PROCESS AND TEMPORALITY IN SOCIOLOGY

The Idea of Outcome in U.S. Sociology

ANDREW ABBOTT

Early in the movie *Saturday Night Fever* Tony Manero (John Travolta) asks his hardware store boss Mr. Fusco (Sam J. Copolla) for a pay advance with which to buy a pretty new shirt for Saturday night. Fusco refuses, saying Tony should plan for the future. "Fuck the future!" says Tony. "No, Tony, you can't fuck the future," says Mr. Fusco. "The future fucks you" (screenplay by Norman Wexler).

The issue between Tony and Fusco is the issue of now and later, of present and future, of moment and outcome. The plot of the movie, translated into simple economese, is that with the help of the marginally more rational Stephanie Mangano (Karen Gurney), Tony becomes a little less of a hyperbolic discounter; he starts to take the future a little more seriously.

But he does not choose Fusco's outcome. Later in the movie Fusco fires Tony over an irregular day off, but then rehires him, saying "You've got a future here. Look at Harold [he points], with me eighteen years, [points again] Mike, fifteen years." The camera pans in on Mike, presented as a colorless, becalmed middle-aged man, and then back to Tony's look of panic. That's not a future Tony wants. His ultimate choice is a more open, undefined future, which begins with moving to Manhattan and thinking of Stephanie not merely as a sexual event but also as a friend. At the movie's end he is still a young man in the middle.

The debate between Fusco and Tony captures something important about how we conceive of our research. In the last analysis, much of sociology is about the way things turn out. The typical dependent variable both today and for many years past is a result, an outcome, a Fusco-thing. In Frank Kermode's (1967) felicitous phrase, sociology has "the sense of an ending."

Economists, by contrast, often seem to write about things without ends. The balance of payments, unemployment, securities prices: these are things that fluctuate endlessly. There is no outcome, no result. Rather, there is an equilibrium level over the long run and various little perturbations around it in the short run.

That much of sociology is about ends rather than middles should not surprise us, because so much of sociology is about individuals: their social status, income, wealth, education, occupation, and so on, all the things Mr. Fusco has in mind. And unlike balances of payments and unemployment, individuals do not go on fluctuating forever. There is only one true outcome variable for individuals, and it has no variance.[1] In a way, that's what Tony is saying; as he puts it shortly after the first exchange quoted above, "Tonight's the future, and I'm planning for it." For him, beyond tonight is death, either the actual death of his foolish friend Bobby falling off the Verrazano Narrows Bridge or the living death of middle-aged Mike in the hardware store. Those of us with flatter discount curves know that death is usually not so soon. There are many human outcomes short term enough to resemble equilibriar variables like unemployment: driving habits, purchasing habits, dating styles, and so on. But the major foci of sociologists are not like that. They are bigger things, consequential outcomes like socioeconomic status, marriage duration, and education. And their consequence lies precisely in their irrevocability; we get only one or two chances.

In this paper I wish to analyze the concept of outcome. I begin by tracing the sociological concept of outcome, first as we find it in the midcentury corpus of one of sociology's founding methodologists, Paul Lazarsfeld, and then in some illustrative later work. I then introduce a contrast by considering concepts of outcome in economics. This leads into a further formalization of the problem of outcome, for which I invoke philosophical conceptions of time. From these I return to the original problem, laying out the dimensions of possible concepts of outcome in sociology.

Paul Lazarsfeld's Ideas of Outcome

I would like first to consider the notion of outcome in several important works of Paul Lazarsfeld. This reflection will introduce my broader inquiry into the way we think about processes and their results in social science.

I begin with Lazarsfeld's influential 1955 reader with Morris Rosenberg,

The Language of Social Research. In the introduction to the reader's section on "The Empirical Analysis of Action," Lazarsfeld and Rosenberg state that they are concerned with "actions many people perform repeatedly and under somewhat comparable circumstances." They go on to give examples: "Social reformers want to keep people from committing crimes; advertisers want to know how people can be made to buy their products; occupational counselors study how people choose their jobs. . . . Whatever the purpose all these studies have one central topic in common: What are the factors which account for the choices which people make among a specified number of alternatives?" (387). In the main, these are not irrevocable outcomes. Crime and occupation were well-known to be modifiable choices, often recurring throughout the life course. Purchase of goods was even more repetitive. These seem like repeated, equilibriar events, not final outcomes in any strong sense.

A more detailed exposition occurs in the much reprinted paper "The Analysis of Consumer Action" (Kornhauser and Lazarsfeld 1935/1955), which lays out Lazarsfeld's analysis of purchase, for him the very prototype of human activity. An individual, Lazarsfeld argues, is subject to many influences. The process of purchase begins when one of these turns him into "a new person," one with "a favorable feeling toward Y make of car or a belief that X dentifrice will protect his teeth." After some weeks, "This changed person hears a friend comment enthusiastically about the product." This creates yet another person, who now "yields to a leisurely thought-encouraging situation, where he deliberates about the new car or the dentifrice and definitely decides to buy." He then buys, but only when he finds himself "in a situation containing the precipitating influence to induce the purchase" (397).[2]

Lazarsfeld underscores the order of events, insisting on a strongly ordered list of experiences that culminates in purchase. Later in the paper he lists all the phenomena on this line in the case of "the simple matter of soap-buying." First, there are three things that lie "far back on the time-line":

a) Why the consumer buys soap at all.
b) Why she likes soap of a particular color, odor, hardness, etc.
c) Why she believes all soaps are equally good.

And then seven things "somewhat nearer the purchase and more concrete":

d) Why she buys soap of the X-type and price.
e) Why she buys X-soap specifically.

f) Why she buys one cake instead of several.
g) Why she buys at this particular time.
h) Why she buys at this particular place.
i) Why she buys as she does now (this month or this year) as contrasted with other months or years.
j) Why she buys (i.e., why this kind of person rather than others).
(Kornhauser and Lazarsfeld 1935/1955, 398)

Outcome here is a simple action: buying soap. There is some hint of soap consumption as a stable, oft-repeated phenomenon; that's the implicit grounding of the question "Why does she buy as she does now?" But for the most part, the focus is on the final act of purchase: the analysis follows what I have elsewhere called "the ancestors' plot" (Abbott 2001b, 144, 291), in which analysis means seeking all the (causal) ancestors of a particular event. Product choice is an outcome that lies at the current end of a long, backward-proliferating net of causes. Its own consequences are not considered, nor is it embedded as one small part of some larger web of events. Only those parts of the larger web are relevant that affect this choice to buy.

The model implicit in this early paper, an ancestors' plot leading to an "end," might be expected to undergird Lazarsfeld's later studies of voting.[3] Yet the reader of *Voting* (Berelson, Lazarsfeld, and McPhee 1954) will be astonished to discover that the authors almost nowhere discuss the outcome of the election they studied, even though the 1948 election was and is by universal consent an extraordinary one. We can see this disattention encapsulated in the celebrated sixteenfold table (SFT) with which the authors seek to untangle the relationship between saliency of class issues and attitudes toward Truman. The SFT is essentially a transition matrix for a standard fourfold crosstab of these two dichotomous variables; the four cells of the original table are each measured at two time points for all individuals, which allows estimation of transition probabilities from each of the four combination states to all the others. Lazarsfeld expected such SFTs to solve the riddle of causality. But what most strikes the modern reader about this particular SFT (265) is that if we treat it as the transition matrix of a regular Markov chain and square it until it converges, it predicts a solid swing to Truman that is not at all apparent in either the before or the after marginals, both of which have Truman's favorable rating at 54 percent, a stability of which the authors make much. By contrast, the actual limiting value is 68 percent, which indicates precisely the Truman swing that happened in fact. Thus, the SFT seems to a current reader like a secret weapon for predicting electoral outcome.

But what motivates Lazarsfeld is not this unsuspected implication about electoral outcome, but the hope that reflecting about particular transitions in this matrix can decide whether salience of class issues drove the image of Truman or the other way around. So the book disattends to the "big outcome" and focuses its attention on the local shifting around, the process. Indeed, its major theme is that the relative stability of aggregate election figures over time conceals a good deal of wavering and change, and that this wavering turns out to be quite concentrated in a small part of the voting population. To be sure, this in turn means that a relatively small group of voters determines the "big" outcome of the election by means of the "little" outcomes of their processes of decision. But even despite this turn toward a more "outcome-based" view of the election, the conclusions of the book emphasize the system's enormous long-run stability, arguing (e.g., 315) that today's "long-term precommitted voters" on each side derive from the controversies of another era, and hence, "The vote is a kind of 'moving average' of reactions to the political past" (316). It is the millions of minor motions, the little processes of action and change and aging, that produce the aggregate stability. At the same time, however, it is clear that Lazarsfeld believed that there were causally dominant factors (e.g., salience of class issues) that somehow played a more important part in those processes than did other factors. These causal forces somehow pervaded the recurring, endless processes that fascinated him. In that sense, his disattention to outcome took him in the same direction that other sociological methodologists were going (toward causality), but along a quite different ontological path.

