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## 6 The power of example

while other methods are more suitable for hypotheses testing and theory building.

*Misunderstanding 4.* The case study contains a bias toward verification, that is, a tendency to confirm the researcher's preceived notions.

*Misunderstanding 5.* It is often difficult to develop general propositions and theories on the basis of specific case studies.

These five misunderstandings indicate that it is theory, reliability, and validity which are at issue; in other words, the very status of the case study as a scientific method.

This chapter will focus on these five misunderstandings and correct them one by one. In doing so, we will return to the Greek philosophers; to Aristotle, who emphasized the value of case knowledge, and to his predecessors, Socrates and Plato, who denigrated such knowledge.

In a standard reference book such as the *Dictionary of Sociology*, the full citation regarding the term "case study" reads as follows:

### Socrates, Plato, and cases

*Case Study.* The detailed examination of a single example of a class of phenomena, a case study cannot provide reliable information about the broader class, but it may be useful in the preliminary stages of an investigation since it provides hypotheses which may be tested systematically with a larger number of cases.<sup>1</sup>

This description is indicative of a general view of the case study, which, if not directly wrong, is so oversimplified as to be grossly misleading. It is correct that the case study is a "detailed examination of a single example," but it is not true that a case study "cannot provide reliable information about the broader class." While a case study can be used "in the preliminary stages of an investigation" to generate hypotheses, it is misleading to see the case study as a pilot method to be used only in preparing the real study's larger tests, systematic hypotheses testing, and theory building.

The problems of this view can be summarized in five misunderstandings or oversimplifications about the nature of the case study as a research method:

*Misunderstanding 1.* General, theoretical (context-independent) knowledge is more valuable than concrete, practical (context-dependent) knowledge.

*Misunderstanding 2.* One cannot generalize on the basis of an individual case; therefore, the case study cannot contribute to scientific development.

*Misunderstanding 3.* The case study is most useful for generating hypotheses; that is, in the first stage of a total research process,

Learning to *see* – habituating the eye to repose, to patience, to letting things come to it; learning to defer judgement, to investigate and comprehend the individual case in all its aspects. This is the *first* preliminary schooling in spirituality.

Friedrich Nietzsche

The single most important explanation for the persistence of the five misunderstandings about the case study is that the case method contradicts Plato's teachings and tradition, and that this tradition is at the core of modern social science. Plato's dialogues deal with Socrates' valiant yet unsuccessful search for universal truths. Socrates used much of his life discussing with Athenian craftsmen, teachers, students, wise men, poets, statesmen, and other citizens, questioning them about the universal aspects which lay beneath their respective domains of knowledge. Yet to his great frustration, when Socrates asked about general principles, the responses he received frequently took the form of concrete examples, that is, cases. Socrates' famous wit and sarcasm in these instances knew no bounds. He cast aspersions upon these responses, stubbornly insisting that there had to lie generally valid principles behind the multiplicity of cases. In the *Meno* dialogue, for example, Socrates attempts to find a general definition of virtue and the universal rules for virtuous acts. But Meno continues to feed Socrates concrete examples; that is, cases illustrative of virtue. There is good reason to quote Socrates and Meno at some length here, inasmuch as the views expressed in this more than two-thousand-year-old dialogue continue to inform current opinions about the value of the case study and other social science methods:

SOCRATES: . . . By the gods, Meno, be generous and tell me what you say that virtue is . . .

MENO: There will be no difficulty, Socrates, in answering your question. Let us take first the virtue of man – he should know how to administer the state, and

in the administration of it to benefit his friends and harm his enemies; and he must also be careful not to suffer harm himself . . . Every age, every condition of life, young or old, male or female, bond or free, has a different virtue: there are virtues numberless, and no lack of definitions of them; for virtue is relative to the actions and ages of each of us in all that we do. And the same may be said of vice, Socrates.

SOCRATES: How fortunate I am, Meno! When I ask you for one virtue, you present me with a swarm of them, which are in your keeping. Suppose that I carry on the figure of the swarm, and ask you, What is the nature of the bee? And you answer that there are many kinds of bees; and I reply: But do bees differ as bees because there are many and different kinds of them; or are they not rather to be distinguished by some other quality? . . . And so of the virtues, however many and different they may be, they have all a common nature which makes them virtues; and on this he who would answer the question "What is virtue?" would do well to have his eye fixed; do you understand? . . .

MENO: Will you have one definition of them all?

SOCRATES: That is what I am seeking.  
MENO: If you want to have one definition of them all, I know not what to say, but that virtue is the power of governing mankind . . .

SOCRATES: . . . but do you not add "justly and not unjustly"?

MENO: Yes, Socrates; I agree there; for justice is virtue.

SOCRATES: Would you say "virtue," Meno, or "a virtue"?

MENO: What do you mean?

SOCRATES: I mean as I might say about anything; that a round, for example, is "a figure" and not simply "figure," and I should adopt this mode of speaking, because there are other figures.

MENO: Quite right; and that is just what I am saying about virtue – that there are other virtues as well as justice . . . Courage and temperance and wisdom and magnanimity are virtues; and there are many others.

SOCRATES: Yes, Meno; and again we are in the same case: in searching after one virtue we have found many . . . Do you not understand that I am looking for the "*simile in multis*" . . . fulfill your promise, and tell me what virtue is in the universal . . .<sup>2</sup>

In the *Euthyphro* dialogue, Socrates again attempts to find out what it means to be holy:

SOCRATES: . . . tell me, what do you say the holy is? And what is the unholy?

EUTHYPHRO: Well, I say the holy is just what I am doing now, prosecuting murder and temple theft and everything of the sort . . .

