to the column criterion. Table I.I (p. 36) is an example I created a few years ago in order to compare projected outcomes for three alternative systems to periodically inspect California's 10 million automobiles for smog control compliance. In this example, Baker, Smith, and Jones, analysts working for three different government agencies and with somewhat opposed policy views, are making rather different projections of outcomes for each of these alternatives. I record their rival projections in the cells where they differed.

The smog check system involved biennial inspection at the time of vehicle reregistration in any one of several thousand approved service stations. IM 240 would have required biennial inspection using more sophisticated testing machinery at any one of many fewer centralized and specialized testing facilities. Remote sensing was an emerging technology that would simply monitor cars from roadside vans and initiate enforcement measures against those determined to be out of compliance.[18]

If you cannot fill in the cell with a quantitatively expressed description of

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17. See the Behn and Vaupel chapter on "Assessing Your Ignorance" in *Quick Analysis*.
18. For other examples, see Tables 9–4, 9–5, 9–8, and 9–9 in Stokey and Zeckhauser, *A Primer*. See also the discussion in Weimer and Vining, *Policy Analysis*, 282–89, and their sample matrices on 285–313.

TABLE 1.1.   OUTCOMES PROJECTED BY THREE DIFFERENT ANALYSTS
             FOR THREE ALTERNATIVE FLEET INSPECTION SYSTEMS

	Criteria			
Alternatives	Come closer to needed cleanup (percentage attained)	Minimize cost pet ton of pollution reduced ($)	Minimize consumer time (minutes)	Reduce rest cost to vehicle owner ($)
IM 240	Baker: 100 Smith: 0	Baker: <SC* Smith: Millions	Jones: 60 Smith: >60	Jones: <SC* Baker: >SC*
Modified smog check	Baker: 50 Smith: 0	Baker: Thou- sands Smith: Millions	Jones: 75 Smith: 75	Smith: 35
Remote sensing	Baker: 0 Smith: 100	Baker: Millions Smith: 200	Consensus: 0 for most drivers	Consensus: 0 for most owners

SC = smog check.

the projected outcome, you might settle for a verbal descriptor like "very good" or a symbolic descriptor like + or −.

Linguistic Pitfalls

A common error that occurs in labeling the criteria columns in such a matrix is to fail to indicate what *value* is at stake and in what dimensions the measurement is being done. For instance, if you are assessing a rental subsidy program, and you enter a plus sign in a column labeled "Landlord/tenant relations," the reader may not know whether you think relations will become more harmonious, more confrontational, less dominated by landlords, less dominated by tenants, or something else. It is not sufficient that your surrounding text makes your intention clear; the matrix label itself must be informative. In my illustrative matrix I did not simply write *cleanup* or *cost* or *time*. Within the space constraints I tried to indicate the metric and the desired direction in which it should move. In many cases it helps to insert *maximize* or *minimize* in the criterion label.

You can simplify the mass of information you need to display and assimilate in your outcome matrix or in any other form if you eliminate information about outcomes that will be the same for all the alternatives. This omission is particularly useful if the outcomes that all the alternatives will produce are ambiguous or

uncertain: you will be spared the trouble of having to make the difficult projections involved.

6. Confront the Trade-offs

It sometimes happens that one of the policy alternatives under consideration is expected to produce a better outcome than any of the other alternatives with regard to every single evaluative criterion. In that case there are no trade-offs among the alternatives. This is called *dominance*. Usually, though, you are less fortunate, and you must clarify the trade-offs between outcomes associated with different policy options for the sake of your client and/or audience.

The most common trade-off is between money and a good or service received by some proportion of the citizenry, such as extending library hours from 8 P.M. till 10 P.M. weighed against a cost of $200,000 annually. Another common trade-off, especially in regulatory policies, involves weighing privately borne costs (a company's installing pollution abatement equipment) against social benefits (improved health and the protection of forests).