The Berelson and Lazarsfeld approach to elections differs considerably from that of their great competitors in the election study game, the Michigan group led by Angus Campbell, Warren Miller, and Philip Converse at the Institute for Survey Research (ISR). In their monumental *The American Voter* (Campbell et al. 1960/1980), reporting detailed comparisons of the 1952 and 1956 elections, the Campbell group set forth a "funnel of causality" model for voting. The funnel model looks very much like the Kornhauser-Lazarsfeld purchase model, with the vote taking the place of purchase.

The funnel shape is a logical product of the explanatory task chosen. Most of the complex events in the funnel occur as a result of multiple prior causes. Each such event is, in its turn, responsible for multiple effects as well, but our focus of interest narrows as we approach the dependent behavior. We progressively eliminate those effects that do not continue to have relevance for the political act (Campbell et al. 1960/1980, 24).

Thus, although they are aware of "other effects"—the other grandchildren of the vote's causal grandparents—Campbell et al. explicitly set them aside as irrelevant. Nor do they seriously consider the election as a mere moment in the ongoing political life of the nation. Eveything funnels into a particular moment of supreme importance, a particular election day, a final outcome.[4]

Moreover, the funnel model embeds itself not in the real social process but in what we might call "causal time." For despite the notion of a funnel channeling voters toward particular votes, the Michigan group did only one set of interviews before the election, whereas the Berelson-Lazarsfeld Elmira team had done four. In the thinking of the Michigan school, there was no real-time progress of individuals through the various moments of the campaign to the vote, but rather a causal structure starting with "big background factors" that set the stage, within which "smaller factors" then made minor adjustments.[5]

The Michigan group's vision of causality seems very familiar because it became quite dominant in U.S. quantitative research more generally. It focuses on one particular outcome, in this case, the vote. It arrays causes by the proximity of their impact on that outcome, explicitly separating the immediate from the distant both in social time and social space. The pattern of separating "demographic effects" or, as they were often called, "controls," from immediate causes and from "larger," conceptually relevant but contextual causes became standard in generations of U.S. sociology.

The contrast between the Lazarsfeld and the ISR approaches emphasizes Lazarsfeld's ambiguity on the outcome issue. Although his work drifted at times toward a "funnel of causality" approach, he retained a fascination for turnover and process in themselves, a fascination for the mere flow of variables through time. Much more than the ISR group, Lazarsfeld saw an election as one sample in an ongoing sequence of samples that makes up the political life of the nation, and even that one sample as contaminated by long-gone issues and questions: "The people vote in the same election, but not all of them vote on it" (Berelson et al. 1954, 316). To be sure, the Michiganders also saw this problem. Indeed, *The American Voter* was an attempt to move beyond the narrowly attitudinal conception of elections used by the first ISR report on the 1952 election, *The Voter Decides* (Campbell, Gurin, and Miller 1954). But the "move beyond" was made by envisioning a broader causal structure, not by moving toward a study of attribute transition in real time.

Let me turn now to a third major Lazarsfeld work, *Personal Influence* (Katz and Lazarsfeld 1955).[6] *Personal Influence* is really two books under one cover. The first is a theoretical book on the possible structure of personal influence, based on a review of existing research in public opinion and various adjacent and relevant fields. The second is a study of the structure of personal influence in four issue areas (shopping, films, fashion, and public affairs) among eight hundred women in Decatur, Illinois. It is the second book that interests me here, for it continues the processual line of argument present in *Voting*.

Put simply, there is no outcome whatsoever in *Personal Influence*. There is nothing like the election: no concern whatever with which appliance got bought, which movie was watched, which hairdo chosen, or which political view espoused. There is simply the flow of influence itself: the network and nothing but the network. Katz and Lazarsfeld are quite explicit in positioning their argument against the emerging Michigan survey tradition: "No longer can mass media research be content with a random sample of disconnected individuals as respondents. Respondents must be studied within the context of the group or groups to which they belong or which they have 'in mind'—thus which may influence them—in their formation of opinions, attitudes, or decisions" (1955, 131).

The book thus focuses on flow itself. In retrospect, of course, this gives it what now seems an excessively equilibriar feel, in which it is taken for granted that there is a structure through which influence flows, and it is not expected that that structure will be recursive in any fashion—either self-activating, as networks would become in the social movements literature, or self-perpetuating, as they would be in the interlocking directorate literature. In *Personal Influence*, networks have no particular outcome. They are simply there, the medium through which social life flows.

In a sense, then, *Personal Influence* carries to its natural extreme the view of outcome implicit in *Voting*. Society is viewed as a more or less steady state process, throwing off the multitudes of inconsequential outcomes discussed in the Lazarsfeld and Rosenberg reader. There is no grand narrative, no smiling Harry Truman holding up the *Chicago Daily Tribune* with its "Dewey Defeats Truman" headline. Rather, the book is almost completely descriptive. There are a few causal arguments, but in the main *Personal Influence*, like much of market research since, is largely a descriptive exercise.[7]

We see, then, that in much of Lazarsfeld's work, there is a tendency to ignore final outcome or to treat it as something of little importance. Lazarsfeld saw outcome as something waving now this way, now that, a repeated and endless cycling around some value that never reached a decisive result. By contrast, in *The American Voter* we have an analysis with

clear outcomes, a type of analysis that has become paradigmatic in modern sociology.

Beyond Lazarsfeldian Outcome

The same division has characterized sociology since, although most of the discipline has followed the final outcome paradigm. It is useful to examine some later examples that illustrate various outcome conceptions.

Consider Blau and Duncan's justly celebrated *American Occupational Structure* (1967). This book is the very paradigm of outcome-based study. Prestige of respondent's occupation in 1962 is the final point. To be sure, a variety of elegant models focus in on this variable; we are far from the simple funnel of causality. But like *The American Voter*, *The American Occupational Structure* comes to a sharp and final outcome. A stratification narrative is assumed in each life and is realized in the analysis by a path model, the same for every respondent. By contrast, when Berelson et al. mentioned path models in *Voting*, they were seen as models for long-term stabilities (and that was indeed the use to which they were generally put in economics). That is, they weren't models of ends, but of middles.[8] But in Blau and Duncan they become metaphors for simple narrative; the funnel of causes was fashioned into the formal arrows of path analysis, shooting in toward the bull's-eye of occupation in 1962.

It might seem that such a concept of outcome at a point is confined to quantitative work, for it is a logical concomitant of a regression-based methodological framework. Yet the same view can easily be observed in the revolutions and social movements literatures, both known for their strong reliance on comparative and historical materials.

For example, Skocpol's classic book on social revolutions opens with two ringing questions: "How then are social revolutions to be explained? Where are we to turn for fruitful modes of analyzing their causes and differences?" (1979, 5). Skocpol organizes her argument around Mill's methods of agreement and difference, comparing successful and unsuccessful social revolutions and their various qualities. The French, Russian, and Chinese revolutions preoccupy the book because they are successful revolutions; they made "fundamental and enduring structural transformations" (161). But the major outcome of interest, certainly in terms of the later literature, was not so much these transformations (that is, the further consequences of revolution) as the success (or failure) of the revolution itself. When, the book asks, do revolutions succeed?

Skocpol's book is, of course, filled with thoughtful historical argument and processual thinking. But its conception of outcome is closer to outcome-at-a-point than to Lazarsfeldian endless process. For example, the Chinese revolution is a success for Skocpol—an outcome, a finished thing—even though as of today it does not seem to have effected the permanent transformation we thought it had. The major outcome for Skocpol, as for those who followed her, was the turning point of successful revolution itself.

We see the same approach in work on social movements more generally. Much work on social movements in the 1970s reacted to Gamson's (1975) attempt to discern the bases of successful movement outcome. Yet the outcome-based social movements literature eventually produced a much more elaborated story of social movement formation and development by interpolating into the story of social movements such matters as political opportunity, authorities' response, and movement framing (see the essays in McAdam, McCarthy, and Zald 1996). This kind of elaboration of a conception originally rooted in simple outcomes has occurred throughout sociology. The equivalent literature on stress evolved from a simple account of "what leads to stress" in the 1960s and 1970s to a more complex account of coping, social support, and the like in the 1980s (see Abbott 1990). Yet in both literatures, an implicit focus on final outcome (social movement success in the one case, stress in the other) remained in later literature, even though the complexities inherent in real social systems had led to an examination of the intermediate outcomes or stages. In the social movements literature, for example, the focus moved from successful final result to intermediate "successes" such as increase of movement membership, securing of financial resources, and professionalization of movement personnel. These were still seen as outcomes, but were now embedded as steps in a longer process moving toward a final result. There was thus a move from outcome-at-a-point toward a more flowing conception of intermediate, contingent outcomes. Yet it remains true that every concept of social movment inevitably involves a whiff of teleology; movements are still conceived to be trying to go somewhere, and in some sense to stop when they get there.

Outcome-based conceptions remain strongest, however, in the empirical mainstream. The issue of the *American Sociological Review* current as of this writing (April 2002), provides some useful final examples. With respect to ideas of outcome, the simplest is the paper of Portes, Haller, and Guarnizo (2002) on immigrant entrepreneurs. The outcome is whether or not the respondent is an immigrant entrepreneur at a particular moment.[9] There are independent variables of varying "time horizons" (Abbott

2001b, ch. 1), from enduring things like sex and ancestry through slowly varying things like human capital to more rapidly varying things like current social networks. Noticing the time horizon of the independent variables is important because, as we shall see, the temporal extent of the outcome variable, the dependent variable, is one of the central issues in concepts of outcome. Having independent variables with varying time horizons but an outcome variable at a point is essentially the traditional funnel model or ancestors' plot.

