Chapter Four
GENERAL HEURISTICS: SEARCH AND ARGUMENT

I. SEARCH HEURISTICS
   A. MAKING AN ANALOGY
   B. BORROWING A METHOD

II. ARGUMENT HEURISTICS
   A. PROBLEMATIZING THE OBVIOUS
   B. MAKING A REVERSAL
   C. MAKING AN ASSUMPTION
   D. RECONCEPTUALIZING

CHAPTERS FOUR AND FIVE DESCRIBE general rules for coming up with new ideas. I shall illustrate these heuristics with a variety of examples drawn from several disciplines. The examples are illustrative, not definitive. The reader should not get the idea that a particular example illustrates one and only one heuristic. In fact, I end up reusing some examples. Just as there are several ways to think about any given method, there may be several ways to interpret the intellectual moves of any given article or book.

I shall also use some examples that were perceived as clever only a long time after they were written. Such papers are curiously common in the social sciences. The economist Ronald Coase’s celebrated paper on the nature of the firm was published in the 1930s but did not become a touchstone of modern economics until the 1970s. (Coase won the Nobel Prize in 1991.) The anthropologist Fredrik Barth’s Models of Social Organization was published in 1966 but didn’t become a classic citation until much later. Ludwik Fleck’s pioneering book on scientific thought styles lay fallow from its publication in 1935 until it was repopularized by Kuhn in the 1960s and finally translated into English in 1979.

That people took so long to recognize the creativity of these works perhaps tells us something important about the nature of creativity. Much of it has to do with how one’s ideas fit with others’ current beliefs. Creativity is relational. Coase’s work went unappreciated until the rest of the economics community came around to the broad conception of economic thinking that Coase took for granted. Fleck’s book was completely ignored until Kuhn’s Structure of Scientific Revolutions prepared people for it. Often a mainstream cannot see new ideas as creative. Often it cannot see them at all.

This tells us about an important limitation on the practice of heuristic. You can easily be too radical for an audience. If you aim to have an impact, you have to adjust your heuristic gambits to your audience—whether it is a bunch of college friends, a seminar, or a subdiscipline. Note also that the cyclical relations among methods and the fractal character of social scientific debates mean that it is quite possible to be too radical for one group while being insufficiently radical for another. Practitioners of SCA might find Fleck’s view of the conditionality of facts so radical as to be irrelevant, while contemporary sociologists of science would find him tame.
This rule—be different but not too different—takes us back to some earlier themes. As I said in Chapter One, the aim of social science is to say something interesting—perhaps even true—about social reality. We have some conventional ways to do that, which we call methods. The rule to be different but not too different reminds us that each methodological community has its own sense of how far is too far. It changes from time to time, of course. Many sociologists my age remember well the kid gloves with which we handled multiple regression in the 1960s, before it could be done in nanoseconds by eleven-year-olds. We always tested for interaction; we always repooled variances. No such care exists today. There are, however, newer rules about what’s OK.

The heuristics in this book will sometimes take you clean out of whatever standard world you’re currently in. That’s the fun of it, as far as I’m concerned. But you should be advised that once you’re outside the usual methodological communities, there are a lot of things that make strange noises in the social scientific night. That’s why methodological communities and the addition heuristic exist—so you won’t have to deal with those things on a regular basis if you don’t want to.

In this chapter and the next, I discuss general heuristics. Unlike those in Chapter Six, these do not derive directly from the fractal debates of Chapter Two. They are tested ways of broadening what you are doing, ways to come up with new ideas, new methods, or new data, ways to get unstuck. Remember that these are not specifically aimed at any particular phase or aspect of the research process. They are useful at various times and in various ways.

I will discuss two kinds of general heuristic gambits in this chapter. The first are search heuristics, the simplest form of general heuristic. They involve seeking out new data, methods, and ideas. They are the first step beyond the additive heuristics of the preceding chapter. The second are argument heuristics. These are ways to play with or pose arguments in order to create openings for ideas. Like search heuristics, argument heuristics are general strategies for producing new ideas. But rather than helping you look outside your problem or data or way of thinking, argument heuristics help you look within, bending what you have into new shapes and new uses.