As economics teaches us, trade-offs occur at the margin. Trade-off analysis tells us something like this: If we spend an extra X dollars for an extra unit of Service Y, we can get an extra Z units of good outcome. This kind of analysis puts the decision maker in the position to answer the question "Does society (or do you) value Z more or less than X?" and then to follow the obvious implication of the answer ("If yes, decide for another Y; if no, don't").

A linguistic device to help you keep focused on the margin is frequent use of the word *extra*. Note that this word appears three times in the example analysis in the preceding paragraph.

Some units of Service Y can be purchased only in "lumps" larger than one—sometimes much larger. Consider transportation services provided by highways and bridges. Y might be one passenger trip from A to B, but most transportation construction projects (highway enlargements, new bridge crossings) can be undertaken only for minimum bundles of Y that run into the thousands of trips. Or suppose that a police chief must choose one of two "lumpy" alternatives, such as $1 million per year for more overtime on the night shift or $250,000 (annualized) for more rapid replacement of police cars. The first alternative is lumpy because the police union insists on a minimum overtime rate for all 150 officers on the shift, and the second is lumpy because the auto supplier charges much less per vehicle after some threshold number of vehicles. If, say, the projected decrease in burglaries from increased overtime were 200 per year and that from newer vehicles were 50, the trade-off confronting the decision maker at the margin is an extra $5,000 per extra burglary prevented. In this case the "margin" is a lumpy

150 burglaries and $750,000. (Criteria other than burglary prevention and cost efficiency would, of course, be relevant to this problem.)

Commensurability

Suppose some Alternative A_1 stacks up very well on Criterion C_1, moderately well on C_2 and poorly on C_3. And suppose that A_2 stacks up in the opposite way. We can choose between the two alternatives only if we can weight the importance of the criteria and if we can express their relative weights in units that are commensurable across the criteria. As you may have heard, money as the commensurable metric is everybody's favorite candidate. Using money as the metric is a very good idea, and it often works much better than one might imagine. For instance, even the "value of life" can sometimes be reasonably well described in the metric "willingness to pay X dollars for a reduction in the risk of death by Y percent a year" or something like it.

However, there are limits to the money metric and to commensurability as well. In order to reach a summary judgment as to how much political equality to give up in a political redistricting case, for instance, in exchange for how much more African-American voter power, it seems impossible even to state the trade-off in meaningful terms. In general, this problem is known as *the multiattribute problem*. In some deep sense it is logically insoluble, although some heuristics are available to help trim it down to its minimally irreducible size.[19]

Break-even analysis revisited. We have seen how break-even analysis can help you (1) focus on which residual uncertainties you have to estimate and (2) frame the terms in which that estimate must be given ("We have to believe Alternative A_1 will produce at least X results in order to justify choosing it"). We turn now to how break-even analysis can also help solve commensurability problems.

Consider those policy areas, such as safety regulation, where we are often implicitly trading off dollars against risks to life. It might be supposed that in order to assess these proposals you would have to "decide what a human life is really worth"— a task many of us, quite understandably, are unwilling to perform. The task is made somewhat more tractable, however, if you work with quantitative estimates and apply break-even analysis. Suppose, for instance, you are considering

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19. Stokey and Zeckhauser, *A Primer*, 117–33. See also MacRae and Whittington, *Expert Advice*, 201–3. One potentially misleading heuristic has the analyst creating a score for each alternative with respect to each criterion and then manipulating the scores arithmetically. It is easy to get the arithmetic right, but it is often hard to come up with scoring procedures that are not at some level arbitrary (e.g., anchored against some arbitrarily defined level of excellence or its opposite).

whether or not to impose a new auto design standard on the industry that will improve safety and save an estimated twenty-five lives per year every year into the indefinite future. The cost of meeting the standard is estimated at $50 million every year indefinitely. The trade-off at the margin appears to be, therefore, "$2 million per life." But you don't have to answer the question "What's a human life *really worth?*" in order to make at least some sense of this decision. You do have to answer the question, "Is a statistical life (that is, the life of an unknown individual 'drawn' in a random manner from some population, rather than a named person's life) worth at least $2 million?" That is a break-even analysis sort of question. For reasons best known to yourself, it may be obvious to you that a *statistical* life surely is—or isn't. And while it's *very difficult to decide whether* the worth of a statistical life falls on one or the other side of some monetary boundary, it's a lot less difficult than coming up with a point value.