Like the Portes et al. paper, the Walder (2002) paper on household income in rural China is a simple prediction of outcome-at-a-point, in this case, the outcome for a household, because the concept of individual income is not viable in such a setting. The independent variables are in two sets (this is a hierarchical linear model), some pertaining to the household, some to the village. Both sets include variables of varying time horizons. The inclusion of two levels of social entities—in this case, household and village—is an important one, for it raises the possibility of different outcome conceptions for the two levels, an issue that pervades the remaining papers. (Here, however, Walder is concerned only with the "lower" [household] level, and only with its outcome at a single point.)

The paper by Logan, Alba, and Zhang (2002) on immigrant enclaves also predicts an individual outcome-at-a-point: living in an ethnic neighborhood. As usual, the independent variables have varying time horizons: relatively long-term things like education, era of migration, and quality of English, as well as short-term ones like employment status, household income, and rental status. But while residence in an ethnic enclave is measured at a point, the authors are very much concerned to infer from their results something about trajectories of individual residence. For their major concern is ultimately not the individual behavior analogous to Portes et al.'s "being an entrepreneur," but rather the "function" of immigrant ethnic communities: whether they are permanent ethnic neighborhoods or mere enclaves that new immigrants pass through on their way to assimilation. This is a "larger" outcome, the status of a certain kind of community, and this larger community might have some autonomous (i.e., emergent) structure, in which the behavior of individuals might have a part but not a determining part. In that sense, the article really does concern separable outcomes at two levels of social reality.

Papers by Hout and Fischer (2002) and Brooks (2002) are both explicitly concerned with just such a higher-level outcome. But because the data are national surveys, these authors are not concerned with an outcome for something we commonly understand to be a real social entity

possessing an autonomous internal social organization (e.g., a community). Rather, both focus on trends in national attitudes measured by repeated national probability surveys. Thus, on the one hand, the temporal sequence of events at the aggregate or emergent level is explicitly measured, whereas it was merely implicit in the Logan et al. article, but on the other hand, the aggregate-level events lack the emergent cohesion of Logan et al.'s communities.

Hout and Fischer are concerned with a startling rise after 1991 in persons claiming no religious affiliation. The data are from the GSS (General Social Survey), which means that the trend arises from a random sample, different in every year, taken over a thirty-year period. The outcome of interest is the trend, that is, the direction taken by an aggregate sum of individual behaviors. But the individual outcomes predicted by the equations are outcomes not over time, but at a point. The equation models the religious status (some or none) of each individual at the moment he or she is sampled. Thus, the paper implicitly takes two views of outcome over time, predicting individual outcomes-at-a-moment to understand an aggregate-outcome-over-time. More or less the same structuring of outcomes appears in Brooks's analysis of the increased concern about family decline. In neither paper is there any notion that the aggregate has some kind of emergent status. The aggregate trend has consequences—both papers are clearly animated by a concern for the political consequences of aggregate change—but it does not have any internal historical structure in itself. It is not a proper cultural entity.

The one paper in this group whose view of outcome is overtly processual is that of Paxton (2002). The unit of analysis here is the country. At the heart of the model (a reciprocal causation model) are two properties of these countries: level of democracy (an interval measure) and level of associational life (here measured by numbers of international nongovernmental organizations with an office in the country). Each dependent variable is hypothesized to determine the lagged values both of itself and of the other. There are the usual exogenous variables in addition to these two endogenous ones: energy use, world system status, school enrollment rates, ethnic homogeneity, and so on. There are four time points and hence three change equations are estimated.

What makes this design different is that, at least implicitly, the model takes a Markovian view of process; where a case goes next is a function of where it is now. From classical Markov theory, we know that such a design has a "final outcome" only in two cases. Final outcome can occur because the process has an "absorption state (or states)," which once entered can-

not be left. Or, if the stage-to-stage parameters never change, the process will have a final outcome in that the percentages of cases in the varying states will become stable. If neither of these two conditions holds, the (implicit) process will simply wander around according to the varying transition rules. (The article seems to indicate, although it does not directly test, that the stage-to-stage parameters are constant.)

In such a design, then, we don't really have an outcome. We have, rather, in the Lazarsfeldian sense, a process continuously generating new results. The theoretical framing of the article is of course implicitly about democracy as a terminal, absorbing state. But the analysis does not in fact address that absorption, instead thinking about each disaggregated step toward it in the traditional outcome-at-a-point framework. (Just so did Lazarsfeld miss the transition-matrix character of his sixteenfold table.) With respect to long-term outcome, rather than thinking about ultimate democratization (the implicit theoretical core of the paper), one could by contrast think about the percentage of time spent in a democratized state. Particularly if the parameters of the process change steadily, there is no reason to expect convergence, and the percentage of time spent by various cases in various democratic or nondemocratic states could be of far more interest than their ultimate status at a given point.[10]

It is useful at this point to pull together the various theoretical distinctions made among conceptions of outcome so far. The analysis of Lazarsfeld produced a contrast between imagining the social process to be a continuous, more or less equilibriar sequence of interim results and imagining the social process to be a discontinuous sequence of final results. In literature since, it is common to move from the latter view toward the former by interpolating interim "final" results, but still to avoid the fully continuous concept of a social process with only interim outcomes. Note that the contrast between equilibrium outcome and irrevocable outcome is similar to that between short-term outcome and long-term outcome, but not quite identical. We usually think equilibrium processes entail short-term change within long-run stability, whereas irrevocable outcomes entail long-run changes that emerge from short-run instability. But there is a long and a short run for both types of outcome.

Mixed up in these distinctions is another, that of the social and the individual. Several of the papers just examined conceive of changing final outcomes at the individual level that produce progresses of interim outcomes at the social level. Whether or not the social-level phenomenon is considered emergent, its outcome characteristics need not be the same as

those of the individual processes coeval with it. It is easy to conflate the two levels.

Finally, recall that what I have called equilibriar outcomes are global equilibria established by myriad individual transactions, things like the particular unemployment episodes and voter transitions mentioned earlier. But these kinds of minor local outcomes are not incompatible with long-run change. In between final point-outcomes and equilibriar outcomes lies a kind of outcome of which I have said little, but that is in fact implicit in several of the pieces just analyzed. This is what I call "trend outcome." A trend conception of outcome is common in sociology for variables like housing inequality and returns to education, for which the analyst doesn't expect a final outcome or an equilibrium, but something in between, a steady movement in some direction. Both the Hout and Fischer and the Brooks papers just examined are organized around the idea of trend as outcome.

Much of sociology today is concerned with trend outcomes, typically trends in inequality measures. Analysts usually don't worry much about a final outcome for variables like housing inequality or occupational segregation, but neither do they expect stable equilibria over time. As the late Bruce Mayhew (1990) found out from the uncomprehending reception of his "baseline models for human inequality," most sociologists think persistent inequality and even the halting of trends toward equality are things-to-be-explained. Trend outcomes are centrally important in sociology today, with its strong meliorist emphasis.

In summary, we seem to have three broad conceptions of thinking about outcome: equilibriar or process outcome, trend outcome, and point outcome. We consider these at the individual or social level, and sometimes both. We examine them over varying periods from short to medium to long term.

Discounting and Decision

Although there are some internal differences, sociology's modal tradition studies final point-outcomes, the results of an examined process at its end. We can discover another important quality of this view of outcome by comparing it to conceptions of outcome in economics. Economists (particularly microeconomists) also evaluate trajectories of value from a single point in time. But for them, this is not the moment of final outcome but that of decision. And unlike outcome, decision concerns not the past but

the future; economists look ahead to potential rewards, not back to sunk costs. They use discounting to pull uncertain future results back into the present, where decisions are made. Note that this is precisely the reverse of the sociological ancestors' plot, which looks back at the causes funneling into a final result. Economists focus not on the end of a period, but on its beginning; they study not the origins of an outcome, but the descendants of a decision.

Economists accomplish this forward-looking trick by discounting potential future results and weighting them by their probability. The idea of discounting rests on the notion that, all other things being equal, it is better to have a given amount now than at some moment in the future. There are two chief philosophical justifications for this belief. The first is that money in hand now can be invested to grow in the time between now and that future moment. Although this is a justification for discounting now the value of resources in the future, it in fact judges the worth of an investment trajectory on the basis of its future outcome; the reason for wanting to invest now is to be better off later. To that extent, discounting is still concerned with a final point-outcome. This investment justification for discounting naturally entails the view that we should discount using a negative exponential function because of the implicit connection between discounting and investment at continuously compounded interest.[11]

By contrast, the second major justification for discounting is precisely that uncertainties between the present and any future moment may reduce the value of future rewards. Our tastes may change, our health or even life be lost, a hundred contingencies may intervene before a future reward is enjoyed. Hence, that future reward is worth less to us at present than a certain reward of equivalent value that we can enjoy immediately. Note the assumption, in each of the two major justifications of discounting, that the decider is a finite individual rather than a social structure with a temporal duration of many human lifetimes. As we have already seen, social and individual outcome can be completely decoupled.