I. SEARCH HEURISTICS

Search heuristics are ways of getting new ideas from elsewhere. When you use search gambits as heuristics, you are betting that someone else has already thought seriously about your problem or something like it and that you can borrow that thinking. The central search heuristic is analogy. It could be an analogy about data: “the marriages I am studying are really like negotiations in business.” Or it could be an analogy about a problem: “the problem of trying to explain why unions fail is just like the problem of trying to explain why X-ray machines fail.” Note that in the second case, we aren’t saying that unions are like X-ray machines, only that the process of failure has a certain logic to it in any circumstance.

A specialized but important search heuristic is the borrowing of methods. Borrowing usually involves analogy but goes beyond it to invoke not only some
ideas but also a whole apparatus of analysis. It can be quite general or narrowly specific. Let us now look at these two search heuristics in detail, with some famous examples.

### A. Making an Analogy

The first and in many ways most important of the general heuristics is making an analogy: saying that an X is really a G. (See? I surprised you—you were expecting Y. That would have come next if I were using the additive heuristic.) Examples of analogy are common in creative social science. Applying rational-choice models to explain state formation in feudal times means making an analogy between feudal kings and modern rational actors. Applying ecological models to humans—Park and Burgess applied them to cities in 1925, and Han-nan and Freeman applied them to organizations in 1977—means making an analogy between human societies and biological systems. Applying economic models to family planning means making an analogy between people having children and people buying hamburgers.

These may seem like far-fetched analogies, but they were very productive. Consider the “economic” analogy. Gary Becker, the greatest apostle of this analogy, began his career with what was at the time a truly astonishing book, *The Economics of Discrimination*. Suppose, Becker said, we think about racial discrimination as basically an economic phenomenon. We can estimate a “price” of discrimination by the following method:

We compare the hourly wages paid in southern textile mills that employ all-white labor forces with wages paid in mills employing mixed or all-black labor forces. The difference will be the price the factory owner is willing to pay for his discrimination, as if he were buying it like a suit of clothes. We can then bring all the apparatus of microeconomics to bear on that price, analyzing how it fluctuates with labor demand and supply, studying the trade-off between spending one’s money on discrimination versus spending it on other things (new capital for the plant, for example), and so on. Becker’s analogy must have seemed shattering at the time. Indeed, nobody outside the economics profession paid a lot of attention to *The Economics of Discrimination*. But the analogy was powerful, and when Becker began to analyze more mainstream topics, like family-planning decisions, his work began to be regarded as truly revolutionary.

Analogy is fundamentally different from addition. It means truly changing the terms of analysis, not simply adding something to them. It has a risk to it: there will be naysayers. At the same time, it can be very productive.

Many analogies take the form of Becker’s, which begins with the theory and method and moves toward the data. The Becker claim was really “You may think that phenomenon X cannot be analyzed with my theory/method T, but in fact you’re wrong: it can be.” It is equally common for people to start from the data and use analogy to find new theories and methods. That was the source of the ecology analogies mentioned above. Park and Burgess looked at the raw complexity of the city of Chicago and asked whether the city looked like something that someone else had already come to understand. The answer was that it looked like the thing biologists call an ecology. So one way to understand it was
simply to borrow the language and some of the analytic machinery thought up by biologists to analyze complex natural systems: the city is an ecology. Ditto for Hannan and Freeman, with their ecological approach to organizations. Organizational fields, too, can be seen as ecologies.

Looking for analogies from the data end is the more common experience for students. Suppose you are interested in the way cities are governed. The usual line of analysis treats this problem quite traditionally, as a question of understanding politics: voting, councils, bureaucracies. But it is perfectly possible to treat city government completely as a problem of economies: economies of favors, economies of patronage and politics, economies of location. In this analogy, city politics becomes simply an economy, and you can apply to favors, patronage, and decision-making all the machinery of economics: supply and demand, trade-offs, budget constraints, elasticity, and so on. You may not end up writing the final paper using the economic language, but under whatever surface rhetoric you do use, you can employ the borrowed arguments and ideas to understand things that may seem puzzling when you think of them purely in traditional terms as problems of power, authority, and influence. As this example makes clear, one of the useful aspects of analogy is that most often the ideas you borrow will be quite well worked out. When you forage in other disciplines and subdisciplines, you will find the intellectual supplies plentiful and well kept, ripe for the taking.

Analogies don’t always work, not even the ones that make it into print. In two essays, the famous sociologist Talcott Parsons once gave an analysis of power and force in economic terms (1967a,b). He treated power as a medium of exchange, exactly like money. He treated force as the “gold” backing up the power (“money”) system. He reflected on the uses of embodied power (“capital”) to produce political growth (exactly analogous to economic growth). All of this hinged on a simple, direct analogy between power and money.