Even this sort of trade-off calculation is troubling to many people, and some find it morally repugnant. Unfortunately, repugnant or not, it is in a sense inevitable. Whatever position you take on the auto safety design standard described, you are by implication also taking a position on the dollars/risk-to-life trade-off: if you favor the standard, you implicitly believe the trade-off is worthwhile, whereas if you oppose it, you don't. Fortunately, this logical implication has its uses. You may in many circumstances quite sensibly prefer to rely on your "intuition" rather than on some complicated systematic method. Once you have reached your conclusion based on intuition, though, you can *check* your intuition by asking yourself, "Since the implication of my policy choice is that I value X as being worth at least (or at most) thus-and-such, do I really believe that?"

Without Projecting Outcomes, There's Nothing to Trade Off

A common pitfall in confronting trade-offs is to think and speak of the trade-offs as being across *alternatives* rather than across projected *outcomes* (e.g., "trading off twenty foot-patrol police officers in the late night hours against a lower-maintenance-cost fleet of police vehicles"). Although there is such a trade-off, you'll see, with a second's thought, that you can't do anything at all with it. Both alternatives must first be converted into outcomes before genuine trade-offs can be confronted. Thus, the competing outcomes might be fifty (plus or minus . . .) burglaries per year prevented by the police versus a savings of $300,000 in fleet maintenance.

Simplify the Comparison Process

Do what you can to simplify the process of comparing alternatives and focusing on the critical tradeoffs.

Eliminate. First, eliminate any alternative that is clearly dominated by at least one other alternative. Secondly, look for alternatives that *would* be dominated if you weighted one criterion (or more) rather less heavily than most of the other criteria. Upon reflection, you might decide that this criterion (and possibly others as well) *should* be weighted this low, and that these alternatives too can be dropped from further consideration.

Pay special attention to the alternative of simply letting present trends continue. If it has not been dropped by this point in the analysis, now is the time to check if it is sufficiently dominated by other alternatives to justify discarding it.

Compare to a base case. Even if you drop "letting present trends continue" as a reasonable alternative, you might still want to retain the *set of outcomes* that you project for it as a *benchmark* against which to compare other sets of projected outcomes. Such a benchmark set is often called a *base case*. Using a base case as a benchmark is helpful almost apart from what it is. You may wish to use other projections as base cases besides—or in addition to—"letting present trends continue." Other possibly illuminating base cases are:

"The likely outcome if we don't manage to head off what the Governor's office [or some other powerful faction] is planning . . ."

"Our ideal set of outcomes if political conditions were just a bit more favorable . . ."

"The worst-case scenario which we have to prevent practically at any cost . . ."

If you decide to use a base case as a benchmark, you should probably *make another outcomes* matrix in which each cell entry appraises the projected outcome against its projected base case counterpart. Of course, you may wish to construct your original outcomes matrix in this fashion to begin with.

7. Decide!

The "Decide!" step appears in the Eightfold Path as a check on how well you have done your work up to this point. Even though you personally may not be the decision maker, you should at this point pretend that you are. Then, decide what to do based on your own analysis. If you find this decision difficult or troublesome, perhaps the reason is that you have not clarified the trade-offs sufficiently, or that you have not said quite enough about the probability of serious implementation problems emerging (or not emerging), or that a crucial cost estimate is still too fuzzy and uncertain, or that you have not approximated carefully enough the elasticity of some important demand curve, and so on.