SOCRATES: Do you recall that I did not ask you to teach me about some one or two of the many things which are holy, but about that characteristic itself by which all holy things are holy . . . teach me what this same character is, so that I may look to it and use it as a standard, which, should those things which you or someone else may do be of that sort, I may affirm that they are holy, but should they not be of that sort, deny it.<sup>3</sup>

Like Meno, Euthyphro continues to provide Socrates with specific cases

instead of the general definition and "standard," that is, rule that Socrates asks for. The result is that the dialogue becomes repetitious, and ultimately goes in circles. It ends with Euthyphro giving up and fleeing from Socrates:

SOCRATES: Let us begin again from the beginning, and ask what the holy is. For I shall not willingly give up until I learn. Please do not scorn me: bend every effort of your mind and now tell me the truth . . .

EUTHYPHRO: Some other time, Socrates. Right now I must hurry somewhere, and I am already late.

SOCRATES: What are you doing, my friend! You leave me and cast me down from my high hope . . .<sup>4</sup>

As a contemporary echo of Socrates, we can site Donald T. Campbell, whose early work criticizes the case study as unscientific. Campbell writes:

[S]uch studies have such a total absence of control as to be of almost no scientific value . . . Any appearance of absolute knowledge, or intrinsic knowledge about singular isolated objects, is found to be illusory upon analysis . . . It seems well-nigh unethical at the present time to allow, as theses or dissertations in education, case studies of this nature (i.e., involving a single group observed at one time only).<sup>5</sup>

Mattei Dogan and Dominique Pelassy, in comparative politics, similarly say that "one can validly explain a particular case only on the basis of general hypotheses. All the rest is uncontrollable, and so of no use."<sup>6</sup> Such views have been challenged by Harry Eckstein, Charles Ragin, and Howard Becker, among others.<sup>7</sup> The later Donald Campbell has even disputed his own earlier position. After evaluating and testing a number of case studies, Campbell made a 180-degree turn in his view of the method's value and is today considered one of the strongest proponents of case study methodology. We will return to Campbell and other contemporary case methodologists later. For the present, we conclude that Socrates encountered the same problem repeatedly during his wanderings in Athens: whenever he asked for universals he got cases. Inasmuch as he rejected the value of concrete practical knowledge, he concluded that nobody knew anything, including he himself, although he at least knew that he knew nothing.

Socrates was mistaken, of course. He knew a great deal, and this is why he remains part of the canon of Western philosophy and science. But Socrates, who had originally placed himself on the side of logic and universal rationality, ended up by questioning the value of this rationality. This is not how we remember Socrates, however. Another interpretation, Plato's, has become dominant.

Plato, who was Socrates' pupil, could not accept his teacher's

conclusion that nobody knew anything. He continued Socrates' search for universals and became one of the authentic founders of Western philosophy and of theoretical science. Plato's ideal was mathematics, and he believed it possible to establish entire systems of theoretically objective principles, which like mathematical laws could be defended with rational argument and used to explain nature and human actions.

We have already seen that Aristotle, who was Plato's pupil, disagreed with Plato on this point. Aristotle, who may be seen as the founder of empirical science, asserted that in the study of human activity we cannot be satisfied with focusing on universals. The study of human activity, according to Aristotle, demands that one practice *phronesis*, that is, that one occupy oneself with values as a point of departure for praxis. And Aristotle considered that values and human behavior must be seen in relation to the particular. The passage from Aristotle which I have already quoted in chapter five, obtains new importance in this context. Unlike Socrates and Plato, Aristotle thus saw a decisive role for cases and context in the understanding of human behavior. “[*Phronesis*] is not concerned with universals only,” Aristotle says, “it must also take cognizance of particulars, because it is concerned with conduct, and conduct has its sphere in particular circumstances.”<sup>88</sup> We note that this way of seeing things resembles the perspectives that stand at the heart of the Dreyfus model and of Pierre Bourdieu's theory of practice as described in chapters two and four, respectively.<sup>9</sup>

Aristotle's thinking on this point was more or less forgotten, however, while Plato's teachings became the conventional scientific wisdom. This was especially the case after Galileo, who, two thousand years later, showed that Plato's ideas work well for the study of nature and set the natural sciences on their revolutionary trajectory.<sup>10</sup> A similar development has not taken place for the social sciences. As shown in chapters three and four, the social sciences have not made a breakthrough as epistemic sciences, and there is nothing which indicates that this will occur. Nevertheless, reinforced by the success of the natural sciences, Plato's thinking continues to thrive, as does the natural-science ideal in the study of humans and society. The systems of valuing great social science, from the Nobel Prize in economics on down, are largely aimed at reinforcing this ideal.

The case study is thus controversial because it stands opposed to Plato's tradition. Cases generate precisely that concrete, practical, and context-dependent knowledge which Socrates dismissed in his dialogues with Meno and Euthyphro. If we follow in the footsteps of Socrates and Plato and keep searching for the “*simile in multis*” which Socrates demanded in *Meno*, we arrive only at the hypothetico-deductive scientific

model. Making deductions and discovering general principles across large samples become the key task. Going into depth with an individual case is seen as unproductive. The question, however, is where a singular focus on deduction and general principles leads. I will argue that in social science such a focus leads to a dead end.

### Cases in human learning

In order to understand why Socrates' and Plato's views of the case study are problematic, we must return to the phenomenology of human learning described in chapter two, and the discussion of theory in chapters three and four. Two points can be made: first, the case study produces precisely the type of context-dependent knowledge which makes it possible to move from the lower to the higher levels in the learning process; second, in the study of human affairs, there exists only context-dependent knowledge, which thus presently rules out the possibility of epistemic theoretical construction. Let us examine these two points more closely. At the outset, however, we can assert that if they are correct, it will have radical consequences for the view of the case study in research and teaching.