The two papers carrying out that analogy are brilliant but somewhat bizarre. They are brilliant because they make us think about power in a completely new way. They are bizarre because Parsons never used the analogy to question the distribution of power to individuals. Yet this is the basic topic of politics—who gets what where, how, and why?—though not that of economics (other than Marxian economics). This example teaches another useful lesson: in analogy, something centrally important can be lost—in addition to the something gained—unless we are very careful.

Note that analogy is not simply a matter of going to other disciplines and other bodies of knowledge. It is first and foremost having the ability to break out of the standard frames we put around phenomena. Having this ability means seeing, for example, that there is a close similarity between schools, prisons, and mental hospitals (David Rothman, The Discovery of the Asylum); that bodily fluids like mucus and semen cross boundaries in the same way unclassifiable objects do (Mary Douglas, Purity and Danger); that everyday interaction can be treated as drama (Erving Goffman, The Presentation of Self in Everyday Life). Obviously, it is crucial to know when and how an analogy works; af-
ter all, many people besides Goffman have seen life as drama, not least among them William Shakespeare. Often the key to an analogy is not having it but being willing to work out the details, which is exactly what Goffman did.

To cultivate analogy, you must do two things. First, you have to be willing to make rash connections. This willingness is itself a character trait, and you will need to get a sense of whether you are more or less analogical than others. If you have too little analogical power, you need to cultivate it; if too much, you may need to restrain it. But to use analogy effectively, you must have not only the character but also the means. You must read broadly in social science and beyond. The more you have to draw on, the better. That is why many great social scientists are part-time dilettantes, always reading outside their fields, always dredging things up from some old high school or college course and putting them to new uses. (It’s also one of the reasons why many great social scientists began life as historians, physicists, chemical engineers, literary critics, and even generals or lawyers.)

Of course, as I noted, the origins of analogies are generally well concealed by those who use them. And analogy often provides only the starting point for an argument, which must then be carefully elaborated and critically worked out on its own. But the overall fact is that many an influential paper has its roots in a fairly simple analogy that is carefully worked out. The pervasiveness of analogy is quite evident in famous titles and catch phrases like “economy of favors,” “vocabularies of motive,” “politics of knowledge,” and so on, each one of which flaunts the analogy involved. Analogy is the queen of heuristics.

B. Borrowing a Method

Often there is a subterranean force driving analogy. That force is the desire to borrow (use, steal) a method. Students generally avoid borrowing. They feel that they are learning the methods of this or that field and that their faculty supervisors will expect them to use the local methods. Certainly in methods courses, that’s true enough. But for the more general course paper and certainly for research papers and professional work, borrowing is often a smart thing to do.

Typically the borrowing relation can be put simply: “if only I could make an analogy between X and G, I could use all those methods people have invented for analyzing G.” Sometimes these are quite general borrowings. Most of the statistical tools in SCA were borrowed in toto from biology and (later) econometrics (which got most of them from biology in any case). Correlational analysis, multiple regression, experimental and quasi-experimental design, hypothesis testing—nearly all were developed to analyze crops and fields and fertilizers and genetics. Other techniques came from elsewhere. The durational methods used by social scientists to analyze how long things take to happen (how long until a certain kind of law gets passed, how long until a given company folds) were developed to investigate the failure of industrial devices and the survival of sick patients. At the other end of the social sciences, much of anthropology, particularly since Clifford Geertz’s famous methodological essay “Thick Descrip-
tion," has borrowed heavily from the textual-analysis methods developed by generations of literary critics.

Often, however, the borrowings are more specific and rest on contested analogies. I am responsible for one such borrowing myself. In the early 1980s, I realized that one could think of occupational careers—one of the most basic things to be explained in all of sociology—as simple sequences of events. I reasoned that if they were simple sequences, one could apply "sequencing" methods to them, and I had heard about the new computer algorithms just then being developed by computer scientists, cryptographers, and biologists to compare files, ransack code systems, and comb protein databases. Why not apply these to social data?

This idea proved quite powerful and spawned a miniindustry. But I had lost something important in the analogy. The sequences in biology and computer science were not generated in a particular direction, as careers are generated in time. Surely the early stages of a career are more important in some sense than the later ones (because they can dominate where one ends up). The methods I borrowed did nothing with that importance. So the analogy had its weak side as well as its strong one, and the borrowing was consequently not a complete success.