Think of it this way: Unless you can convince *yourself* of the plausibility of some course of action, you probably won't be able to convince your client—and rightly so.

Of course, when you tell your story to your client or any other audience, you might not think it appropriate to make reference to your own decision. You might, instead, simply limit your story to a clarification of the relevant trade-offs and leave the decision completely up to the audience.

The Twenty-Dollar-Bill Test

You should at this point subject your favored policy alternative to *the twenty-dollar bill test*. The name of the test is based on an old joke making fun of economists. Two friends are walking down the street when one stops to pick something up. "What about that—a twenty-dollar bill!" he says. "Couldn't be," says the other, an economist. "If it were, somebody would have picked it up already." The analogy is this: *If your favorite policy alternative is such a great idea, how come it's not happening already?* The most common sources of failure on this test are neglecting to consider the resistance of bureaucratic and other stakeholders in the status quo, and the lack of an entrepreneur in the relevant policy environment who has the incentives to pick up what seems like a great idea and see it through. Failure on this test is not fatal, of course. Just keep fiddling till you invent a variant of your basic idea that will pass.

8. Tell Your Story

After many iterations of all the above steps—redefining your problem, reconceptualizing your alternatives, reconsidering your criteria, reassessing your projections, reevaluating the trade-offs—you are ready to tell your story to some audience. The audience might be your client, or it might be broader. It might be hostile, or it might be friendly.

The New York Taxi Driver Test

Before proceeding further, you need a little reality check. Suppose you have just caught a cab in New York City. While you are stalled in traffic, the cabbie asks you about your work. You say you are a "policy analyst working for . . ." He says, "What's that?" You explain that you've been working on "the problem of . . ." He says, "So, what's the answer?" You have one minute to offer a coherent, down-to-earth explanation before he starts accusing you of being a pointy-headed

intellectual or worse. If you feel yourself starting to hem and haw, you haven't really understood your own conclusions at a deep enough level to make sense to others, and probably not to yourself either. Back to the drawing board until you get it straight.

Now consider the possibility that someone might actually wish to base a real decision or a policy proposal on your analysis. (It's been known to happen.) Even if you, as an analyst, would not have to deal directly with such a tough audience as the New York taxi driver and his kindred, it's likely that someone will have to do so. At the very least, therefore, you'll have to be able to explain your basic story to someone in sufficiently simple and down-to-earth terms that that someone will be able to carry on with the task of public, democratic education.

You, Your Client, and Your Audiences

Assuming you've passed the New York taxi driver test, identify and assess the likely non-taxi-driver audience(s).

First comes your client, the person or persons whose approval you need most—your hierarchical superior(s), perhaps, or those who are funding your work. What is the relationship between your and your client? What you say and how you say it should depend a great deal on whether your relationship is long-term and on whether it is carried on face-to-face. In particular, how easy will it be for you to correct any misunderstandings that might arise?

Next, think about the larger political environment. Who do you think will "use" the analysis and for what purpose(s)? Will anyone pick up your results for use in an advocacy context? Would you regard this use of your results as desirable? Desirable if certain advocares use your work and undesirable if others do so? Do you want to do anything to "segregate" your policy advice by the type of audience you might want it to reach—or not to reach? Are you, perhaps inadvertently, using scare words that will alienate certain audiences?

If you are making a clear recommendation, make sure you raise and rebut possible objections to it that various important audiences might think of. Also make sure that you compare it to what you or others might regard as the next best course of action, to show why yours is better.

What Medium to Use?

You can tell your story in written or in oral form. In either case, communicate simply and clearly. The guiding principle is that other things being equal, shorter is always better. In written presentations, good subheadings and graphics can make reading and comprehension easier. Visual aids such as flip charts, overhead

transparencies, and computer-based slide projections often help in oral presentations.