The five steps in the human learning process described in chapter two emphasize the importance of gaining concrete experience as a precondition for the qualitative leap from the rule-governed analytical rationality of the first three levels to the intuitive, holistic, and synchronous performance of tacit skills of the last two levels. Dreyfus and Dreyfus's experts and Bourdieu's virtuosos operate on the basis of intimate knowledge of several thousand concrete cases in their areas of expertise. Context-dependent knowledge and experience is at the very heart of expert activity. Such knowledge and expertise also lies at the center of the case study as a research and teaching method; or to put it more generally, still: as a method of learning. The five-step process therefore emphasizes the importance of this and similar methods: it is only because of experience with cases that one can at all move from level three in the learning process to levels four and five. If people are exclusively trained in context-independent knowledge and rules, that is, the kind of knowledge which forms the basis of textbooks and computers, they will remain at the first levels of the learning process. This is the limitation of analytical rationality: it is inadequate for the best results in the exercise of a profession, as student, researcher, or practitioner.

Seeing the important association between the particular case and experience, Aristotle directly criticized Plato's favorite subjects, geometry and mathematics:

[A]lthough [people] develop ability in geometry and mathematics and become wise in such matters, they are not thought to develop prudence [*phronesis*]. The reason for this is that prudence also involves knowledge of particular facts, which become known from experience . . . We should therefore pay no less attention to the unproved assertions and opinions of experienced and older people (or of prudent people) than to demonstrations of fact; because they have an insight from their experience which enables them to see correctly.<sup>11</sup>

In a teaching situation, well-chosen case studies can help the student to achieve competence (level three in the learning process), while contextual knowledge will bring the student only to the beginner's level (levels one and two). Beginner's knowledge should not be discounted: facts and rule-based knowledge are important in every area. But to make them the highest goal of learning is regressive. There is a need for both approaches. The highest levels in the learning process (four and five) are reached only via a person's own experiences as practitioner of the relevant skills. Therefore, beyond using the case method and other experiential methods for teaching, the best that teachers can do for students in professional programs is to help them achieve real practical experience; for example, via placement arrangements, internships, summer jobs, etc.

For researchers, the closeness of the case study to real-life situations and its multiple wealth of details are important in two respects. First, it is important for the development of a nuanced view of reality, including the view that human behavior cannot be meaningfully understood as simply the rule-governed acts found at the lowest levels of the learning process, and in much theory. Second, cases are important for researchers' own learning process in developing the skills needed to do good research. If researchers wish to develop their own skills to a high level, then concrete, context-dependent experience is just as central for them as to professionals learning any other specific skills. Concrete experiences can be achieved via continued proximity to the studied reality and via feedback from those under study. Great distance from the object of study and lack of feedback easily lead to a stultified learning process, which in research can lead to ritual academic blind alleys, where form becomes more important than the content. As a research method, the case study can be an effective remedy against this tendency.

The second main point in connection with the learning process is that there does not and probably cannot exist predictive theory in social science. As argued in chapter four, social science has in the final instance nothing else to offer than concrete, context-dependent knowledge, and the case study is especially well suited to produce this knowledge. In his later work, Donald Campbell arrives at a similar conclusion, explaining how his work has undergone "an extreme oscillation away from my

earlier dogmatic disparagement of case studies," which was described above. In a logic that in many ways resembles that of Aristotle and the Dreyfus-model of human learning, Campbell now explains: After all, man is, in his ordinary way, a very competent knower, and qualitative common-sense knowing is not replaced by quantitative knowing . . . This is not to say that such common-sense naturalistic observation is objective, dependable, or unbiased. But it is all that we have. It is the only route to knowledge – noisy, fallible, and biased though it be.<sup>12</sup>

Campbell is not the only example of a researcher who has altered his views about the value of the case study. Hans Eysenck, who originally did not regard the case study as anything other than a method of producing anecdotes, later realized that "sometimes we simply have to keep our eyes open and look carefully at individual cases – not in the hope of proving anything, but rather in the hope of learning something!"<sup>13</sup> Proof is hard to come by in social science because of the absence of "hard" theory, whereas learning is certainly possible. More recently, similar views have been expressed by Charles Ragin, Howard Becker, and their colleagues in explorations of what the case study is and can be in social inquiry.<sup>14</sup>

As for predictive theory and universals, the study of human affairs thus stands where Euthyphro left Socrates more than two millennia ago: "Some other time, Socrates." In essence, we have only the specific cases which Meno and Euthyphro gave Socrates. The first of the five misunderstandings about the case study – that general theoretical (context-independent) knowledge is more valuable than concrete, practical (context-dependent) knowledge, can therefore be revised as follows:

*Predictive theories and universals cannot be found in the study of human affairs. Concrete, context-dependent knowledge is therefore more valuable than the vain search for predictive theories and universals.*

### Cases as "black swans"

The view that one cannot generalize on the basis of a single case is usually considered to be devastating to the case study as a scientific method. This second misunderstanding about the case study is typical among proponents of the natural science ideal within the social sciences. Yet even researchers who are not normally associated with this ideal may be found to have this viewpoint. According to Anthony Giddens, for example, Research which is geared primarily to hermeneutic problems may be of generalized importance in so far as it serves to elucidate the nature of agents' knowledgeability, and thereby their reasons for action, across a wide range of action-contexts. Pieces of ethnographic research like . . . say, the traditional small-scale community research of fieldwork anthropology – are not in themselves generalizing

studies. But they can easily become such if carried out in some numbers, so that judgements of their typicality can justifiably be made.<sup>15</sup> It is correct that one can generalize in the ways Giddens mentions, and that often this is both appropriate and valuable. But it would be incorrect to assert that this is the only way to work, just as it is incorrect to conclude that one cannot generalize from a single case. It depends upon the case one is speaking of, and how it is chosen. This applies to the natural sciences as well as to the study of human affairs.<sup>16</sup>

For example, Galileo's rejection of Aristotle's law of gravity was not based upon observations "across a wide range," and the observations were not "carried out in some numbers." The rejection consisted primarily of a conceptual experiment and later on of a practical one. These experiments, with the benefit of hindsight, are self-evident. Nevertheless, Aristotle's view of gravity dominated scientific inquiry for nearly two thousand years before it was falsified.

In his experimental thinking, Galileo reasoned as follows: if two objects with the same weight are released from the same height at the same time, they will hit the ground simultaneously, having fallen at the same speed. If the two objects are then stuck together into one, this object will have double the weight and will according to the Aristotelian view therefore fall faster than the two individual objects. This conclusion operated in a counter-intuitive way for Galileo. The only way to avoid the contradiction was to eliminate weight as a determinant factor for acceleration in free fall. And that was what Galileo did.

Historians of science continue to discuss whether Galileo actually conducted the famous experiment from the leaning tower of Pisa, or whether it is simply a myth. In any event, Galileo's experimentalism did not involve a large random sample of trials of objects falling from a wide range of randomly selected heights under varying wind conditions, etc., as would be demanded by the thinking of the early Campbell and Giddens. Rather, it was a matter of a single experiment, that is, a case study, if any experiment was conducted at all.<sup>17</sup>

Galileo's view continued to be subjected to doubt, however, and the Aristotelian view was not finally rejected until half a century later, with the invention of the air pump. The air pump made it possible to conduct the ultimate experiment, known by every pupil, whereby a coin or a piece of lead inside a vacuum tube falls with the same speed as a feather. After this experiment, Aristotle's view could be maintained no longer. What is especially worth noting in our discussion, however, is that the matter was settled by an individual case due to the clever choice of the extremes of metal and feather. One might call it a *critical case*: for if Galileo's thesis held for these materials, it could be expected to be valid for all or a large

range of materials. Random and large samples were at no time part of the picture. Most creative scientists simply do not work this way with this type of problem.

Carefully chosen experiments, cases, and experience were also critical to the development of the physics of Newton, Einstein, and Bohr. In correspondence with the Dreyfus model for human learning, Einstein thus comments upon the physical laws he had discovered, "to these elementary laws there leads no logical path, but only intuition, supported by being sympathetically in touch with experience."<sup>18</sup>

The case study also occupied a central place in the works of Darwin, Marx, and Freud. In social science, too, the strategic choice of case may greatly add to the generalizability of a case study. In their classic study of the "affluent worker," John Goldthorpe and his colleagues deliberately looked for a case that was as favorable as possible to the thesis that the working class, having reached middle-class status, was dissolving into a society without class identity and related conflict.<sup>19</sup> If the thesis could be proved false in the favorable case, then it would most likely be false for intermediate cases. Luton, a prosperous industrial center with companies known for high wages and social stability – fertile ground for middle-class identity – was selected as a case, and through intensive fieldwork the researchers discovered that even here an autonomous working-class culture prevailed, lending general credence to the thesis of the persistence of class identity. Below we will discuss more systematically this type of strategic sampling.

As regards the relationship between case studies, large samples, and discoveries, W. I. B. Beveridge observed immediately prior to the breakthrough of the quantitative revolution in the social sciences: "more discoveries have arisen from intense observation of very limited material than from statistics applied to large groups."<sup>20</sup> This does not mean that the case study is always appropriate or relevant as a research method, or that large random samples are without value. The choice of method should clearly depend on the problem under study and its circumstances.

Finally, it should be mentioned that formal generalization, be it on the basis of large samples or single cases, is considerably overrated as the main source of scientific progress. Economist Mark Blaug – a self-declared adherent to the hypothetico-deductive model of science – has demonstrated that while economists may pay lip service to the hypothetico-deductive model and to generalization, they rarely practice what they preach in actual research.<sup>21</sup> More generally, Thomas Kuhn has shown that the most important precondition for science is that researchers possess a wide range of practical skills for carrying out scientific work. Generalization is just one of these. In Germanic languages, the

term “science” (German: *Wissenschaft*, Danish: *videneskab*) means literally “to create knowledge.” And formal generalization is only one of many ways by which people create and accumulate knowledge. That knowledge cannot be formally generalized does not mean that it cannot enter into the collective process of knowledge accumulation in a given field or in a society. A purely descriptive, phenomenological case study without any attempt to generalize can certainly be of value in this process and has often helped cut a path toward scientific innovation. This is not to criticize attempts at formal generalization, for such attempts are essential and effective means of scientific development. It is only to emphasize the limitations which follow when formal generalization becomes the only legitimate method of scientific inquiry.

The balanced view of the role of the case study in attempting to generalize by testing hypotheses has been formulated by Harry Eckstein: [C]omparative and case studies are alternative means to the end of testing theories, choices between which must be largely governed by arbitrary or practical, rather than logical, considerations . . . [I]t is impossible to take seriously the position that case study is suspect because problem-prone and comparative study deserving of benefit of doubt because problem-free.<sup>22</sup> (emphasis in original)

Eckstein here uses the term “theory” in its “hard” sense, that is, comprising explanation and prediction. This makes Eckstein’s dismissal of the view that case studies cannot be used for testing theories or for generalization stronger than my own view, which is here restricted to the testing of “theory” in the “soft” sense, that is, testing propositions or hypotheses. Eckstein shows that if predictive theories exist in social and political science, then the case study could be used to test these theories just as well as other methods. More recently, John Walton has similarly observed that “case studies are likely to produce the best theory.”<sup>23</sup> Eckstein observes, however, the striking lack of genuine theories within his own field, political science, but apparently fails to see why this is so:

Aiming at the disciplined application of theories to cases forces one to state theories more rigorously than might otherwise be done – provided that the application is truly “disciplined,” i.e., designed to show that valid theory compels a particular case interpretation and rules out others. As already stated, this, unfortunately, is rare (if it occurs at all) in political study. One reason is the lack of compelling theories.<sup>24</sup>

Chapters three and four explain why there does not exist and probably never will appear “compelling theories” in political science and the other social sciences.

The case study is ideal for generalizing using the type of test which Karl Popper called “falsification.” Falsification is one of the most rigorous tests to which a scientific proposition can be subjected: if just one obser-

vation does not fit with the proposition it is considered not valid generally and must therefore be either revised or rejected. Popper himself used the now famous example of “all swans are white,” and proposed that just one observation of a single black swan would falsify this proposition and in this way have general significance and stimulate further investigations and theory-building. The case study is well suited to identifying “black swans” because of its in-depth approach: what appears to be “white” often turns out on closer examination to be “black.”

We will return to falsification below in discussing the fourth misunderstanding of case study research. For the present, however, we can correct the second misunderstanding – that one cannot generalize on the basis of a single case and that the case study cannot contribute to scientific development – so that it now reads:

*One can often generalize on the basis of a single case, and the case study may be central to scientific development via generalization as supplement or alternative to other methods. But formal generalization is overvalued as a source of scientific development, whereas “the power of the good example” is underestimated.*

The third misunderstanding about the case study is that the case method is claimed to be most useful for generating hypotheses in the first steps of a total research process, while hypothesis testing and theory building is best carried out by other methods later in the process. This misunderstanding derives from the previous misunderstanding that one cannot generalize on the basis of individual cases. And since this misunderstanding has been revised as above, we can correct our third misunderstanding as follows:

*The case study is useful for both generating and testing of hypotheses but is not limited to these research activities alone.*

Eckstein – contravening the conventional wisdom in this area – goes so far as to argue that case studies are better for testing hypotheses than for producing them. Case studies, Eckstein asserts, “are valuable at all stages of the theory-building process, but most valuable at that stage of theory-building where least value is generally attached to them: the stage at which candidate theories are tested.”<sup>25</sup>

### Cases and “casing”

The “generalizability” of case studies can be increased by strategic selection of *critical cases*. What constitutes a critical case? And how do we identify such cases?<sup>26</sup>

When the objective is to achieve the greatest possible amount of information on a given problem or phenomenon, a representative case or a

random sample may not be the most appropriate strategy. This is because the typical or average case is often not the richest in information.

Atypical or extreme cases often reveal more information because they activate more actors and more basic mechanisms in the situation studied.

In addition, from both an understanding-oriented and an action-oriented perspective, it is often more important to clarify the deeper causes behind a given problem and its consequences than to describe the symptoms of the problem and how frequently they occur. Random samples emphasizing representativeness will seldom be able to produce this kind of insight; it is more appropriate to select a few cases chosen for their validity.<sup>27</sup>

Table 6.1 summarizes various forms of sampling. The *extreme cases* can be well suited for getting a point across in an especially dramatic way, which often occurs for well-known case studies such as Freud's "Wolf-Man" and Foucault's "Panopticon." In contrast, a *critical case* can be defined as having strategic importance in relation to the general problem. For example, an occupational medicine clinic wanted to investigate whether people working with organic solvents suffered brain damage. Instead of choosing a representative sample among all those enterprises in the clinic's area who used organic solvents, the clinic strategically located a single workplace where all safety regulations on cleanliness, air quality, etc., had been fulfilled. This model enterprise became a critical case: if brain damage related to organic solvents could be found at this particular facility, then it was likely that the same problem would exist at other enterprises which were less careful with safety regulations for organic solvents.<sup>28</sup> Via this type of strategic choice, one can save both time and money in researching a given problem.

Another example of critical case selection is the above-mentioned strategic selection of lead and feather for the test of whether different objects fall with equal velocity. The selection of materials provided the possibility of formulating a generalization characteristic of critical cases, a generalization of the sort "if it is valid for this case, it is valid for all (or many) cases." In its negative form, the generalization would be "if it is not valid for this case, then it is not valid for any (or only few) cases."

How does one identify critical cases? This question is more difficult to answer than the question of what constitutes a critical case. Locating a critical case requires experience, and no universal methodological principles exist by which one can with certainty identify a critical case. The only general advice that can be given is that when looking for critical cases, it is a good idea to look for either "most likely" or "least likely" cases, that is, cases which are likely either clearly to confirm or irrefutably to falsify propositions and hypotheses.

Table 6.1. Strategies for the selection of samples and cases

Type of selection	Purpose
A. Random selection	To avoid systematic biases in the sample. The sample's size is decisive for generalization.
1. Random sample	To achieve a representative sample which allows for generalization for the entire population.
2. Stratified sample	To generalize for specially selected subgroups within the population.
B. Information-oriented selection	To maximize the utility of information from small samples and single cases. Cases are selected on the basis of expectations about their information content.
1. Extreme/deviant cases	To obtain information on unusual cases, which can be especially problematic or especially good in a more closely defined sense.
2. Maximum variation cases	To obtain information about the significance of various circumstances for case process and outcome; e.g., three to four cases which are very different on one dimension: size, form of organization, location, budget, etc.
3. Critical cases	To achieve information which permits logical deductions of the type, "if this (not) valid for this case, then it applies to all (no) cases."
4. Paradigmatic cases	To develop a metaphor or establish a school for the domain which the case concerns.

A classic example of a "least likely" case is Robert Michels's study of oligarchy in organizations.<sup>29</sup> By choosing a horizontally structured grassroots organization with strong democratic ideals – that is, a type of organization with an especially low probability of being oligarchical – Michels could test the universality of the oligarchy thesis; that is, "if this organization is oligarchic, so are most others." A corresponding classic example of a "most likely" case is W. F. Whyte's study of a Boston slum neighborhood, which according to existing theory should have exhibited social disorganization, but in fact showed quite the opposite.<sup>30</sup>

Cases of the "most likely" type are especially well suited to falsification of propositions, while "least likely" cases are most appropriate to tests of verification. It should be remarked that a most likely case for one

proposition is the least likely for its negation. For example, Whyte's slum neighborhood could be seen as a least likely case for a hypothesis concerning the universality of social organization. Hence, the identification of a case as most or least likely is linked to the design of the study, as well as to the specific properties of the actual case.

A final strategy for the selection of cases is choice of the *paradigmatic case*. Thomas Kuhn has shown that the basic skills, or "background practices, of natural scientists are organized in terms of "exemplars", the role of which can be studied by historians of science. Similarly, scholars like Clifford Geertz and Michel Foucault have often organized their research around specific cultural paradigms: a paradigm for Geertz lay, for instance, in the "deep play" of the Balinese cockfight, while for Foucault, European prisons and the "Panopticon" are examples. Both instances are examples of paradigmatic cases, that is, cases that highlight more general characteristics of the societies in question. Kuhn has shown that scientific paradigms cannot be expressed as rules or theories. There exists no predictive theory for how predictive theory comes about. A scientific activity is acknowledged or rejected as good science by how close it is to one or more exemplars; that is, practical prototypes of good scientific work. A paradigmatic case of how scientists do science is precisely such a prototype. It operates as a metaphor and may function as a focal point for the founding of schools of thought.

As with the critical case, we may ask, "How does one identify a paradigmatic case?" How does one determine whether a given case has metaphorical and prototypical value? These questions are even more difficult to answer than for the critical case, precisely because the paradigmatic case transcends any sort of rule-based criteria. No standard exists for the paradigmatic case because it sets the standard. Hubert and Stuart Dreyfus see paradigmatic cases and case studies as central to human learning.<sup>31</sup> In an interview with Hubert Dreyfus, I therefore asked what constitutes a paradigmatic case and how it can be identified. Dreyfus replied:

Heidegger says, you recognize a paradigm case because it shines, but I'm afraid that is not much help. You just have to be intuitive. We all can tell what is a better or worse case – of a Cézanne painting, for instance. But I can't think there could be any rules for deciding what makes Cézanne a paradigmatic modern painter... [I]t is a big problem in a democratic society where people are supposed to justify what their intuitions are. In fact, nobody really can justify what their intuition is. So you have to make up reasons, but it won't be the real reasons.<sup>32</sup>

That we have to "make up reasons" to justify intuitive choices is not necessarily a problem. Such justification need not be illegitimate rationalization since it can be the *ex-post* test of whether individual intuitive

reasons are also generally valid and collectively acceptable. This is one reason why it is usually insufficient to justify an application for research funds by stating that one's intuition says that a particular piece of research should be carried out. A research council ideally operates as society's test of whether the researcher can provide collectively acceptable reasons for the researcher's intuitive choice, even though intuition may be the real reason why the researcher wants to execute the project.

It is not possible consistently, or even frequently, to determine in advance whether or not a given case is paradigmatic. Besides the strategic choice of case, the execution of the case study will certainly play a role, as will the reaction to the study by the research community, the group studied and, possibly, a broader public. The value of the case study will depend on the validity claims which researchers can place on their study, and the status these claims obtain in dialogue with other validity claims in the discourse to which the study is a contribution, both in the scientific discipline concerned and, possibly, in the public sphere. Like other good craftsmen, all that researchers can do is use their experience and intuition to assess whether they believe a given case is interesting in a paradigmatic context, and whether they can provide collectively acceptable reasons for the choice of case.

Finally, concerning considerations of strategy in the choice of cases, it should be mentioned that the various strategies of selection are not necessarily mutually exclusive. For example, a case can be simultaneously extreme, critical, and paradigmatic. The interpretation of such a case can provide a unique wealth of information, because one obtains various perspectives and conclusions on the case according to whether it is viewed and interpreted as one or another type of case.

### Bias toward verification or falsification?

The fourth of the five misunderstandings about the case study is that the method maintains a bias toward verification, understood as a tendency to confirm the researcher's preconceived notions, so that the study therefore becomes of doubtful scientific value. Jared Diamond, for example, holds this view. He observes that the case study suffers from what he calls a "crippling drawback," because it does not apply "scientific methods," by which Diamond understands methods useful for "curbing one's tendencies to stamp one's pre-existing interpretations on data as they accumulate."<sup>33</sup>

Francis Bacon saw this bias toward verification, not simply as a phenomenon related to the case study in particular, but as a fundamental human characteristic:

The human understanding from its peculiar nature, easily supposes a greater degree of order and equality in things than it really finds. When any proposition has been laid down, the human understanding forces everything else to add fresh support and confirmation. It is the peculiar and perpetual error of the human understanding to be more moved and excited by affirmatives than negatives.<sup>34</sup>

Bacon certainly touches upon a fundamental problem here, a problem which all researchers must deal with in some way. Charles Darwin, in his autobiography, describes the method he developed in order to avoid the bias toward verification:

I had . . . during many years followed a golden rule, namely, that whenever a published fact, a new observation or thought came across me, which was opposed to my general results, to make a memorandum of it without fail and at once; for I had found by experience that such facts and thoughts were far more apt to escape from the memory than favorable ones. Owing to this habit, very few objections were raised against my views, which I had not at least noticed and attempted to answer.<sup>35</sup>

The bias toward verification is general, but the alleged deficiency of the case study and other qualitative methods is that they ostensibly allow more room for the researcher's subjective and arbitrary judgment than other methods: they are often seen as less rigorous than are quantitative, hypothetico-deductive methods. Even if such criticism is useful, because it sensitizes us to an important issue, experienced case researchers cannot help but see the critique as demonstrating a lack of knowledge of what is involved in case study research. Donald Campbell and others have shown that the critique is fallacious, because the case study has its own rigor, different to be sure, but no less strict than the rigor of quantitative methods. The advantage of the case study is that it can "close in" on real-life situations and test views directly in relation to phenomena as they unfold in practice. According to Campbell, Charles Ragin, Clifford Geertz, Michel Wieviorka, and others, researchers who have conducted intensive, in-depth case studies typically report that their preconceived views, assumptions, concepts and hypotheses were wrong and that the case material has forced them to revise their hypotheses on essential points. This is my own experience as well.<sup>36</sup> Ragin calls this a "special feature of small-*N* research," and goes on to explain that criticizing single-case studies for being inferior to multiple-case studies is misguided, since even single-case studies "are multiple in most research efforts because ideas and evidence may be linked in many different ways."<sup>37</sup>

Geertz says about the fieldwork involved in most in-depth case studies that "The Field" itself is a "powerful disciplinary force: assertive, commanding, even coercive." Like any such force, it can be underestimated, but it cannot be evaded. "It is too insistent for that," says Geertz.<sup>38</sup> That

we are speaking of a general phenomenon can be seen by simply examining case studies.<sup>39</sup> Campbell discusses the causes of this phenomenon in the following passage:

In a case study done by an alert social scientist who has thorough local acquaintance, the theory he uses to explain the focal difference also generates prediction or expectations on dozens of other aspects of the culture, and he does not retain the theory unless most of these are also confirmed . . . Experiences of social scientists confirm this. Even in a single qualitative case study, the conscientious social scientist often finds no explanation that seems satisfactory. Such an outcome would be impossible if the caricature of the single case study as presented . . . were correct – there would instead be a surfeit of subjectively compelling explanations.<sup>40</sup>

According to the experiences cited above, it is falsification and not verification, which characterizes the case study. Moreover, the question of subjectivism and bias toward verification applies to all methods, not just to the case study and other qualitative methods. For example, the element of arbitrary subjectivism will be significant in the choice of categories and variables for a quantitative or structural investigation; e.g., a structured questionnaire to be used across a large sample of cases. And the probability is high (1) that this subjectivism survives without being thoroughly corrected during the study and (2) that it may affect the results, quite simply because the quantitative/structural researcher does not get as close to those under study as does the case study researcher. According to Ragin:

this feature explains why small-*N* qualitative research is most often at the forefront of theoretical development. When *N*'s are large, there are few opportunities for revising a casing [that is, the delimitation of a case]. At the start of the analysis, cases are decomposed into variables, and almost the entire dialogue of ideas and evidence occurs through variables. One implication of this discussion is that to the extent that large-*N* research can be sensitized to the diversity and potential heterogeneity of the cases included in an analysis, large-*N* research may play a more important part in the advancement of social science theory.<sup>41</sup>

Here, too, this difference between large samples and single cases can be understood in terms of the model for human learning. If one thus assumes that the goal of the researcher's work is to understand and learn about the phenomena being studied, then research is simply a form of learning. If one assumes that research, like other learning processes, can be described by the model for human learning, it then becomes clear that the most advanced form of understanding is achieved when researchers place themselves within the context being studied. Only in this way can researchers understand the viewpoints and the behavior which characterize social actors. Relevant to this point, Anthony Giddens states that valid descriptions of social activities presume that researchers possess

those skills necessary to participate in the activities described:

I have accepted that it is right to say that the condition of generating descriptions of social activity is being able in principle to participate in it. It involves "mutual knowledge," shared by observer and participants whose action constitutes and reconstitutes the social world.<sup>42</sup>

From this point of view, the proximity to reality which the case study entails and the learning process which it generates for the researcher will often constitute a prerequisite for advanced understanding. In this context, one begins to understand Beveridge's conclusion that there are more discoveries stemming from the type of intense observation made possible by the case study than from statistics applied to large groups. With the point of departure in the learning process, we understand why the researcher who conducts a case study often ends up by casting off preconceived notions and theories. Such activity is quite simply a central element in learning and in the achievement of new insight. More simple forms of understanding must yield to more complex ones as one moves from novice to expert.

On this basis, the fourth misunderstanding – that the case study should contain a bias toward verification, understood as a tendency to confirm the researcher's preconceived ideas – is revised as follows:

*The case study contains no greater bias toward verification of the researcher's preconceived notions than other methods of inquiry. On the contrary, experience indicates that the case study contains a greater bias toward falsification of preconceived notions than toward verification.*

### The irreducible quality of good case narratives

Case studies often contain a substantial element of narrative. Good narratives typically approach the complexities and contradictions of real life. Accordingly, such narratives may be difficult or impossible to summarize in neat scientific formulae, general propositions, and theories.<sup>43</sup> This tends to be seen as a drawback by critics of the case study. To the researcher practicing *phronesis*, however, a particularly "thick" and hard-to-summarize narrative is not necessarily a problem. Rather, it may be a sign that the study has uncovered a particularly rich problematic. The question, therefore, is whether the summarizing and generalization, which the critics see as an ideal, is always desirable. Nietzsche is clear in his answer to this question. "Above all," he says about doing science, "one should not wish to divest existence of its rich ambiguity" (emphasis in original).<sup>44</sup>

Let us again examine the case study in relation to the model for human learning. Knowledge at the beginner's level consists precisely in the

reduced formulas which characterize theories, while true expertise is based on intimate experience with thousands of individual cases and on the ability to discriminate between situations, with all their nuances of difference, without distilling them into formulas or standard cases. The problem is analogous to the inability of heuristic, computer-based expert systems to approach the level of virtuoso human experts, even when the systems are compared with the experts who have conceived the rules upon which these systems operate (see chapter two). This is because the experts do not use rules but operate on the basis of detailed case-expertise. This is *real expertise*. The rules for expert systems are formulated only because the systems require it; rules are characteristic of expert systems, but not of real human experts.

In the same way, one might say that the rule formulation which takes place when researchers summarize their work into theories is characteristic of the culture of research, of researchers, and of theoretical activity, but such rules are not necessarily part of the studied reality constituted by what Bourdieu has called "virtuoso social actors."<sup>45</sup> Something essential may be lost by this summarizing – the possibility to understand virtuoso social acting, which, as Bourdieu has shown, cannot be distilled into theoretical formulae – and it is precisely their fear of losing this "something" which makes case researchers cautious about summarizing their studies. Case researchers thus tend to be skeptical about erasing phenomenological detail in favor of conceptual closure.

Ludwig Wittgenstein shared this skepticism in doing philosophy. He used the following metaphor in describing his use of the case study approach in philosophy:

In teaching you philosophy I'm like a guide showing you how to find your way round London. I have to take you through the city from north to south, from east to west, from Euston to the embankment and from Piccadilly to the Marble Arch. After I have taken you many journeys through the city, in all sorts of directions, we shall have passed through any given street a number of times – each time traversing the street as part of a different journey. At the end of this you will know London; you will be able to find your way about like a born Londoner. Of course, a good guide will take you through the more important streets more often than he takes you down side streets; a bad guide will do the opposite. In philosophy I'm a rather bad guide.<sup>46</sup>

This approach implies exploring phenomena firsthand instead of reading maps of them. Actual practices are studied before their rules, and one is not satisfied by learning only about those parts of practices that are open to public scrutiny; what Erving Goffman calls the "backstage" of social phenomena must be investigated, too, like the side streets which Wittgenstein talks about.<sup>47</sup> In order to stay close to the complexities and

contradictions of existence, case researchers practicing *phronesis* demur from the role of omniscient narrator and summarizer in favor of gradually allowing the case narrative to unfold from the diverse, complex, and sometimes conflicting stories that people, documents, and other evidence tell them. This approach leaves ample scope for readers to make different interpretations and to draw diverse conclusions. Thus, in addition to the voice of case actors and case narrators, there is space for the voice of the reader in deciding the meaning of a given case and in answering that categorical question of any case study: "What is this case a case of?" Case researchers practicing *phronesis* encourage readers to occupy that space.

For readers who stick from beginning to end with the minutiae of a case narrative told in this manner the payback is likely to be an awareness of the issues under study that cannot be obtained from "maps," that is, summaries, concepts, or theoretical formulas. Achieving such awareness is central to developing judgment and expertise in social and political affairs, and in doing research into such affairs. With respect to intervention in social and political affairs, Andrew Abbott has rightly observed that a social science expressed in terms of typical case narratives would provide "far better access for policy intervention than the present social science of variables."<sup>48</sup> The sociolinguist William Labov writes that when a good narrative is over "it should be unthinkable for a bystander to say, 'So what?'"<sup>49</sup> Every good narrator is continually warding off this question. A narrative that lacks a moral that can be independently and briefly stated, is not necessarily pointless. And a narrative is not successful just because it allows a brief moral. A successful narrative does not allow the question to be raised at all. The narrative has already supplied the answer before the question is asked. The narrative itself is the answer.<sup>50</sup>

A reformulation of the fifth misunderstanding, which states that it is often difficult to summarize specific case studies in general propositions and theories, thus reads as follows:

*It is correct that summarizing case studies is often difficult, especially as concerns process. It is less correct as regards outcomes. The problems in summarizing case studies, however, are due more often to the properties of the reality studied than to the case study as a research method. Often it is not desirable to summarize and generalize case studies. Good studies should be read in their entirety.*

It must again be emphasized that despite the difficulty or undesirability in summarizing case studies, the case study method in general can certainly contribute to the cumulative development of knowledge; for example, in using the principles to test propositions described above under the second and third misunderstandings.

In summarizing this chapter, let me reiterate that the evaluation of the

case study as a research method and the revision of the five misunderstandings described above should not be interpreted as a rejection of research which focuses on large random samples or entire populations; for example, questionnaire surveys. This type of research is essential for the development of social science; for example, in understanding the degree to which certain phenomena are present in a given group or how they vary across cases. The advantage of large samples is breadth, while their problem is one of depth. For the case study, the situation is the reverse. Both approaches are necessary for a sound development of social science.

This being said, it should nevertheless be added that the balance between case studies and large samples is currently biased in favor of the latter in social science, so biased that it puts case studies at a disadvantage within most disciplines. In this connection, it is worth repeating the insight that a discipline without a large number of thoroughly executed case studies is a discipline without systematic production of exemplars, and that a discipline without exemplars is an ineffective one. In social science, especially in those branches which find themselves to be weak, more good case studies could help remedy this situation.