Like analogy, borrowing rests above all on a wide command of methods in one's own and other disciplines. It is by freeing oneself from the conventional association of certain objects of analysis with certain kinds of methods that one opens oneself to the rich possibilities of borrowing. But freeing oneself means nothing unless one has the knowledge, close or distant, accidental or carefully sought, of other methods and means of analysis. Analogizers and borrowers must always be reading and learning.

II. ARGUMENT HEURISTICS

Argument heuristics are ways of turning old and familiar arguments into new and creative ones. Search heuristics look elsewhere for ideas. Argument heuristics work with the ideas one already has, trying to make them look unfamiliar and strange.

The first argument heuristic is to problematize the obvious. For example, problematize the obvious notion that college is about learning things. Suppose the purpose of college isn't education at all. What else might it be? Indeed, is there any reason why college might be expected to have any purpose? Think of all the alternative reasons (other than education) for the existence of colleges, and make a decent case for each: saving parents' marriages by getting cranky adolescents out of the house, lowering unemployment by keeping millions of young people out of the labor market, providing a maximally supportive environment in which young people can experiment with erotic and emotional relationships, and so on. You will suddenly find that you know a lot more about the educational purposes of college as a result of this reflection. More important, now you can see the crucial questions about the educational purposes of college in a way that you couldn't before you thought about all the noneducational aspects of college. You have problematized the obvious.
A second argument heuristic is to make a reversal. Since everyone assumes universities educate students, assume they prevent education. List all the ways college life suppresses education: scheduling boring classes, providing differing individuals with uniform, uncustomized learning. There are dozens of ways—the nucleus of a good, contentious paper. Reversals are not necessarily reversals of truisms, however, although that is always a useful place to start. You can also just reverse phrases and ideas. I look at my bookshelf and see a copy of Edward Laumann and David Knoke's book *The Organizational State*. As I know well, the book tells how state actors (bureaucracies, boards, legislatures) are embedded in and surrounded by networks of organizations that seek to influence policies in various ways. But suppose I turned the title around and made *state* the adjective and *organization* the noun: *Statist Organization(s)*. What would such a book be about? Perhaps the ways in which organizations take on the properties of states—monopoly of force? Well, not real force, but perhaps economic force? bureaucracy? taxation? How can an organization be said to have citizens like a state? Now when I’ve gotten there—to citizens—I see that I have a topic. The waves of recent layoffs and the anguish of those laid off make it clear that for many people their work relationship does entail citizenship of a kind, with not only responsibilities to some organization but also rights in that organization. What kinds of organizations have citizens rather than employees? When in history have there been such organizations? How does the idea of employees’ rights grow up? All of a sudden, I have the nucleus of a puzzle. Note, too, that I have drifted from reversal to analogy: the new title forced me to move the idea of citizenship to the world of Organizations. But the starting point was a simple grammatical reversal: that’s where I found the nucleus of the idea.

A third argument heuristic is to make an assumption—usually a rash one—and see what it gets you. The most familiar of these rash assumptions in social science is to assume that some actor or actors are “rational”; that assumption buys you all the methods of microeconomics and game theory. (It also has a contrary version: Herbert Simon’s celebrated assumption that all rationality must be “bounded” in some way.) But you can assume plenty of other things. You can assume, for example, that because most human activities are conducted through language, language holds the key to all social explanation. One must therefore analyze it in any situation. This assumption led to exciting advances in the sociology of science, among other fields. As you can see, making an assumption is often a prelude to borrowing. You usually make an assumption in order to simplify or to translate.

A final important argument heuristic is reconceptualization, saying that what you thought was D is really E or even F. Suppose we reconceptualize college dating. Perhaps dating in college is not really about sexuality at all but about bragging rights. People date not because they are interested in intimacy but in order to prove something to people other than those they are dating. Therefore, dating should be categorized with other forms of bragging. Who knows if such
an argument is true, but it suggests an interesting way of rethinking a familiar phenomenon.

Let us now consider these argument heuristics in more detail, using examples.

A. Problematizing the Obvious

Is there something everyone thinks is obviously true? A useful heuristic is to attack it systematically. Much of the time this gets nowhere; people are often right. But a substantial amount of the time, well-accepted and carefully tested ideas are profoundly wrong. They turn out to have been not carefully tested at all.