Oral presentations require practice, self-discipline, and a little knowledge of some basic principles. The most basic of the basic principles are to speak *very slowly and distinctly;* to speak loudly enough to be heard throughout the room, even over distracting noises; to speak in a lower register, which tends to increase perceived trustworthiness and credibility; not to fidget but not to stand like a stick either; to make lots of eye contact with audience members; and in doing so not to favor one side of the room over another. Speaking slowly and distinctly is probably harder than you think—and more important, too.

Your Story Should Have a Logical Narrative Flow

Your story's flow should be designed with the reader's (or listener's) needs and interests and abilities in mind. In both written and oral presentations, it should be evident to the audience what motivates the entire analysis. Therefore it is best to open with a statement of the problem your analysis addresses.[20]

It is also important to motivate the more detailed steps in the flow of the analysis, that is, the sections, paragraphs, and sentences. Most readers will look for the motivation of any element in what immediately precedes it. Therefore, avoid lengthy digressions. For these reasons, be wary of sections you are tempted to label "Background." Similarly, the phrase "Before turning to . . ." is usually a sign of undigested material. Many readers will be alert to the danger signs; therefore you should be, too. The same holds for "It is first necessary to explain/ understand the history of . . ." Policy analysis, remember, is about the future. Perhaps surprisingly, it is often not obvious how, or whether, history affects the future. It might do so, but the burden should be on the writer or speaker to show exactly how this effect will come about.

A common, though not uniformly applicable, organizing framework is to begin with a good problem definition and then to treat each alternative you consider as a major section. Within each such section, you would project the probable outcome(s) of implementing the alternative and assess how likely such outcome(s) are in the light of some causal model and associated evidence. Following these discussions, you might review and summarize the alternative outcomes and discuss their trade-offs. Note that in this framework there is no special discussion of criteria. However, sometimes an explicit discussion of criteria is

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20. An unusually fine manual on how to give slide-based oral briefings is published by the RAND Corporation, *Guidelines for Preparing RAND Briefings* (Santa Monica, Calif.: RAND Corporation, 1994), publication no. CP(I)-269.

important; it might appear either just before or just after the presentation of the alternatives and their associated outcomes.

Some Common Pitfalls

Following the Eightfold Path. Sometimes it helps to structure your narrative flow as though you were leading the reader by the hand down the Eightfold Path. But usually this approach is a mistake. The purpose of the Eightfold Path, remember, is to help you *think through* a complicated problem. It is not at all necessary to use it in telling the story, though some aspects of it sometimes help.

Compulsive qualifying. Don't interrupt the flow of an argument in order to display all the qualifications and uncertainties about some particular element in the argument. A way around this pitfall is to use adjectives or adjective phrases like *most, on average,* and *more often than not* to state the generality, and then to return to the exceptions in the next section. (Or if the exceptions and qualifications really can't wait, try a parenthesized sentence or a footnote.)

Showing your work. Don't include every fact you ever learned in the course of your research. Even if you've done a good and thorough job of research and analysis, most of what you learned will prove to be irrelevant by the time you've finished. That is, you will have succeeded in focusing your own attention on what's really important and in downplaying what only appeared important at the beginning. You don't usually need to take your reader on the same wandering course you were obliged to follow.

Listing without explaining. Should you list every alternative policy that you intend to analyze in the report before you actually get around to providing the analysis? Such a list is a good thing when the alternatives are not numerous, when they are all taken seriously either by you or by your audience, and when they will prepare the reader's mind for the detailed assessment that will follow. However, if you have many alternatives to consider, the reader will forget what's on the list, and if some of the alternatives turn out to be easily dismissed upon closer scrutiny, you'll simply have been setting up straw men and wasting the reader's mental energy.

Similarly, be cautious about listing every evaluative criterion of interest before coming to the assessment of the alternatives being considered. Usually—though not always—there is not much of interest to be said in a separate section about criteria that can't be better said when you're actually writing the assessment sections.