Both of these justifications of discounting are in fact more empirical than philosophical. That present resources can be invested to yield future profits (in some finite time) is an empirical fact of most modern economies most of the time, although of course it has not been true for long stretches of history and for large portions of many societies. Similarly, it is an overwhelming empirical fact of the present age, established by endless psychological experimentation, that randomly chosen humans prefer rewards now rather than later. However, there are serious problems with both these empirical justifications. In the first case, standard negative

exponential discounting fails as a justification because it presupposes continuous reinvestment of revenues, which is often impossible either in practice or in principle. Somewhat more problematic, the psychological evidence is strong that the negative exponential model predicts human time preferences rather badly. Rather than being exponential, individual time preferences are generally hyperbolic, with more rapid value loss than the exponential early in the future and slower value loss later. To be sure, the exponential can be motivated as a limiting form of one general type of hyperbola (Loewenstein and Prelec 1992), but even so, substantial irregularities in intertemporal choice remain unaccounted for.[12]

The discounting approach to outcome is well illustrated by cost-effectiveness analysis of health outcomes, recently standardized in the monumental text by Gold et al. (1996). Rooted in 1960s business-school-based decision theory (e.g., Raiffa 1968), this literature began with applications to clinical decision making (Lusted 1968; Weinstein and Feinberg 1980) and later moved into the allocation of scarce medical resources. By the mid-1970s it had converged on the concept of quality-adjusted life years (QALYS, in the standard abbreviation). QALYS rest on a formal estimation procedure that begins with ratings of the health-related quality of life (HRQL) for various disease states. (There has been an enormous philosophical debate over the proper way to do this; see Fitzpatrick 1996; Nord 1999, ch. 2). The appropriate HRQL is then attached to each year in any given illness/treatment trajectory and the total QALYS are calculated over the trajectory. In standard decision analysis style, the various possible trajectories make up a sequential tree of decisions, events, and contingencies (each with an associated probability), with QALYS attached as the final leaves on the branches. Cost-effectiveness analysis consists of back-calculating along each tree branch from the QALY leaves to the original trunk, weighting QALYS by their likelihood given the sequential probabilities of the eventualities leading to them. Decision then proceeds by dividing the incremental cost of one intervention (more generally, one branch or trajectory) over another (or over no intervention) by the incremental QALYS of that intervention (branch or trajectory) over the other (or no intervention).

At the outset, the health decision literature argued for discounting only of costs. There was doubt about discounting benefits, because it seemed worrisome "to assume that life years in the future are less valuable than life years today in any absolute utilitarian sense" (Weinstein and Fineberg 1980, 254). Discounting future benefits was eventually urged on pure measurement grounds, as dollars were the instrument of measurement in cost-

effectiveness analysis and it was felt that anything measured in dollars must be discounted because dollars themselves are discounted. Today, the literature uniformly insists on discounting benefits as well as costs. Both are done at the same rate, which is at present typically 3 percent in U.S. studies and 5 percent elsewhere. A QALY now is worth more than a QALY ten years from now.[13]

The economic view of temporal trajectories thus differs considerably from the sociological one. The hegemonic view in sociology is to think of final outcome, the state of the trajectory at its end (in economic terms, the ordinate of utility at the end of the period). But economists do not think much about long-run results, reduced as they are by discounting. The economic approach sees trajectories from the present forward. Economics lives in the now.[14]

Note that the now moves with time in a way that final outcome does not. The now gets steadily later as time passes. Final outcome can't move quite as steadily; it is backed up against the ultimate outcome of decline and death. Thus, the economic framework for thinking about trajectories is not simply a matter of thinking about beginnings rather than endings. It also means thinking about trajectories in a more fundamentally dynamic manner.

This dynamism involves a philosophical difference in conceptions of temporality. In a famously controversial paper published in 1908, J. M. E. McTaggart noted that there were two fundamentally different ways of thinking about time, which he called the A series and the B series. The A series involves thinking about time in terms of past, present, and future: thinking in terms of tense. The B series involves thinking about time simply as a transitive order relation, governed by the concepts "earlier than" and "later than." This is thinking in terms of dates. Thus, we might say McTaggart wrote his paper ninety-four years ago or we might say McTaggart wrote in 1908. The first statement is indexical; we don't know what it means or whether it is true until we know when it was said. By contrast, the second statement is true no matter what.[15]

The two series are not connected logically; one brings them into alignment only empirically, with a statement of the form "2002 is now." But given that they are logically distinct, it is quite difficult to sustain a coherent philosophy of time, a fact that led McTaggart to insist on the unreality of time itself.[16] But this philosophical worry is of less interest than is McTaggart's original distinction. Perhaps differences among the various social scientific paradigms for appraising trajectories (i.e., paradigms for "outcome" broadly conceived) can be understood in terms of

McTaggart's different concepts of temporality: one tensed and emphasizing the passage of events from future into present into past, the other simply relative, emphasizing mere duration.

It is evident that microeconomics is a thoroughly A series enterprise. It concerns the now, a tensed moment in which the future is guessable but uncertain and the past known but unimportant. The now, this particular moment, is important because it is the present, in which we live. However, the present immediately becomes past. This was indeed the ground on which McTaggart found the A series incoherent. It assigned a property to events that changes, even though the events themselves do not change. (Whereas, as McTaggart [1993, 26] points out, the death of Queen Anne was the death of Queen Anne at the beginning of time and will be so at the end; its futureness has simply changed into pastness.)

By contrast, standard outcome sociology is more or less a B series enterprise. One reason sociological outcome seems worrying is that most of the outcomes we study are not really endings at all but arbitrary ends selected for some not very well understood reason. In Blau and Duncan, for example, why 1962? Why not 1960? 1963? The year 1962 is not a consequential moment, merely an arbitrary one. It simply happens to be the righthand end of the period investigated.[17] Men in Blau and Duncan's sample ranged from 20 to 64 years of age, and their fathers had been born as early as 1835 and as late as 1919 (Blau and Duncan 1967, 83). In dynamic, A series terms, 1962 came at widely differing points in these men's lives. Yet all followed the same "narrative of variables"—from father's education and father's occupation to son's education and first job, to son's job in 1962.

Outcome sociology thus has a strong B series character. It envisions a time line and slides a window of investigation along the line, cutting out a segment for investigation. Beginnings and endings are largely arbitrary, and separate time segments are surprisingly comparable (think again of Skocpol's three great revolutions—French, Russian, and Chinese—scaled into common, comparable trajectories). What gives final outcome its extraordinary rhetorical force is that once the temporal window of investigation is slid into a particular place, the forceful structure of narrative is implicitly invoked for the period involved. By the mere act of firmly defining a period of investigation, the period's beginning becomes a "real" beginning, its end a "real" end, and so on.[18]

It is difficult to locate Lazarsfeld's process fascination in terms of the McTaggart series. On the one hand, in B series fashion, Lazarsfeld's process work sought to look at an extended time interval rather than to

privilege a particular now. But on the other, in A series fashion, it aimed to retain the "openness" of each moment in that extended interval, to insist on the moment's contingency. Lazarsfeld attempted to put McTaggart's Humpty Dumpty back together again. Perhaps that is the task that faces us in developing a new sociological conception of outcome.

Existing and Possible Concepts of Outcome

With the concept of tensed and untensed temporality in hand, we can review comprehensively the distinctions about outcome developed so far. Such a review shows how we have chosen different kinds of outcome conceptions for different kinds of questions and forces us to ask how we might appraise outcomes differently. This is not an idle question, for, as I argue, our choices of outcome measurement are by no means innocent. Indeed, it is surprising that they cause so little conflict, given how value-laden they are. One immediately important consequence of this value-ladenness is that the universe of possible conceptions of outcome is only sparsely colonized by the social sciences. I shall therefore have occasion, in what follows, to refer often to normative or even literary models of outcome and outcome-based decisions.

The first set of distinctions has to do with the relation of outcome to the time interval studied. Imagine some raw measure of utility or well-being as a real-valued function defined continuously through some time interval. We can first distinguish between outcome at a particular instant in that interval (what I have been calling point outcome) and outcome that cannot be located to a particular point (outcome with finite duration). In the first case, outcome is simply the value of the well-being function at a point: the ordinate. In the second, outcome is an integral or other composite function of the curve over some finite time period on the other. (This time period can be any finite period up to the entire interval with which we are concerned.) Note that the move to a duration or period conception could arise either because we think that point outcome is in principle a bad concept or because we think point outcome cannot be directly measured, but only approximated by some kind of average over a finite time interval. We should, however, treat the latter motivation as producing a version of point outcome, rather than a true period outcome, because it arises merely out of measurement considerations, not conceptual ones.

I have so far presented two of the many possible versions of period outcome: equilibrium and trend. These are both patterns of expectations

for processes—paradigmatic patterns—against which we measure results over time. Such paradigmatic conceptions of outcome are slightly more complicated than simple "over-time measures of outcome." The latter require only some formal concept of aggregation to become single-figure outcome measures. This aggregation, however, can take several different forms. Integration is the obvious one, and yields a single number that can be compared to other outcomes. But one might also think a good duration was one in which outcome did not fluctuate wildly, for example, in which case, the proper measure would be some autoregression parameter or range of variation. In such cases, we are beginning to think more paradigmatically about outcome. The measure we propose is less a simple value for comparison than a general criterion for the well-being function.

Conceptions like equilibrium and trend are fully paradigmatic. They are general patterns against which trajectories of outcomes are assessed, expectations used to decide whether a trajectory needs to be explained or not. This last is by far the most common use of trend conceptions outcome in sociology, as I noted earlier (i.e., "good trends" don't need to be explained, "bad" ones do).[19] The dual use of period outcomes (both as aggregated single-figure measures and as paradigms) differentiates them slightly from untensed point outcome, the final outcome of the sociologists, which is almost always treated as a simple value for comparison. But taken together, these various measures—final point outcome, equilibrium, trend, and the many other possible period measures (integration, range parameters, etc.)—constitute the basic repertoire of untensed outcome conceptions.

A second basic distinction is that between the social and the individual levels of outcome. At the beginning, my examples seemed to suggest that social-level variables are often associated with period conceptions and individual ones with point outcome. As the examples have shown, however, this is not true. Equilibrium outcome patterns are expected in individual lives, if only at short time intervals: purchase of goods, interaction habits, and so on. Conversely, revolution is an obvious point outcome conception at the social level. The crucial constraint here is that individuals do have finite life, and hence equilibriar outcomes for them are constrained to a certain temporal duration, which we typically think is shorter than the duration over which we measure the "more important" individual point outcomes such as marital duration and education. (These are, of course, more important precisely because they aren't equilibriar.)

Thus, all types of outcomes occur at both individual and social levels. For example, certain variables at both levels are nearly always conceived in

trend terms. Education, for example, is always seen as an ordered outcome monotonically increasing over at least a substantial period of the life course, an outcome paradigm that one would think researchers, who, after all, supposedly double as classroom teachers, would have seen for the extraordinary assumption that it is; many a college senior knows less on departure than on arrival, at least net of maturational change. (And of course, we ourselves are all losing education, forgetting things, all the time, in addition to gaining education through study and maturation.) At the social level, economic growth has enjoyed, since the 1930s, similar status as a trend both normative and empirical for nearly everyone in the society. As Offe (1985) and many others have pointed out, however, there is no particular reason, normative or empirical, why the economy has to grow. The belief that it does and that it must, implicit in the notion that growth is the paradigm within which the economy must be understood, is an outcome ideology.

The third fundamental distinction here made among conceptions of outcome is the one we get from McTaggart: outcome conceptions can be tensed or untensed. Some outcome conceptions take an A series view of temporality: all that matters is the dynamic now; results at other times must somehow be referred to that now. Other outcome conceptions take a B series view: time is a simple line of dates, and therefore understanding outcome does not require knowing temporal location in some contingent or dynamic sense. Any moment can be an end, any moment can be a beginning; outcome is simply the state of affairs in some arbitrary time period or at some point.

To deepen the concept of tensed outcome, I want to distinguish between consummated and unconsummated outcome. By this distinction I mean the difference between outcome that we either are having or have had and outcome we have not yet had but merely expect. Consummated outcome includes all the welfare enjoyed up to or at a particular point. The typical sociological outcome measured at the end of a period is consummatory either in that it is itself a result being enjoyed (or suffered) or in that it confers immediate access to other consummatory rewards. Hence, in the status attainment story of Blau and Duncan, achieving high occupational status is taken as valuable both in itself and because it gives immediate access to things like money and power that are (presumably) goods in themselves. These outcomes are all immediately available.

But note that the Blau and Duncan outcome does not include past benefits. One of the striking things about nearly all the outcome conceptions considered here is their disregard of past well-being. Economists

have no interest whatever in the past. Sociologists are interested only in its causal implications for the present. That it might live on in memory to be enjoyed at later moments seems uninteresting to all concerned. (But see Tversky and Griffin 2000, where past welfare serves as a comparison standard for present welfare.) Nor is there much interest in the way past utilities can be changed, by later redefinition, into disutilities (and vice versa), despite the obvious occurrence of such redefinition in divorce, for example (Vaughan 1987, 271). Indeed, this deadness of the past is to a certain extent enshrined in the two senses of the word "consummatory," which refers both to things that are realized and things that are over.[20]

This disattention to a supposedly dead past makes a stark contrast with the common focus on a (lively) future, whose as-yet-unconsummated outcomes are at the center of economic thinking. It is therefore useful to distinguish outcome conceptions as prospective, momentary, retrospective, or pantemporal conceptions, depending on whether they look forward, to the present, backward, or in all temporal directions. This distinction applies mainly to tensed conceptions of outcome, but, as we shall see, it can be useful in thinking about untensed ones as well.

Generally, we employ prospective conceptions of outcome when we are interested in doing something or accomplishing something. The microeconomic concept of outcome considered earlier is an example: a prospective, tensed outcome conception in which we guess the trajectory of future outcome in order to make decisions. To be sure, even under the theory of discounting, the aim is to come out better (in consummatory terms) in the end. But in the meantime, the idea is to imagine unconsummated outcome in order to make a decision.[21]

But we can also imagine an untensed version of prospective outcome, in which a future outcome is established absolutely at a moment. In the simplest case, this is the sociological conception of ascription, which we generally consider both normatively wrong and scientifically somewhat uninteresting. Note that the equivalent situation (fixation of outcome very early in a period) arises for extreme hyperbolic discounters (like Tony Manero at the beginning of *Saturday Night Fever*). Hyperbolic discounting characterizes an interval's utility using an integral (as does exponential discounting), but in this case, the discounting function is of the form $1/rt$, where t is time and r is a parameter. As r gets arbitrarily large, the value of the integral moves arbitrarily closer to a point outcome at time zero. Someone who is so extreme a hyperbolic discounter ascribes an enduring outcome to himself or herself at the outset of an interval because of an unwillingness to postpone any form of gratification.

But this kind of outcome conception—prospective, untensed point outcome—governs much more than Tony Manero and his blue shirt. The formal outcome theory of Calvinist theology was predestinarianism, which is formally the reverse of what we might call the "last judgment" outcome concept of the sociologists. Predestinarianism fixed the (ultimate) outcome of life at its beginning. Social systems that do this are in fact quite common. Some are familiar ascription systems; English aristocrats long justified the rule of landed elites on the grounds that their financial preeminence (an outcome guaranteed prospectively at the outset) freed them to think about the interests of the nation as a whole. Closer to our own time, educational systems like those of France and Japan stake much of life outcome on single examinations very early in one's career, again to some extent justifying themselves on arguments about freedom from careerist interests. Similar are concepts of term limits—for elective office, for scholarly fellowships, even for marriage. They fix an outcome in advance, aiming to undercut the play of interests.[22]

Most of these forward-looking outcome structures aim to do things. The tensed ones are an aid to decision; the untensed ones are a way of undercutting certain social disutilities. But they differ in that the tensed prospective outcome conceptions are not in themselves consummatory; they appraise future outcome but do not determine it. By contrast, the untensed forward-looking structures simply determine the limits of certain consummations in the future. That is why I have labeled them predestination outcomes, by contrast to the last judgment outcomes that come at the end of untensed intervals.

So far we have four particular types of untensed conceptions of outcome, each of which we have seen at the social and individual level. We have the two point outcomes: predestination and last judgment. We have the two types of period outcome noted earlier: trend and equilibrium. All of these are general models for outcome, ways we have of imagining and measuring the nature of outcome. As I have noted throughout, last judgment is the outcome model undergirding most of sociology. Predestination is widespread in society, but somewhat uninteresting sociologically because it fixes things ahead of time. (Sociologists are not usually interested in things that always turn out the same, despite their considerable social importance.) I have also suggested, but by no means explored, the enormous variety of aggregative period incomes, integrals and so on, possible as nonparadigmatic or semiparadigmatic versions of outcome over time.

On the tensed side, I have devoted most of my attention to prospective

tensed outcome (PTO), as exemplified by the classic discounted future of the economists. I now consider the other possibilities. There is, first, a truly "point" version of tensed outcome. In one sense, of course, tensed outcome is always conceived in terms of a single point, the now. The very words prospective and retrospective are indexicals; they lack meaning until we know prospective or retrospective with respect to what. But there are tensed conceptions of outcome that are purely instantaneous. The most familiar are philosophical. For example, in conceiving happiness, Aristotle (*Ethics*, bk. 1, ch. 10, 1100a, 10; 1101a, 20) explicitly rejects the idea of last judgment. Although condoling the sadness of Priam, whose happy life was finally overshadowed by Troy's demise, he mocks Solon's advice to Croesus that no man count himself happy until he be dead and beyond misfortune. That is, he mocks the idea that outcome is how one is doing at the moment of death, a truly final point outcome. Happiness, Aristotle tells us, comes from within. For happiness consists in "active exercise of our faculties in conformity with virtue" (1100b, 9–10). And "none of men's functions possess the quality of permanence so fully as activity in conformity with virtue" (1100b, 11–14). Only the most overwhelming of external misfortunes can challenge this, he thought. Thus, outcome is essentially a tensed constant unique to the individual, determined by who we have made ourselves to be, always produced in action in every now of our lives.[23]

It is not impossible to envision a social science concept of outcome of this kind. Csikszentmihalyi's (1990) celebrated theory of flow is essentially about a momentary type of experience that "is its own outcome." The flow experience is absolutely tensed, in that it presupposes the separation of a now from past and future. Unlike the PTO conception of the economists, however, flow does not bother looking beyond the now, either to past or future. It is a microstructure within the now that depends on a number of external and internal conditions. External conditions are completable tasks, ability to concentrate and to control actions, and immediate feedback. Internal conditions are effortless involvement, decrease of self-consciousness, and deformation of temporal sense (49). The deformation of temporal sense is what is important for us. It is a kind of expansion: "Hours pass by in minutes, and minutes can stretch out to seem like hours." The former judgment seems to come from the outside; when one is not in flow, it seems to have passed quickly. And the latter judgment is from the inside; when one is in flow, it seems to last and last.[24]

Flow is clearly an outcome state, and one of the momentary tensed kind we have just seen in Aristotle. But it is not immediately clear how one would use flow as an outcome measure, although there are some obvious

possibilities. One could simply measure amount of time spent in flow, although this seems a problematic concept given the deformation of time sense involved. Moreover, this approach simply treats flow as yet another kind of utility, rather than as a specific form of outcome conception. It would fall under the class of untensed period outcome conceptions discussed above.

A more subtle way to operationalize flow as an outcome conception would be to treat it as a fractal, taking literally the idea that flow constitutes a way of expanding time. Think of time for the moment as a B series line segment of a certain length or duration. Now imagine that we expand that line by replacing the middle third of it by the two sides of the equilateral triangle of which that middle third is the base. The segment is now a trajectory with a deviation in the middle and is ⅓ as long as it was before, although its horizontal extension remains the same. Now do the same to each of the four segments of which the trajectory is currently composed. The total length is now 16/9 what it was to start with, although the horizontal extension remains exactly the same.

This construction, the Koch fractal, can of course be repeated endlessly. We can think of it as an analogy for the expansion of time in flow. Linear time remains the same, but lived experience becomes much more than it was to start with. (It will pass twice the original length at the next iteration and is, in fact, infinite if we keep going.) Now the Koch fractal does not "fill a second dimension," but the degree to which it does can be measured. This number, its fractal dimension, is 1.26. Other linear fractals of this type (sometimes called meanders [Lauwerier 1991]; a different type of fractal would be one with a different generating rule) will of course have a different fractal dimension. That is, although there is no linear way to measure the "time expansion" because it involves another dimension not directly measurable, there is a monotonic scale directly related to that expansion, and that monotonic scale could be used in principle to measure a degree to which one's version of flow added extra lived experience time to the fixed horizontal period of the line segment.

How would we specify what could be meant by "different types of fractal time expansion in flow"? Note that in a finite system, there are two different parameters to this kind of time expansion: first, the one-step expansion induced by the fractal generator, and second, the number of times that generator is (recursively) applied. The first could in principle be estimated directly from individuals' flow experience. The second would be more difficult, as it refers to the extent to which people take the "ordinary time" leading up to flow and expand it into a little flowlike middle part, rather like somebody who has a special set of rituals or exercises before a big sporting match and a special way of celebrating afterward (and who would then take the before and after segments of the preparatory ritual and expand them on a flow basis, etc.). But in principle, these two parameters of time expansion could be measured; the measures are no more fanciful than the time tradeoff and standard gamble methods used to estimate HQRLs in the health outcomes literature (see Torrance 1986 for a review). It thus seems that one can imagine an empirically grounded program of research in which outcome is conceived as an instantaneous, tensed phenomenon, of which each individual might have a characteristic version or type. This instantaneous aspect of outcome would have an enormous impact on "total experienced outcome over a lifetime," but would not be retrievable by simple survey measures of "quantity of outcome over time," as it is concealed in the way that individuals experience the utilities that come to them.[25]

This approach implies that flow as an outcome measure would be independent of social scales of valuation. It would not be a function of money, for example. Nothing about being rich makes flow more possible, with the possible exception of conferring freedom to control actions. Also, because of flow's focus on the now, it is not at all clear how to aggregate it over the life course as an outcome or how to use its presence, absence, or possibility as a crucial criterion of decision. In a way, this is a problem with any tensed form of outcome conception. Referring all to the now, they remake possibility perpetually, whether they are prospective or retrospective, momentary or pantemporal.

Perhaps the most intriguing form of tensed outcome is retrospective. We have models for thinking about future outcome and present outcome. But there is little in the diverse social science literatures on outcome that really helps us conceive of the impact of past events on present outcome. Obviously, one could begin by recalling that untensed period outcomes essentially involve past outcome in a simple way. That is, if one considers the simple integral of utility as viewed from late in a duration, it obviously takes into account past as well as present welfare. One could move beyond this, toward a tensed conception of past outcome, by insisting that pleasant memory is itself part of present reward. To be sure, memories fade, and one might as a first rough approximation assume that memories fade exponentially, which leads one to a kind of reverse discount symmetric with the prospective discounting that is at the heart of standard microeconomic conceptions of outcome. This is the most simple form of retrospective tensed outcome (RTO).[26]

It is common to make decisions on an RTO basis. Some people choose to have children because they look forward to changing diapers a year hence (on a PTO basis) and some because they see everyone else do it. But a not insubstantial number of people have children to avoid regretting, at some much later point in life, that they had not had children. This is an RTO decision, not a PTO one, because on standard prospective discounting rates, even quite massive regrets thirty years hence are of no substantial disutility today. But seen from the viewpoint of the end, with the diapers and wakeful nights successfully discounted (by selective memory, if by nothing else), this regret looms as a massive loss.

One difficulty with this kind of RTO measure, however, is that it does not take account of the ways past utility remains in question. Put more formally, it does not recognize the historicality of consummation. The most obvious example of this has already been mentioned: divorce. It is well-known that the process of divorce produces a variety of redefinitions of past events, inter alia of past consummatory outcome. Some of these are simple redefinitions of the "You know, I never really loved you" form, which suddenly eradicate the meaning (even the discounted meaning) of large bodies of past pleasure. Some are strategic; as Vaughan (1987, ch. 10) points out, these very redefinitions can be used as gambits and responses in the process of uncoupling itself. Others arise simply from the "placing into question" of all past interpretations, which have been protected by the secure, factitious quality of marriage.

But all of these mean that not only is the past discounted, it can be redefined. This can be a literal redefinition, as we have seen. But it is more commonly a redefinition by a later act, as a marriage becomes merely a "first marriage" when the second occurs or the brilliant early literary success becomes merely "a flash in the pan" when the second and third masterworks fail to appear. This indeed was at the heart of Aristotle's condolence for Priam, whose many, apparently fully consummated years of success were redefined as "pride before a fall" by the Greeks' wasting of proud Ilion. And it was this logic that led Solon to tell the fabulously wealthy Croesus not to count himself happy until dead (Plutarch n.d., 114).

A truly effective RTO outcome measure must take account of these redefinitions. In prospective discounting, the uncertainty of the future is held to increase montonically from the present. It is by no means clear that events in the past are systematically more susceptible to redefinition as we move further from them. Indeed, a long literature on "sedimentation" (Berger and Luckmann 1967) assumes that quite the reverse is true. Hence,

we are unlikely to handle the problem of redefinition by a simple negative exponential discount, even though the latter might seem the best way to deal with the easier problem of the forgetting of pleasures. Such redefinition at the social level can work extraordinary transformations of past consummations good or bad, as Peter Novick's (1999) brilliant book on the Holocaust demonstrates. At the social level, with its much longer time horizons and more commonly equilibriar framework, the impact of such redefinition on present outcome is enormous.[27]

When we turn from RTO to the problem of pantemporal tensed outcome, we have reached what should be considered the ideal of possible outcome conceptions. That outcome conceptions should involve prospect, moment, and retrospect seems to me absolute. We are not momentary creatures, but have pasts and futures, as do our social institutions. All parts of time are relevant to outcome at both levels—not perhaps equally so, but the balance of them is itself something we should explore, not simply make assumptions about. As for tense, it is clear that tensed outcome is at root preferable to untensed outcome because, as Bergson (1899/1910), Shackle (1961), and dozens of others have argued, we live in a tensed world, not an untensed one. Action, deliberation, anicipation, and memory are all fundamentally tensed. Whether we think at the individual level of decision making (my implicit focus in these past few pages), or at the group level of "history moving forward," as in Lazarsfeld's studies of elections, we want our concepts to work in a tensed environment, because the people and social structures we study are always in that tensed environment. It may be that the move to untensed outcome is necessary because of the need to compare outcomes across agents, or because it is mathematically simpler and more tractable. But that should not blind us to its fundamental undesirability.

Conclusion

In this paper I have tried to lay out a conceptual machinery for thinking about the results of individual and social life. In the ideas of tensed and untensed outcome, of consummatory and nonconsummatory outcome, of retrospective, momentary, prospective, and pantemporal outcome, and in the various versions of untensed outcome here discussed, I have tried to provide terms for thinking about this complex and difficult issue.

I have borrowed concepts widely and ranged over quite disparate literatures because there was no other choice. For the problem is urgent: the question of outcome is not an idle one. The vast majority of sociological

inquiry aims to evaluate the "causes" of "what happens," even though we usually lack a reflective concept of how to appraise what happens. More important, we often aim to figure out whether what happens to one kind of person is better than what happens to another kind of person. But every time we commit to a particular way of envisioning these results, we make profoundly value-laden decisions about what outcome is better by deciding how we are going to define outcome in the first place. In particular, as I have argued throughout, making decisions about how to think about the distribution of welfare over a trajectory—the life course of an individual or the history of a social formation—is a thoroughly value-based action. This is yet another way in which there can be no value-free sociology. It is only the existence of widely accepted, and quite unreflective, conventions about ways to envision outcome that shield us from this fact.

It may thus seem to make perfect sense that research about whether marriage is a good thing should rest on measures that emphasize how people end up after a spell of marriage rather than nonmarriage: living longer, being more satisfied with life and friends and children, and so on. But such an emphasis imperceptibly but inexorably pushes us toward insisting that the ideal aim of erotic and family arrangements is to end up at 60 in reasonable health, with a paid-up mortgage, happy children who went to the right colleges, and ahead of us the pleasant vista of our life-table-promised 21.4 years of golf and merlot. But why not cut a broad swath and flame out at 45? A little calculus shows that Faust's discount rate, the rate at which twenty-four years of bliss starting now is worth the same as eternal bliss starting in twenty-four years, is a miniscule 2.89 percent, less than the 3 percent discount normally used in health evaluation studies in the United States. Faust was a cautious conservative for insisting on twenty-four years before damnation! European health discounting would have accepted only fourteen.

The question of outcome is not simply another methodological difficulty. Most of sociology's outcome conceptions enforce on our data a view of life that is thoroughly and completely bourgeois; there is nothing objective about it. It is a conception organized around decency, circumspection, normality, and a certain kind of highly regulated aspiration. It is a conception that devalues strong experience and overvalues caution. It is a conception that enforces future calculation and disregards memory. It leaves us with nothing to regret, and, all too likely, nothing to remember.

To return to my opening example from *Saturday Night Fever*, the outcomes-based conception that has dominated sociology for decades seems to me a little Fusco-like. It has us standing in the hardware store, dutifully

putting the paint up on the shelves, each in our allotted roles like colorless, middle-aged analysts. But Lazarsfeld, like Tony Manero, realized that the essence of life was not so much about where you ended up as it was a commitment to the getting there. If you recall the opening of *Saturday Night Fever*, you will remember that it consists of a five-minute closeup of John Travolta's feet, encased in high-heeled red imitation-crocodile boots, walking straight at the camera in heroic foreshortening: five minutes of walking, five minutes of tensed process, of past, present, and future. We don't care about the final point outcome: that Tony gets to the hardware store with the paint can. We want to watch him getting there: buying his slices of pizza, turning around to chase the beautiful girls who undulate past him, listening to the el overhead. It is the whole walk that is the outcome, and for us as sociologists, understanding that walk is a crucial matter, a matter, like the music Travolta walks to, of staying alive.

Notes

A shorter version of this paper was written at Peter Bearman's invitation for the Paul Lazarsfeld Centennial Conference held at Columbia University, 29 September 2001. I would like to thank not only that audience, but also audiences at Michigan, Oxford, and Northwestern for comments on this paper. I also thank David Meltzer, Ray Fitzpatrick, and Avner Offer for stimulating advice, Richard Saller for spatial support, and Erin York for research assistance. I should like to dedicate this paper, which makes much of the finitude of human life, to the memory of my friend and colleague Roger Gould.

> Thou wert the morning star among the living
> Ere thy fair light had fled—
> Now having died, thou art as Hesperus giving
> New splendor to the dead.

1 The standard response to this bleak statement is, of course, to study the variation in the time till that outcome arrives. See Keynes's famous epigraph from *A Tract on Monetary Reform*: "But this long run is a misleading guide to current affairs. In the long run we are all dead" (1923, 80).

2 This framework for action is surprisingly like the language Bergson uses to discuss choice, in which we have "not two tendencies, or even two directions, but a self which lives and develops by means of its very hesitations, until the free action drops from it like an over-ripe fruit" (1889/1910, 176). See the discussion of Bergson in Abbott (2001b, ch. 7).

3 Lazarsfeld was involved in two major voting studies: *The People's Choice* (Lazarsfeld and Gaudet 1948) and *Voting* (Berelson, Lazarsfeld, and McPhee 1954). I focus on the latter, which is the more fully developed.

4 By comparison, Lazarsfeld had been trying to think of the entire network of phenomena moving forward in real time, at least in the period before the election, rather than a particular funnel of causes focusing in on one outcome. As Lazarsfeld argued, an

election is itself only an interim sample in a long run of samples. The Michigan approach justified itself, of course, by pointing to the consequences of that interim result. Yet the funnel model was easily and commonly moved to situations where the consequences were by no means so great.

5 The book actually proceeds backward in causal time, from these proximate factors to the larger background ones. It begins with "immediate psychological influences on the voting act" (popular perceptions of national politics, political attitudes about candidates, and individual sense of political commitment and efficacy). It then seeks "the roots of [these] proximal attitudes in either of two directions, moving deeper in time past or outward from the political core of the funnel" (Campbell et al. 1960/1980, 118). (Here the authors consider the effects of and origins of party attachment, the effects of issues themselves and of issue aggregation by parties, and the consequences of electoral laws and systems.) Finally, it turns to the social and economic origins of all these "more general" political factors: group memberships and their effects, class and its effect, SES effects, regional and sectoral effects, and so on. It is a simple and instructive exercise to create a narrative that rearranges these causal priorities, making the enduring political beliefs of individuals into a background that shapes party behavior, which then determines political structures and, thereby, the structure of SES and group membership. Pressure of space keeps me from an extended analysis of the relation of causality and outcome in this paper.

6 The actual amount of Lazarsfeld in various of these books is unclear. Although he was always careful to provide acknowledgments (off the title page), substantial parts of *Voting* were originally drafted by John Dean and Edward Suchman. Other parts began as dissertations, and Berelson attributed substantial portions of the ideas in chapter 14 to Edward Shils. As for *Personal Influence*, the entire text appears to have been drafted in three sections by (respectively) David Gleicher, Peter Rossi, and Leo Srole (see Katz and Lazarsfeld 1955, xiii). Given this corporate mode of production, one is reluctant to attribute ideas directly to Lazarsfeld. But for my purposes, I assume him to be the presiding genius of this work and attribute ideas to him on that basis.

7 Katz and Lazarsfeld defined themselves not only by contrast with emerging survey research, but also by contrast with the mass/disorganization view of public opinion, in which the sudden expansion of media was seen to be creating a "global village." They traced this argument to Cooley's *Social Organization* (Katz and Lazarsfeld 1955, 16, n. 1) and thought Wirth and Blumer its current exponents. Oddly, then, Columbia sociologists of the empirical tradition were arguing for location and grounding of social facts against two Chicago writers normally associated with strong insistence on precisely that location and grounding (see Abbott 1999, ch. 7).

8 Interestingly, Berelson et al. (1954, 281) cite Tinbergen, an economist modeling business cycles, as their source. Tinbergen had reinvented path analysis in the 1930s, its actual invention by Wright in the early 1920s (like its use in Wright's father's work on tariffs) being already forgotten. See the references in Abbott (1998).

9 Technically, one of the values of the dependent variable has extent in time, because the criteria for "transnational entrepreneurship" include having traveled abroad twice in the past year and having the success of one's firm depend on foreign contacts. But the essential goal of the article remains predicting an individual outcome at a point.

10 The technically inclined will note that I have slipped into a discrete language for an article whose endogenous variables are continuous. This is not a problem at so high a level of abstraction. Markov chains provide a useful formal way of thinking about the difference between "final outcomes" and "interim outcomes," both as facts and as frameworks for thinking about the world. In regular Markov chains, we envision interim outcomes. If the chain is irreducible, every state will be visited at some point, and indeed will be visited an infinite number of times, although the proportions of time spent in various states are of course determined by the transition probabilities and estimated by the row proportions of the multiplicative limit of the transition matrix. There are no final outcomes. In absorbing Markov chains, there is a final outcome or outcomes, and we are interested in the periods of time spent in various states before getting there. These will be a function partly of transitions between transient states (the interstate probabilities that would completely determine a regular chain), but also, to a critical degree, of the transition probabilities into the absorbing state or states. People who think about the world in terms of final outcome must focus on these, the probabilities of irrevocable change.

11 In these intoductory paragraphs on discounting I have relied somewhat on the extremely interesting book of Colin Price (1993).

12 Sources in this area are legion, going back to the celebrated prospect theory of Kahnemann and Tversky (1979). Probably the most comprehensive current writer on hyperbolic discounting is Ainslie (1992, 2001). Economists have considered a variety of interesting outcome problems, such as how current consumption decisions make the actor into a different person when he or she later enjoys the chosen utilities and what happens when actors are no longer around to enjoy chosen future (social) utilities or disutilities. A few economists have turned to the Lazarsfeld question of how to think about whole sequences of consumption. It should be no surprise that the preferred sequence is of gradual increase (Loewenstein and Prelec 1991, 1992).

13 For these rates, see Muennig (2002, 151). A 3 percent discount gives a net present value of about 75 percent at ten years and about 54 percent at twenty. A 5 percent discount gives 61 percent at ten years and 37 percent at twenty. Obviously, such discount rates ensure that governments are unwilling to invest much in long-term prevention of chronic diseases with late onset, a fact that has fed an intense political debate about fairness. For a discussion, see Tsuchiya (2000). QALYs have also been used for simple inequalities measures; see Gerdtham and Johannesson (2000). Another important empirical discounting literature is that on lifetime earnings. Here, too, early controversies about discounting seem to have settled into later conventions. Creedy's (1977) classic paper points out that variation in earnings profiles over the life cycle means that differing discounting rates can produce differing rank orders of occupations in terms of lifetime earnings. But later literature (e.g., Dolton, Makepeace, and Van der Klaauw 1989; Makepeace 1996; D. Johnson and Makepeace 1997) has usually assumed standard discounting. Nonetheless, in an extremely cautious review, Creedy (1990) warns that any extending of the accounting period for earnings beyond instantaneous measure raises nearly insurmountable estimation difficulties. Some work in this literature does not formally discount. For example, Bosworth et al. (2000), working with U.S. Social Security data, simply divide all wages by the average wage for the year, which standardizes for temporal change without discounting.

14 For a forthright exposition of the "nowness" of economics, see the early chapters of Shackle (1961). I should note that the sociological conception of outcome is implicitly like the Christian one. The sociological aim of life, at least the aim that is implicit in

books like Waite and Gallagher's (2000) *The Case for Marriage*, is to end up well. This is analogous to the Christian aim to end up well: to have lived righteously and to die ready to face a final tribunal that evaluates a whole life in order to send a soul to its eternally constant outcome. Properly speaking, this is the Protestant view (at least as experienced by believers; as Weber and many others have pointed out, most Protestant theology doesn't recognize a quantitative final judgment). Roman Catholicism, by contrast, focuses on dying in a "state of grace"; like the microeconomists, it focuses on the now, in this case, the now of death. I am grateful to Colm O'Muircheartaigh for pointing this out.

15 McTaggart's paper set the problematic of the anglophone philosophy of time for the entire twentieth century. The continental tradition ignored it, preferring the phenomenological approach of Husserl and Heidegger, which I have ignored here. The McTaggart argument was restated, almost word for word, by the English heterodox economist G. L. S. Shackle, who does not seem to have been aware of McTaggart. "With this extended time seen from the outside by an extratemporal observer [i.e., the B series] we must contrast the time in which things happen to, and are perceived in their actuality by, an intratemporal observer, a living person in his act of living" (Shackle 1961, 17). The distinction is also cognate with Bergson's time as duration (A series, in Bergson's view legitimate) versus time as extension (B series, in Bergson's view illegitimate).

16 The details of this argument need not concern us here. Basically, once he has separated the two series, McTaggart shows that the B series cannot be a notion of time because it has no account of temporal direction, while the A series involves us in assigning to a single fact a property (futureness, presentness, pastness) that changes in a regular manner that we cannot specify without assuming the consequent: that time exists. For a detailed modern exposition of the McTaggart position and its sequelae, see Mellor (1981).

17 Duncan would no doubt have answered that there was no reason for 1962 other than convenience; the coefficients would probably be the same for any particular outcome moment, to a large degree. To illustrate the rather arbitrary nature of sociology's time intervals, I have taken a sample from Sociological Abstracts of 1,846 articles on the sociology of work. (This sample was for a paper on skill, but the results would be the same no matter where we looked.) Of these, 66 involve some form of inclusive dates. Of the 66, 16 are specified in decades (1970s, etc.). Another 26 start with a decadal year (1940, 1950, etc.), and 21 (with some overlap) end with a decadal year. Thus, most of the papers involve decadal specifications. There is, of course, no nonarbitrary reason why periods of investigation should start and finish with decadal years.

18 The outcome concept characteristic of much sociology draws its structure from the literary conventions of narrative (see Abbott 2001b, chs. 2, 6). So we read in Aristotle:

> Now a whole is that which has a beginning, middle, and end. A beginning is that which is not itself necessarily after anything else, and which has naturally something else after it; an end is that which is naturally after something itself, either as its necessary or usual consequent, and with nothing else after it; and a middle, that which is by nature after one thing and has also another after it. A well-constructed plot, therefore, cannot either begin or end at any point one likes; beginning and end in it must be of the forms just described. (*Poetics* 1450b, 26–33)

Moreover, Aristotle earlier says, "[In Narrative] the end is everywhere the chief thing" (1450a, 23), and "[Narrative] is an imitation of an action that is complete in itself" (1450b, 23–24). These passages identify the concept of narrative with the concept of final outcome. The Lazarsfeld process position is that, *pace* Aristotle, there is in social reality no end "with nothing else after it," except death. Note that there is no body of sociological methodology based on beginnings. One can think about time series in the ARIMA (AutoRegressive Integrated Moving Average) format as being completely about middles, as one can think about the standard regression model as an ancestors' plot focused on ends. But there is surprisingly little thinking in terms of beginnings, even though the mathematics we call event history analysis began life as waiting-time-till-failure models in studies of industrial reliability, which are essentially beginning-focused models.

19 The obvious example here is mobility studies, which has spent decades trying to explain departures from an outcome state of "pure chance" mobility. Yet pure chance intergenerational mobility would have struck virtually all residents of the nineteenth-century United States or Europe as completely and totally bizarre. It was certainly not for them something they conceived to be the "natural" state of affairs.

20 Thus, sexual congress "consummates" a marriage in the sense of fully realizing it, but also "consummates" a part of the relationship (courtship) that is now finished. This duality is evident in what is arguably the word's most famous use. When Jesus dies on the cross, he says, "Consummatus est" (Vulg. John 29:30), famously translated in the Authorized Version as "It is finished," meaning that the immediate drama of the Crucifixion is over, but equally interpretible in Christian theology as "It is completed," meaning that God's plan for redemption through Christ's incarnation and death has been brought to fruition. The same dual sense is in the Greek original, which uses the verb *teleo*, meaning both to bring to maturity and to finish.

21 I have here unpacked two distinctions run together by Kahnemann and Tversky (see 2000, 15, on "decision value" versus "experience value"). See also, on future outcomes, Shackle (1961, 9): "It is hard to give a sufficiently arresting emphasis to the idea, and what is implied by it, that outcomes are figments and imaginations."

22 One might ask whether predestination really fits this model; are people predestined so that they are free of the cares of life and can simply show forth God's grace in the manner they choose? The answer is no. Calvin believed it impious to pose the question of why God should have chosen to predestine (Constantin Fasolt, personal communication, 2 August 2002). An example of marriage limitations that were effectively term limits can be found in the Oneida Community (see Foster 1984, ch. 3), but of course, there are also the familiar cultural images of "shipboard romance" and other such limited dalliances. As for limited scholarly fellowships, the Rockefeller Center at Bellagio is famous for its one-month limit and ten-year waiting time till a return visit. Probably the oldest continuous example of a term-limit structure is the British Parliament, whose requirement of an election every seventh year (if not before) dates from 1716. (It was three years in 1694–1716.)

23 The Book of Job makes the same argument. Job's "outcome" in terms of worldly matters is an arbitrary result of God's hands-off response to Satan's dare. But Job's outcome as a human being, which is his ultimate justification in the sight of God and indeed the cause thereby of his return to riches, lies in his never ceasing to address God even in his bitterest moments, a quality that, like Aristotle's virtue, "comes from within." Such momentary tensed outcome concepts are common. A similar sense that all of life is always at risk in any moment and that outcome always depends on an instantaneous virtue in the now is central to the Japanese samurai ethic.

24 An excellent example of flow is expert speculation with money. Many extremely wealthy people continue to amass wealth not because they can in any way use it for consummatory pleasure (although one could try to save their behavior for standard utility theory by assuming that their utility lies in beating the other guy). Rather, they do it simply to enjoy the flow of the doing. It was perhaps for this reason that Weber described capitalism, on the last pages of *The Protestant Ethic*, as degenerating into sport.

25 I have dodged the problem that flow is very much tensed and hence that flow's "time expansion" does not take place uniformly across any given duration but in some sense from left to right. This question would need to be addressed before flow could be used as an outcome measure.

26 The importance of memory in RTO suggests the reverse importance of anticipation in PTO, something that is ignored in the microeconomic version of PTO. The thing that is lost (see n. 19 above) when pleasure is consummated is the anticipation of pleasure, which ought to be recognized as having utility in and of itself, extended over the full period of anticipation. And the vaguest, most long-term anticipations are often the strongest and most sustaining. Just as memory should form the core of RTO, anticipation should not be ignored in PTO, as it currently is. The whole concept of midlife crisis is at root about the death of anticipation in consummation.

27 I lack the space here to even begin to touch the literature on collective memory and its individual-level equivalent, the literature on oral history. Both of these could have much to say to RTO conceptions of outcome.