Perhaps the most famous recent example of this heuristic is *Time on the Cross* by Robert Fogel and Stanley Engerman. Fogel and Engerman attacked several widely accepted “facts”:

1. southern slavery was dying as an economic system immediately before the Civil War,
2. slave agriculture was economically inefficient (and, consequently, defense of it was economically irrational), and
3. the southern economy as a whole was actually retarded by the existence of slavery.

Fogel and Engerman rejected all of those propositions, which had been mainstays of the scholarly literature for many years when they wrote their book. In the process of that rejection, they demonstrated dozens of counterintuitive results: the money income of slaves in gang labor was higher than what it would have been had they been free sharecroppers (1974:1:239, 2:160); many large plantations had black management (1:212, 2:151); and so on. Fogel and Engerman’s two-volume work caused a furor upon publication and for many years thereafter.

Fogel and Engerman were quite clear about problematizing the obvious. In fact, they devote many pages to explaining how a view of the economics of slavery that was so erroneous became standard. They also reveal (2: appendix A) that they were not the first problematizers of these “obvious” facts and point to the extraordinary difficulty such a heuristic sometimes faces.

Another fine example is Claude Fischer’s *To Dwell among Friends*. Among the many truisms deflated by this book is the notion that people who live in cities are more isolated—have fewer friends and acquaintances—than people in small towns or rural settings. This belief is a staple of pop psychology and even of much serious scholarly work. Fischer went out and simply asked the question. It turns out that the truism was wrong, although, like many truisms, it contained a grain of truth in that the kinds of people urbanites know are somewhat different from those rural people know. They are more likely to be non-kin. But this turns out to be because urbanites are more likely to be young people, people looking for new opportunities and jobs, and so on. That is, people who are more likely to have networks full of non-kin are likely to live in cities for other reasons. Again, problematizing the obvious led to an exciting investigation, one that challenged old truisms and raised new questions.

A student doesn’t need to take on so monumental a project as attacking truisms about slavery or the city. The world is littered with obvious facts that are wrong. Newspapers and magazines, with their strong interest in astonishing
their readers, are fine sources of unsupported pieces of common sense: consider the beliefs that members of generation X hold certain attitudes or that the 1950s were particularly staid or that Americans are losing their belief in God or that the family is falling apart as a social institution. None of these has much truth in it, but all are standard fare in public discourse.

Social science is full of such hollow truisms, too. Take the common belief that social change is happening faster than ever before. It is not even clear what this means, much less that it is in any way true, yet it is a devout assumption of dozens of articles and papers. Or to consider something more controversial, take the idea that departures from equality in human systems need to be explained. This is a universal assumption of nearly all social scientific writing on inequality. We make this assumption every time we write articles on the causes of inequality across genders, races, classes, and so on. If inequality in these areas doesn’t need to be explained, we don’t need to write articles about it. Now, we might want to get rid of inequality for moral or political reasons, but why should we think it needs some special explanation? That is, why should we think it is unusual? We normally explain things that are unusual states of affairs, as I noted in Chapter One. Yet inequality, far from being unusual, seems to be nearly universal in human systems. If something is universal, we have to think very differently about its causes than we would if it were some special state of affairs.

Or you can simply take something as a problem that no one else has treated as such. When Bruno Latour and Steve Woolgar did an ethnography of life in a scientific laboratory (1979), all of a sudden people realized that we had taken life in the lab to be obvious and unproblematic. Turning the weapons of ethnography on it made it suddenly new and strange.

Problematicizing the obvious grows out of the habit of always questioning things that are said or taken for granted. It’s like a program running in the background on your computer. Every argument, every generalization, every background assumption that you run into, should be scanned with this simple check: Is that really true? Could I get somewhere by regarding this as a problem rather than as something taken for granted? The most extreme version of this scan is simply turning such arguments on their heads. That is the heuristic of reversal, to which I now turn.