Style. Avoid the pomposity and circumlocutions of the bureaucratic and the academic styles. (Essential reading: George Orwell, *Politics and the English Language.*) Also to be avoided: a chatty style, and an insider's style (e.g., "We all understand what creeps our opponents are, don't we?").

Report Format

Unless the report is short, begin with an executive summary.

If the report is over fifteen to twenty pages, say, a table of contents is often helpful. If there are many tables and figures, either in the text or in the appendixes, a table of contents for these can be helpful. Detailed technical information or calculations should appear in appendixes rather than in the text. However, enough technical information, and reasoning, should appear in the text itself to persuade the reader that you really do know what you're talking about and that your argument is at least credible.

Use headings and subheadings to help keep the reader oriented and to break up large bodies of text; make sure your formatting (caps, italics, boldface, indentation) is compatible with, and indeed supports, the logical hierarchy of your argument.

Table format. Current professional practice is very poor with respect to the formatting of tables. Do not imitate it, but strive to improve it. Every table (or figure) should have a number (Table 1, for instance, or Figure 3.A) and a title. The title should be intelligible; it is often useful to have the title describe the main point to be learned from the table (e.g., "Actual Risks of Drinking and Driving Rise Rapidly with Number of Drinks—But Are Greatly Underestimated by College Students"). Each row and column in a table must be labeled, and the label should be interpretable without too much difficulty.

Tables normally either are purely descriptive or seek to demonstrate some causal relationship. Regarding the latter, it is usually desirable to create tables that make a single point (or at most two), and that can stand alone without need of much explanation in the text that surrounds them. It is usually better to use two or three small tables to make two or three points than to use one massive table and then to try to explain its contents by means of the surrounding text.

Tables usually require footnotes. There should almost always be a source note at the bottom of the table. The footnotes sometimes refer to data sources used to make the table and sometimes attempt to clarify the meaning of the row or column labels, which are necessarily abbreviated.

References and sources. Include page(s) listing references and sources at the end of the presentation. Books and articles should be cited in academic style (alphabetical order by author). The main point is to provide bibliographic help to curious and/or skeptical readers who want to track down references for themselves. There are several acceptable styles, though a good model is the one used in the book review section of the *Journal of Policy Analysis and Management,* which is simple and direct.

The current trend is toward "scientific citation" in lieu of footnote references in the text. That is, cite last name(s) of author(s) and year of publication in

parentheses in text; the reader then checks the references section at the end for the full citation. If you follow this practice, the reference section should list the author(s) and the date *before* listing the title of the work and publication details. Sometimes you will want to include a page number in the parenthetical citation as well.

Legal citation style is quite different. If most of the references are legal, then it is advisable to move all references to bottom-of-page footnotes. However, you can keep the scientific citation format within the footnote.

Notes are easier to read if they appear on the same page as the referenced text, that is, if you display them as footnotes rather than as endnotes.

Memo Format:

[Date]

To: [Recipient name(s), official position(s)]

From: [Your name, position. Sign or initial next to or above your name.]

Subject: [Grammatically correct and brief description of the subject]

[First sentence or two should remind recipient of the fact that she or he asked you for a memo on this subject, and why. Alternatively, you could say why you are submitting this memo on this subject to the recipient at this time.]

[If memo is long, you might open and close with a summary paragraph or two. If you open with a long summary, the closing summary can be short.]

[If memo is long, consider breaking it up with subheads.]

The Sound Bite and the Press Release

Most policy analyses do not become the subject of a press release or a radio or TV sound bite. Some do, however. Others become candidates for such treatment, and all can profit, even in their extended form, by the analyst's reflecting on how to condense the essential message. Hence, it will probably serve an analytical purpose, and sometimes a political purpose, if you sketch out a press release and/ or a few ideas for sound bites. You might also wish to think strategically and defensively to see how an opponent might characterize your work in a press release or sound bite.