B. Making a Reversal

Another of the central argument heuristics is to make a reversal. Sometimes this is simply a grammatical reversal. I was once asked to write a paper for a special journal issue on the subject of boundaries. Boundaries and boundary crossing had become very fashionable, so I was bored with the idea. “Boundaries, boundaries of things, of boundaries of things, of boundaries of things,” I sang to myself in the shower one day. Suddenly, the commas moved, and I had the phrase “things of boundaries. What could that mean? I puzzled over it (after I got out of the shower) and tried to give it a real sense. Maybe social things like professions (groups I’ve spent much of my life studying) are “created” out of boundaries. The edges come first, then the thing, as if we created nations by
having a border with place A and another discontinuous border with place B, and yet another with C, and so on, and then we hooked them up to make something continuous, and all of a sudden there was an inside and an outside, and we called the inside a nation.

The resulting paper—titled “Things of Boundaries,” of course—grew out of that simple reversal. I made up the phrase, then tried to think of phenomena that fit it. Often reversal is not such a simple grammatical move but rather a reversal of some standard theory. Among the most famous examples of this is Howard Becker’s paper “Becoming a Marihuana User,” based on ethnography among marijuana users at a time when marijuana use was much less common than it is today. Becker started from the standard view of “deviant behavior”: that certain people have propensities to do deviant things. In such a view, people take up pot smoking because of something characterological, a motivation to be deviant. Becker turned that idea on its head: “Instead of deviant motives leading to deviant behavior, it is the other way around; the deviant behavior in time produces the deviant motivation” (1962:42). Becker’s argument was that people had to learn to think of the loss of control and other physiological symptoms of getting high as *pleasant* experiences, rather than confusing or frightening ones. Hence, behavior came first and motivation—sometimes—afterward. This is precisely the reverse of our standard assumption about human behavior. That reversal opened up zones of investigation and possibilities of interpretation to Becker that had been closed to others.

Note that it is not necessarily clear, without talking to the authors who use this trick, whether the data forced it on them or it came to them in a flash, like my “things of boundaries” idea. But the best reversal papers combine data and interpretation in a way that seems magical. Mark Granovetter’s “Strength of Weak Ties” tells its reversal right in the title. Granovetter was interested in what makes interpersonal connections consequential. For years, scholars had drawn sociograms, diagrams with people as points and with lines between the points representing connections between people—connections by friendship, communication, exchange of money, or whatever. It was always loosely assumed that dense sociograms—sociograms in which most of someone’s connections are also his or her connections’ connections—are the strong type of network. What Granovetter noticed was that if we think about the *overall* degree of connection in a group that has several of these strong ‘cliques” as well as some links across the gaps between them, the nonclique ties (so-called weak ties) actually do most of the connecting. Because they were bridges between cliques, *overall* connection fell rapidly if they were taken away. By contrast, if any one tie within a clique disappeared, it didn’t much matter, because the two individuals involved were probably connected through several other people as well.

Granovetter’s empirical data involved finding employment. It turned out that the people Granovetter studied usually found jobs through some secondhand connection—a weak tie—rather than through an immediate friend. The key to employment was your distant friend’s uncle’s sister, not your best friend. Many people have had the experience of this kind of “accidental” job contact. And we
all think of it as unusual. In fact, as Granovetter’s theoretical argument shows, it’s the common experience. Within our clique, all the people we know have the same job information we have because they are tied to the same people we are. It is through their friends outside the clique that new information comes in.

Another example is Paul DiMaggio and Walter Powell’s famous paper “The Iron Cage Revisited,” which was built on a direct challenge to the Hannan and Freeman paper I mentioned earlier (the one that borrowed ecology to study organizations). The central question of the Hannan and Freeman paper was why are there so many types of organizations? Their answer was that ecological forces produced differences. DiMaggio and Powell simply turned that question on its head. They asked, why do all organizations look alike? Obviously, on the empirical side, the two pairs of authors were looking to some extent at different aspects of organizations. But the fact remains that they used their different questions to make very different things out of what they did see in common. DiMaggio and Powell argued that only at the beginning of their lives were organizations subject to the ecological pressures for differentiation that Hannan and Freeman had seen. Afterward, they were pushed toward each other by forces of “isomorphism.”

My interest here is not with the content of the DiMaggio and Powell paper but with the now familiar nature of its heuristic gambit. The paper turns the argument of another paper on its head, seeks a way to allow both to be right (by saying that ecological differentiation comes early in the lives of organization and isomorphism comes late), and then lays out a general theoretical argument about isomorphism and illustrates it with examples. Reduced to its barest form, it’s just like Becker and Granovetter: “They’ve told you that X is true, but under certain conditions X is false. Let me tell you about those conditions.” This is the simple reversal heuristic, and it produced—in the Becker, Granovetter, and DiMaggio and Powell papers—three of the most widely cited works in modern sociology.

My final example involves making a reversal in the data itself. Harrison White, a physicist turned sociologist, noticed that there are some mobility systems in which holes, rather than people, have the initiative (1970). No one can become president of Harvard until the current president resigns. Then somebody moves to Harvard to become president. This merely makes the hole—the vacancy—move to some other place. Then someone moves to fill that place, leaving a hole somewhere else. Eventually this “vacancy chain” gets to the edge of the system, and somebody enters academic administration from outside to fill the last slot. (Or perhaps the slot itself is abolished, ending the chain another way.) In such a system, holes have initiative. Nobody can move until a hole opens, and nobody can move exactly where he or she chooses; the possibilities are dictated by the holes that exist when an individual wants to move.

White saw that there was a whole class of occupations like this (football coaches, college presidents, Protestant clergy, company CEOs) and that there was a much larger class of mobility systems in which it was loosely true (university departments, law firms, hospital medical staffs). This insight turned our
whole view of mobility on its head; it said that constraints were more important in mobility than either the choices or the character of those trying to move.

This reversal, like so many things, had its roots in analogy. In crystalline solids like semiconductors, there are electron holes, which are more or less negative electrons, absences that behave in most ways like electrons with positive rather than negative charge. So White the physicist already knew about a system in which holes played an important role. Perhaps the suggestion to make a reversal in the thinking about people’s mobility simply worked its way out through his subconscious.

Like so many of my examples, the idea of vacancy chains is an example of several kinds of heuristics coming together. One of these is reversal—making holes more important than people. Another is analogy—between mobility systems and crystalline solids. The third is borrowing methods, for White turned his insight into empirical analysis by invoking a general class of probability methods (Markov models) well known (as of 1970) by physicists but unfamiliar to most sociologists.

C. Making an Assumption

Making an assumption—usually a simplifying assumption—can be a powerful heuristic. As I noted above, a simplifying assumption is often a step toward borrowing, usually from a discipline that analyzes simpler or more tractable systems. Thus, by assuming that “value” was a conservable substance like energy, economists were able to borrow the mathematical tools of statistical thermodynamics whole cloth (Mirowski 1989).

There are other reasons for making an assumption, besides adapting someone else’s methods. Assumptions make for tractability; they make systems easier to think through. In formal demography, for example, it turns out to be useful to disregard men. As far as formal demographers are concerned, all men do is impregnate women; there are always plenty of men around to do that. It is the women who have the initiative; their agespecific fertility behavior determines the size and shape of a population. So demographers generally start from investigations of populations of one sex, assuming that women can determine their own fertility, getting pregnant if, and only if, they please.

It is important to distinguish between such tractability assumptions, which are deliberately chosen, and background assumptions, which are merely implicit. All forms of analysis have implicit assumptions. It is always a useful exercise to reflect on and question those assumptions. But I am here concerned with more conscious assumptions, which are designed to open up a situation to analysis.

An excellent example of such an assumption comes in Blau and Duncan’s American Occupational Structure, already mentioned in Chapter One as a classic example of SCA work. Recall that the book analyzes the dependent variable of the respondent’s current job status by studying the way it is affected by independent variables like father’s job status, respondent’s education, and respondent’s first job. When we write an equation to estimate these effects, one thing we assume is that the causal pattern—the arrows describing what affects
what in the model—is the same for every case. This translates into the assumption that every case follows the same story.

Obviously this is a radical assumption. Otis Dudley Duncan, the methodological master who did the study, knew this perfectly well. The idealized model order was father’s job status and father’s education taken together lead to respondent’s education, which leads to respondent’s first-job status, which leads to respondent’s current-job status. Obviously, many cases will reverse some of these steps. Men go back to school after starting work; men’s fathers may make deliberate status sacrifices to guarantee their sons’ educations; and so on. But by making the radical assumption that the sequence was everywhere the same, Duncan was able to apply path-analytic regression and make some powerful guesses about the relative importance of all of these forces in shaping men’s lives. The actual relationships were of course weaker than they seemed because they were conditional on an assumption known to be erroneous to some degree. But the power of the assumption was great, and the results, even though conditional, were worth the price.

Any strong assumption—like the Duncan assumption—creates the possibility of reversal. Although Duncan was well aware of his radical assumption, many of his followers lost sight of it. Obviously, a useful heuristic gambit is to challenge such a foundational but forgotten assumption. Peter Abell (1987) and I did exactly that with the Duncan assumption, insisting that we investigate the order of events in careers. The result: a variety of new concepts of career as well as new methods for analyzing narrative models for social life.

Another body of inquiry that was built on questioning a standard assumption is the bounded-rationality literature noted above. Starting in the early 1950s, the economist Herbert Simon challenged the idea that all economic actors are rational. In his book Models of Man, Simon argued that rationality was bounded—because there are costs to the information one needs to be rational, because the problems involved may be too difficult to solve, and so on. He proposed that people “satisficed” (from satisfy plus suffice); they make decisions by setting minimal thresholds for success and then search for actions only until they find one that beats the threshold. Later researchers have elaborated on this idea in dozens of ways.

Making and denying major assumptions thus constitutes another basic heuristic in the social sciences. Both moves produce challenging and surprising results.

D. Reconceptualizing

A final argument heuristic is reconceptualization. By this, I mean taking a familiar or taken-for-granted phenomenon and treating it as if it were an example of something quite different. Treat it not as a case of X but of Y or, even better, Z.

I gave in the preceding chapter the famous example of Joseph Gusfield’s reconceptualization of drunk-driving accidents as a “setting” or location problem (too many people have to drive in order to drink in social places) rather than an actor problem (too many people are unable to control their cars be-
cause of alcohol intake—the concept implicit in the phrase “drunk-driving”). But automobile accidents had already provided a famous example of reconceptualization by a non-social scientist. Prior to the writings of Ralph Nader, it was thought that high speed “caused” accidents. Nader’s book *Unsafe at Any Speed* reconceptualized injuries from automobile accidents; they were not a driver (agent) problem but a car (material) problem. Gusfield then later reconceptualized accidents involving alcohol as not a driver (agent) problem but as a location (place) problem. (Thus, both of these are based on moves in the Burke five-keys list of Chapter Three.)

Sometimes reconceptualization is almost forced on one by data. In the 1980s, some criminologists noticed that rates of motorcycle theft fell radically in states with compulsory-helmet laws (Mayhew, Clarke, and Eliot 1989). They saw a possible explanation for this if they reconceptualized motorcycle theft (and, later, most minor crime) as driven by opportunity; it was an opportunistic rather than a planned action. In a compulsory-helmet state, if you haven’t got a helmet and you suddenly decide to steal a motorcycle, the police will stop you at once for the helmet violation and then figure out that you are a thief. The fact that motorcycle theft falls with compulsory-helmet laws makes immediate sense when you stop thinking of the crime as planned and start thinking of it as opportunistic. But the notion of opportunistic crime challenged long-standing “criminal personality” views of crime. Hence, the reconceptualization was a radical one.

Reconceptualization is always easier when one is working with the lists of topics or commonplaces I mentioned in the preceding chapter. A seasoned social scientist always keeps these kinds of lists in mind. He or she is always rethinking things of interest. Is my case really X or really Y? Can I say something new by recasting the whole framework within which I view my problem?

**SEARCH AND ARGUMENT HEURISTICS** are the simplest of the general heuristics. Analogy and borrowing, the major search heuristics, open to our use distant areas of investigation and thinking that aren’t normally part of our repertoire. But as I noted, one can take advantage of these other areas only if one is aware of them in the first place. That’s what makes insatiable reading and broad taste crucial to a good social scientist. They provide the basis on which search heuristics work. Argument heuristics, by contrast, make changes in what we already have at hand. Problematizing the obvious, making reversals, making assumptions, and reconceptualizing—these are all ways of taking what we already have and making it into something new and strange. Unlike analogy and borrowing, they aren’t dependent on reading or breadth of knowledge. But they aren’t dependent on depth of knowledge either. They are simply a matter of practice, of having the habit of doing them.

Note, too, that making assumptions differs from the other three argument heuristics. The other three are guaranteed to cause public notice. They explicitly change or challenge something. By contrast, making a big assumption is often something an author is conscious of but his or her followers are not. That
certainly was the case with Duncan’s assumption about uniform career sequences, although it was certainly not the case with Becker’s assumptions about family-planning “rationality,” which stayed controversial for a long time. It is probably the case that a good heuristic assumption is a radical one—one that gets noticed. Beware of assumptions that are mere conveniences.

Note: