

## Chapter 6

### THE SAME, ONLY DIFFERENT:

#### INTEGRATING THE INTENTIONAL

Only if a region of inquiry can be opened up in which both the scientific and the humanist approach play their characteristic roles may we ever hope to gain knowledge of man -- knowledge rather than figment, and of man rather than of social atoms.  
[ADOLF LOWE]<sup>1</sup>

Unifiers think of the natural and the social sciences as essentially alike. Bifurcators think of them as essentially different. Optimistic unifiers -- including many Old Deferentialists -- think that the social sciences, if not yet as good as the natural sciences, can eventually become so; usually maintaining that the social sciences use the same method as the natural sciences, and that they are in principle reducible to physics. Optimistic bifurcators, eschewing the dream of reduction, think the method of social science is sui generis, and see the social sciences as separate-but-equal, different from but not inferior to the natural sciences. But there are also pessimists of both persuasions. Pessimistic unifiers -- including many New Cynics -- see the natural and the social sciences as alike permeated by interests, politics, and rhetoric. Pessimistic bifurcators see the social "sciences" as so inferior that they don't really deserve to be classified as sciences at all.

Once again, it's like the blind men and their elephant:  
"Though all were partly in the right, yet all were in the

wrong." As my grandmother used to say when she explained a new idea to me: "You know such-and-such? Well, this is the same, only different." The social sciences are like the natural sciences, only not in quite the ways unifiers have traditionally supposed; but also unlike them, only not in quite the ways bifurcators have traditionally supposed. And their prospects are neither as rosy as the optimists hope, nor as gloomy as the pessimists fear.

Are the social sciences like the natural sciences, or are they different? Well, both. All are forms of systematic empirical inquiry; but the social sciences have different subject-matter and, since they appeal to peoples' beliefs, intentions, hopes, fears, etc., to explain their behavior, they are, as I shall say, intentional. Is intentional social science reducible to physics? No -- and yes. Social-scientific explanations in terms of beliefs, goals, etc., are not reducible to explanations in physics in anything like the simple way some optimistic unifiers hoped; nevertheless, the intentional social sciences aren't wholly disjoint from the natural sciences, but integrated with them. Does intentional social science investigate the same world as natural science? Of course; but intentional rather than brutally physical aspects of the world. Social institutions are constituted in part by people's beliefs, etc.; they are real, but also socially constructed.

Does intentional social-scientific inquiry use the same

method as natural-scientific inquiry? Yes -- and no. Like empirical inquirers of every kind, social scientists make conjectures about the explanation of some puzzling phenomenon, check how well those conjectures stand up to the evidence, and use their judgment in proceeding from there. But the explanations sought are of a different kind from natural-scientific explanations; interpreting the evidence requires a different kind of background information; and social-scientific inquiry requires different kinds of "help."

Is intentional social science value-free? Of course not; but, on the other hand, of course. Social scientists often investigate issues that engage our moral or political sensibilities; moreover, what purports to be social-scientific "investigation" quite often shades into something more closely resembling advocacy. Nevertheless, like inquiry of every kind, social-scientific inquiry is subject to certain epistemological values, among them disinterestedness -- i.e., in another sense of that multiply ambiguous phrase, "value-freedom." Why don't the intentional social sciences seem to have made anything like the impressive progress of the natural sciences? -- for a host of reasons, among them that the ideal of respect for evidence is even harder to achieve in social-scientific than in natural-scientific inquiry, and that borrowing mathematical and methodological helps from physics in hopes of looking "scientific" has sometimes proven counter-productive.

It's really quite simple -- except for the many complications. But the complications are formidable; so formidable that I can aspire only to sketch the underlying continuities between the social and the natural sciences, and the most important differences.

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### **Intentional Social Science**

Like "natural science," "social science" picks out a loose federation of kinds of inquiry; but a federation of kinds of inquiry with different subject-matter than the natural sciences. It is a commonplace that the objects of the social sciences are far more complex than the objects of the natural sciences; and it is true. The hard question is what the special kind of complexity is, exactly, in the subject-matter of the social sciences but not of human biology.

We humans are sign-using creatures capable of forming complex beliefs, intentions, and goals, and of representing the world to ourselves by means of sentences, maps, pictures, and diagrams -- creatures whose behavior depends in part on how we represent the world, ourselves, and our place in the world. Moreover, it is in part shared beliefs and intentions that make a collection of people a group, tribe, community, or society, and that make social institutions such as money or marriage possible. Human biology, complex as it is, doesn't

have to concern itself with people's beliefs, intentions, hopes, or fears; but psychology, sociology, economics, etc., must do so.

However, medical scientists investigating psychosomatic disorders or the placebo effect will be concerned with people's beliefs, etc.; so there is an overlap. Natural scientists sometimes need to take account of people's beliefs, etc.; social scientists sometimes don't. Within the disciplines classified as social sciences, some parts are nearly indistinguishable from the natural sciences, while others are quite akin to history and even, though more distantly, to literary or legal scholarship.<sup>2</sup> Anthropology and geography, to take two of the most obvious examples, have both physical and sociological sides -- sometimes recognized institutionally: Duke has two departments of anthropology; and at Stanford what was formerly one department recently split into Anthropological Sciences, accommodating those whose work is closely akin to earth sciences, the biology of evolution, etc., and Cultural and Social Anthropology, accommodating those with closer affinities to hermeneutics and sociology.<sup>3</sup> Most notably, some parts of psychology investigate creatures not capable of representation, or non- or pre-representational aspects of the human mind, while others study human behavior as mediated by beliefs, goals, etc.. Some research -- for example, into possible brain-physiological correlates of (supposed) cognitive differences between men and women --

straddles the line between the intentional and the non-intentional. It can be enormously difficult to figure out which questions can be answered without reference to people's representations of the world and themselves, and which can't; that is one reason for some of those internecine battles in psychology.

The social sciences are often described as "interpretive." Sometimes this signals a commitment to the idea that they use a distinctive method in which understanding replaces explanation; sometimes it signals an assimilation of social-scientific to literary interpretation. In any case, the multiple ambiguity of "interpretive" creates significant problems. In one sense, all empirical inquiry, natural-scientific inquiry included, is interpretive: it involves the interpretation of evidence, which, though sometimes strong and sometimes weak, is always to some degree incomplete or otherwise imperfect. In another sense, all jointly undertaken inquiry is interpretive: because it involves the sharing of evidence, it requires inquirers to interpret each others' reports of their observations, experiments, and theorizing. So, to flag the characteristic focus on people's beliefs, desires, intentions, etc., while avoiding the pitfalls of "interpretive," I have chosen to write of "intentional" social science.

Intentional social-scientific inquiry always includes people's beliefs, goals, etc., in its purview; but each branch

does so in its own distinctive way. Psychologists investigate the role of expectation in perceptual error; economists calculate the mutual interactions of consumer confidence and interest rates; sociologists estimate what increment of cognitive performance can be attributed to charter schools; anthropologists try to understand the significance of a ritual dance in the life of the tribe. (An anthropologist may have to solve simultaneous equations, to investigate the beliefs and motives of the people he studies at the same time as he figures out how to translate their language -- interpretation in yet another sense). But it is not these differences, important as they are, but the intentional character shared by all these kinds of social-scientific inquiry, that makes the question of reduction so controversial and so difficult.

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### **The Question of Reduction**

Reductionism, in the ontologico-epistemological sense at issue here, is the thesis that the vocabularies of the other sciences, the social sciences included, can in principle be expressed in terms of the vocabulary of, and their laws derived from the laws of, physics. The Unity of Science program, showpiece of Logical Positivism, was in part an expression of faith in this idea: thus, in The Logical Structure of the World Carnap undertook to show how to derive

the statement "It is customary to raise one's hat on meeting a lady of one's acquaintance in the street" from the laws of physics (and those laws, ultimately, from statements about a subject's "elementary experiences). He didn't succeed. More recently, as sociobiology and brain neurophysiology have boomed, reductionist aspirations have tended to take a more empirical, and less linguistically-analytic, turn.

The constants of human nature are brought home to us when we study other humans long ago, or cultures very unlike our own. I recall, a few years back, stumbling across an encyclopedia article on Burkina Faso (the former Upper Volta), illustrated by a photograph of women in a village outside Ouagadougou, almost naked and apparently muddy, talking as they work: the younger women are grinding millet, the caption explained, while the older women sort flower buds for gravy. How absolutely unmistakable, despite vast cultural differences, human commonalities are!

And when we study other creatures, we realize that our own social interactions are in some ways like those of wolves, of lions, even of ants. In a broad sense, other animals besides ourselves have cultures -- not cultures in the sense of Gothic cathedrals, Shakespeare, and Verdi, or of fish-and-chips, warm beer, and football hooliganism; but behavior or skills shared with and acquired from others of the same species, rather than genetically programmed or compelled by the environment -- such as the ritual adopted by pods of



killer whales living off Vancouver Island, who line up in formation when they encounter another pod. Primatologists have identified no fewer than 39 traditional forms of chimpanzee behavior, including digging for termites, gathering ants, scooping out marrow, using leaves for seats, cracking nuts against rocks or trees, and using long branches to reach fruit, that qualify, in the broad sense at issue here, as cultural.<sup>4</sup> The continuities with our closest biological relatives can be startling. Kanzi, the smart young bonobo who picked up the sign-language psychologists were trying unsuccessfully to teach his adoptive mother, has been described as uncannily like a human two-year-old. Pointing to Austin (a companion chimpanzee), his trainer told him, "if you give Austin your mask, I'll let you have some of Austin's cereal"; Kanzi promptly handed Austin the mask, and pointed at the cereal box.<sup>5</sup>

Still, it is no disrespect to the dolphins, the chimpanzees, the bonobos, et al., to acknowledge that human beings' capacity for language, representation, and learning goes far beyond that of even the smartest of our closest relatives. Only we humans go in for art, architecture, advertising, bureaucracy, crime, calendars, clothes, cookery, confidence trickery, computing, dancing, drugs, dog-breeding, engineering, fire, farming, furniture, gambling, gossip, hospitals, horse-racing, insanity, jokes, kings, law, literature, logic, mathematics, money, moral codes, music, myth,

nations, newspapers, opera, pigeon-fancying, philosophy, puzzles, pottery, qualifications, quantification, religion, sports, shops, schools, science, sorcery, the stock market, transportation, technology, theology, theater, undertaking, verse, visions, war, writing, weather-forecasting, xenophobia, yoga, zoos, etc., etc.. Still, we humans are animals; there are analogues in the behavior of other animals of many of the human behaviors and enterprises on my list; and biological facts certainly constrain what social arrangements are humanly possible. We have such-and-such nutritional needs; our typical life-span is about so many years; we reproduce sexually, and our infants are helpless for a long time; we are social, territorial, language-using animals -- and hierarchical, too, as sociologist Vance Packard noticed well before the recent boom in sociobiology. ("I first became interested in social stratification as a farm boy in northern Pennsylvania," he wrote in 1959, "when my father pointed out to me that one of our cows, I believe her name was Gertrude, always came through the gate first at feeding time.)"<sup>6</sup> Exactly what the biological constants are, and exactly how tightly they constrain human societies, is a controversial question; but that there are some such constraints seems beyond dispute. Also beyond dispute is the extraordinary variety of human societies, the astonishingly various ways humans have found to live together in groups; and the role of local contingencies of geography or climate,<sup>7</sup> and accidents of history.

Trying to bring as much human behavior as possible within the scope of biological determinants, sociobiologists sometimes describe non-human animals in an anthropomorphic way. E. O. Wilson sounds almost like a Richard Adams<sup>8</sup> when he muses about "what an electric fish thinks" as it orients itself by electric field, or describes ants emitting the pheromones that warn other ants of danger as "say[ing] to other ants, in effect: danger, come quickly; or danger, disperse ... ." <sup>9</sup> We, like ants, are social creatures; and there is illumination in seeing that both the pheromone signals of the red harvester ants and, say, the American legal system, can be described, in Wilson's nice phrase, as "semiotic webs." But even the most ambitious sociobiologists allow that there are large and consequential differences between an ant emitting her pheromones and a bank clerk pressing the alarm button and calling out, "Danger! Come quickly!"; even Wilson feels the need to say, "in effect."<sup>10</sup>

Unlike ant behavior, much human behavior is mediated by our beliefs, hopes, fears, etc.. The suckling reaction of a human infant can be explained without attributing beliefs or desires to the baby; it has an instinctive tendency to turn its head when something touches its cheek, and an instinctive tendency to suck when something touches its mouth. The explanation of my going to the fridge to get a glass of milk, however, requires reference to my wanting a drink of milk and believing there is milk in the fridge.<sup>11</sup> Some of what we do is

purely instinctive; and some behavior is due to panic, anger, confusion, or sheer habit. But how each person is and behaves, constrained by biological universals, mediated by cultural specifics, depends in part on his beliefs and motives. We don't need to know the whole of the answer to the question, "in what respects is human social behavior biologically determined?", only to know that it isn't, "in every respect," to see that the truth of reductionism will turn on whether beliefs, etc., are reducible to neurophysiological states (or whatever other physical basis a future science might discover). Serious philosophy of social science will require serious philosophy of mind.

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For all the remarkable recent successes of the neurosciences, the dream that beliefs and goals will be reduced to neurophysiology and eventually to physics, remains -- well, a dream. Indeed, sometimes nowadays it seems the dream has turned into a nightmare: when, for example, despairing of a smooth reduction of beliefs, hopes, fears, etc., to neurophysiological states, and noting that the ceaseless cognitive activity of the ganglia of the sea-slug doesn't involve representations, Paul Churchland concludes that "folk psychology is false, and ... its ontology is chimerical. Beliefs and desires are of a piece with phlogiston, caloric, and the alchemical elements"<sup>12</sup> -- there are none. (How does he ever dare to drive a car, you wonder, or to ride in one?)

And even the strongest advocates of reductionism seem to waver when it comes to the crunch. Discussing the cross-cultural ubiquity of snake-symbolism, Wilson -- who is committed to reductionism not only as "the method of science" but also as an ontological truth<sup>13</sup> -- promises an analysis of a magician's snake-dream "down to an atom." But no such analysis is forthcoming; in fact, just a few pages later Wilson acknowledges that thus far "the neural pathways of snake aversion have not been explored."<sup>14</sup> Still, assuming a quasi-Lockean conception of meaning as mental images, most of the time he seems confident that a reductionist account of these "nodes" is just around the corner; until, shortly after declaring free will an illusion, he writes that "there can be no determinism of human behavior, at least not in obedience to the simple way physical laws describe the motion of bodies,"<sup>15</sup> because the contents of the mind evolve in accordance with the unique history of the individual. This sounds right; but it also sounds, as Wilson realizes, as if it calls for some compromise of the reductionist agenda.

Representation takes on a life of its own: the capacity for language, or, more exactly, for the use of conventional signs, brings with it the capacity to form complex beliefs and intentions, to pass on skills and information, to think thoughts that have never been thought before. A creature without that capacity may manifest snake-aversion; but only a creature with that capacity is capable of believing, in the

fullest sense of the word, that snakes are dangerous. This is not to deny that other animals behave in ways that tempt us to describe them as believing this or expecting that (I say myself, of the cardinal birds who chatter on my deck at 8 a.m., that they think the service is really going downhill, their sunflower seeds should be in the feeder already); nor is it to deny that the capacity for language or sign use is a matter of degree, or that a talented primate may achieve something like the linguistic abilities of a human toddler. It is only to insist that the capacities for language and for belief, in the fullest sense of the word, go together; for in that fullest sense belief involves a characteristic amalgam of verbal and non-verbal dispositions.

A person who believes that snakes are dangerous will have a very complex multi-form disposition, or pattern of dispositions:<sup>16</sup> briefly and very roughly, to shriek at the sight of, and run away from, snakes; to shudder at snake-pictures; and to assert or assent to sentences to the effect that snakes are dangerous. Assertion and assent may be insincere; but there is no need to worry that sincere assertion can be explained only as assertion-accompanied-by-belief and insincere assertion only as assertion-not-accompanied-by-belief. Someone whose assertion is insincere will speak differently depending on who is listening, and won't act as he speaks: he will assure his enemy that the ice is thick enough to bear his weight, but won't venture on the ice himself -- as the saying goes, he

won't put his money where his mouth is.

"He walked across the ice," we say, "because he believed it was thick enough to bear his weight." Or think of the standard detective-story ploy, where police trap a suspect by leading him to believe that incriminating evidence is to be found in such and such a place, and following him as he rushes to hide or destroy it. Isn't there a danger that my account has turned a real explanation (he did x because he believed that p) into something like a tautology (he did x because he was disposed to do x)? No. It tells us that leading the suspect to believe that p induces a standing disposition which will likely result in a manifestation of the hoped-for incriminating behavior in the presence of other beliefs (that they'll catch me if I don't destroy the evidence) and desires (that I not be caught); but this is no tautology.

With ordinary, garden-variety beliefs, verbal and non-verbal dispositions interlock both causally and referentially: the subject's representing the world to himself this way causally sustains his disposition to act thus and so, and the sentences to which he is disposed to assent are about the things in the world with respect he is disposed to act thus and so, in the characteristic semiotic triad -- person, words, world. (With mathematical and highly theoretical beliefs, however, any non-verbal dispositions may be very oblique; and then there are those beliefs, as we say, "about" the Holy Grail, the Abominable Snowman, etc..)

Far from proposing a Skinnerian don't-look-in-the-black-box behaviorism, I assume that the pattern of dispositions involved in believing ... , is grounded in an enormously complex neurophysiological configuration; "configuration," rather than "state," because what is involved is an enormously complex web of interconnections among receptors, whatever registers input, and activators, whatever initiates behavior, verbal and non-verbal.<sup>17</sup> However, the pattern of dispositions involved in believing, e.g., that snakes are dangerous, must be neurophysiologically realizable in more than one way; for while my believing that snakes are dangerous involves among other things a disposition to assert or assent to various sentences of English, Ivan's believing that snakes are dangerous involves among other things a disposition to assert or assent to various sentences of Russian. Now, perhaps, you are wondering how Ivan and I can have the same belief -- after all, haven't I just said that we have different multi-form dispositions?<sup>18</sup> No. In the relevant sense, we have the same disposition: to behave thus and so, and to assert or assent to sentences which, though different, bear the same relation to things and events in the world.

But now (as William James would have said) we come to the meat in the coconut. Thinking about beliefs and their role in human behavior, we are pulled in two directions. From one perspective, the essential thing seems to be the content of a belief; from another, its physical realization. We are pulled



towards reductionism when we reflect that, as one habit may sustain or inhibit another, so one belief may be a person's reason for, or against, another; which is to say that the former pattern of dispositions sustains, or inhibits, the latter (to simplify considerably; ordinarily a whole nexus of reasons sustains or inhibits a belief). Both reasoning and the explanation of behavior require that beliefs play a causal role; and the causal interactions of beliefs with other beliefs, goals, etc., which produce deliberate behavior are physical goings-on in a person's head, and must be in accordance with physical laws. This makes it seem obvious that believing that *p* just is being in this neurophysiological kind of configuration.

Or is it? If we want to know why Jack took a jar from the fridge, sniffed it, threw it away, got into his car, drove to the supermarket, and bought mayonnaise, could an explanation along the lines of "cog A in Jack's brain engaged with wheel B which moved lever C" really do the job? To be sure, a real neurophysiological explanation would be vastly more complex than my caricature; but how would it capture the bearing of Jack's representation of the world on his action in the world? The reductionist dream is that a neurophysiological configuration corresponds to the proposition that Carnap had an aunt who lived in Vienna somewhat as a DNA configuration corresponds to cinnabar eyes in fruit-flies. But this seems like the wrong analogy: rather, as an explanation of someone's

flushing because of the heat in the room, or jumping because of a loud noise, would need to acknowledge not only his internal states but also the connection of those states with the environment, so an explanation of his blushing because of the embarrassing remark he just overheard would need to acknowledge the connections of his neurophysiological states with these words, and the use of those words in his linguistic community.

Think of an alarm clock, which is certainly a physical thing. The clock's going off is a physical happening brought about when these and those cogs and wheels, or these and those electrical contacts, engage inside the clock. But the explanation of the clock's going off at 7:30 a.m. isn't exhausted by the account of the cogs or the contacts, without reference to human conventions about time; nor is there anything inherent in the cogs or contacts qua cogs or contacts that makes them about time. Human beings, also, are physical things, and their making these or those noises or marks or movements is brought about by neurophysiological goings-on. But the explanation of my going to the fridge to get a glass of milk isn't exhausted by a neurophysiological account of the firings in my brain, without reference to the content of my beliefs, etc., i.e., again, without reference to human conventions, a socio-cultural loop. Nor is there anything inherent in the bits of gunk in my brain, qua bits of gunk, that makes them about milk; that depends on their connections

with milk, and with "milk."

This isn't to say that the physical properties of the material concerned don't matter; of course they do -- our brains could no more be made of butter or of brass than a clock could be made of feathers or of fudge. But the belief that  $p$  is realizable by whatever configurations could be appropriately causally linked to the world, to words in the person's language, and to his motor apparatus; and what is required to identify the relevant families of neurophysiological configurations is reference to patterns of linguistic behavior in a person's linguistic community, to reference and meaning, and to the things in the world his beliefs are about: that is, to what makes this the belief that snakes are dangerous, what makes Ivan's and mine the same belief.

It's all physical, all right; but it isn't all physics. So if reductionism were redeemable, it could be only in a quite non-standard form in which the whole socio-cultural-historical story of language, meaning, and reference was told in the vocabulary of some hypothetical future physics. And even if this were possible -- a very big "if" -- a significant difference would remain between the parts of this hypothetical future "physics" which go through that socio-cultural loop, and those which don't.

Rather than reduction, in the strong sense, there is integration of the social with the natural sciences. The Logical Positivists' strong, simple, conception of the way all

the truths about the world must fit together has obscured an otherwise obvious fact: heterogeneous truths are no less true, nor necessarily disjointed, for their heterogeneity. A better model might be a map in which a depiction of the roads, towns, etc., is superimposed on a delineation of the contours of the same territory, and integrated in virtue of the fact that the roads go around the lake and through the pass in the mountains, that the town is on, not in, the river, and so on. The natural sciences draw a contour map of the biological determinants of human nature and the biological roots of human culture, on which the social sciences superimpose a road map of marriage customs in New Guinea, the failures of the Soviet economy, the rise of modern science in seventeenth century Europe, etc., etc..

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### **The Question of Reality**

Those aspects of the world studied by the natural sciences are independent of us; they would have existed, and would have been of these kinds and subject to these laws, even if there had never been any human beings or human languages or natural-scientific theories about them -- mostly, anyway: qualifications would be needed with respect to the aspects of the world studied by human biology, and to acknowledge the possibility that this biological species would not be extinct,

or this genetically-altered variety would not exist, were it not for things human beings have done.

It is probably because as a young woman she worked with heavy plough-horses on a farm in Ireland, Marjorie Grene reminisces, that she was never able to take idealism seriously. Brute physical objects surely are our paradigm of the really real; and this may tempt us to misconstrue reality as causal independence of us, or as mind-independence. But reality can't be defined as causal independence of human beings. There would, after all, have been no human artifacts if there had never been human beings; and yet chairs, books, steam-engines, machine-guns, etc., are certainly real. True, even the synthetic materials on which we now rely so extensively are made from natural stuff. True, also, the possibility of making something that can serve a given function depends on the physical properties of the stuff from which it is made -- you can't make a pillow out of granite or a typewriter out of grease.<sup>19</sup> Still, though materials can be recalcitrant, and we can fail in the execution of a design, artifacts are causally dependent on us, and have the characteristics we give them; but they are real nonetheless. Nor can reality be defined as mind-independence; for mental states and processes are mind-dependent, but real nonetheless.

"Real" contrasts, not with "artifactual" or "mental," but with "fictional, a figment." Fictions are however some person or persons represents them to be; Hamlet isn't a real person,

but a fictional character, and has the characteristics Shakespeare represents him as having. This is what motivated the first-stab characterization of "real" -- "independent of how we believe it to be" -- suggested in the previous chapter.<sup>20</sup> But that characterization will need further refinement if it is to capture the difference between natural and social reality.

Social institutions, roles, and rules aren't like rocks, or even roads, nor are they like mental images, or dreams; but they aren't fictions or figments, either. Marriage, banking, the fashion industry, the legal system, science, etc., etc., social roles and rules and kinds, wouldn't exist unless there were human beings and human societies. Human beings don't physically construct social institutions, etc., as they did the Ziggurat at Ur, the Great Wall of China, highways, skyscrapers, and all the countless artifacts human ingenuity has devised; but such social institutions are constituted in part by people's behavior, beliefs, and intentions. They are how they are independent of how anyone in particular believes them to be; but they are not independent of the beliefs, intentions, etc., of members of the society in question generally. That's why a couple "married" by a hedge-priest aren't really married, even if they believe they are; think of poor Audrey in As You Like It.

Or take money. There would have been no money if there had never been human beings. Physical tokens of monetary

value, such as coins, bills, or credit cards, are artifacts (and not just anything can perform this function: cowrie shells, yes, or bits of metal or paper or plastic, or magnetic traces in a computer, but not mist or asteroids). Qua social phenomenon, however, money involves much more than the physical tokens; in fact, as John Searle says, it is an institution of quite staggering complexity.<sup>21</sup> It is beyond my powers, and perhaps your patience, to explore all the complexities here; suffice it to note that among them is that for money to be money depends in part on people's believing, intending, and behaving thus and so. That's why ancient Greek coins or cowrie shells aren't money any more, why currencies in which people lose confidence cease to be viable, and how the Euro became money upon the appropriate agreement among the members of the European Community. To be sure, the chairman of the Federal Reserve can raise or lower the federal-funds interest rate by announcing that it is now n%; but his being in a position to do so involves a vast, complex structure of institutional facts -- which is why you and I can't make the bills we print in the basement money by announcing, or believing, that they are.

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It is often assumed that "real" is incompatible with "socially constructed." But social institutions, roles, and rules are both real (how they are doesn't depend on how you, or I, or any individual believes them to be), and, in a weak

sense, socially constructed (they are constituted in part by people's beliefs and intentions). It is because social institutions, etc., are in this sense socially constructed that what social scientists say about the workings of marriage or the banking system or the fashion industry or globalization can have an oblique effect on how marriage, the banking system, etc., actually do work -- because, if people know what is said about them, this may change their beliefs, intentions, and behavior. The most obvious kind of example is the self-fulfilling prophecy in economics: unemployment is predicted to fall, or to rise, boosting confidence in, or anxiety about, the economy, and with it employers' willingness, or unwillingness, to take on new workers -- and unemployment falls, or rises, as predicted.

This has tempted some social scientists to indulge in a little self-aggrandizement: Anthony Giddens, for example, writing of a "double hermeneutic," and the "reflexivity of modern social life," avers that "social practices are constantly examined and reformed in the light of incoming information about those very practices ... . [The] characteristic of modernity is ... the presumption of wholesale reflexivity."<sup>22</sup> And sometimes, when the point about the possibility of social-scientific theories' affecting their subjects joins hands with a fashionable linguistic idealism, the self-aggrandizement takes a metaphysical turn, and it is suggested that social institutions, etc., are brought into



being by social scientists' theorizing. This, the scary form of social constructivism, really is incompatible with the reality of social institutions. Fortunately, however, it isn't true; and sociologists aren't really quite so powerful as some of them like to think they are. Yes, social institutions, etc., are partially constituted by people's beliefs and intentions; and yes, social-scientific theorizing can affect its objects. But social scientists no more brought child abuse or schizophrenia or homosexuality into existence by their intellectual activities than biologists brought anthrax into existence by theirs (though by now, to be sure, the idea that medical scientists' activities might bring a new disease into existence is more than science fiction).

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In the social as in the natural sciences, explanation and prediction require generality. Optimistic unifiers look for Laws of Society on a par with the laws of physics; pessimistic bifurcators scoff at the idea. True to my neither-of-the-above perspective, I see the truth as lying somewhere in between. David Hume once observed that history would not be possible if human nature weren't essentially the same long ago as now; neither would intentional social science. Fortunately, as Fritz Machlup more recently observed, "[i]n the social world phenomena are not quite so heterogeneous as many have been afraid they are."<sup>23</sup>

There are human commonalities behind cultural differ-

ences, a human nature that grounds lawlike generalities true of all human societies. Helmut Schoeck maintains that "[t]hroughout history, in all stages of cultural development, in most languages, and as members of widely differing societies, men have recognized a fundamental problem of their existence ... the feeling of envy and of being envied." He devotes an entire book to investigating this motive, which he believes "lies at the core of man's life as a social being,"<sup>24</sup> offering a startling range of evidence from anthropology to political theory to mythology and literature, even primatology and ornithology. The fragment that lingers most vividly in my mind is this, from a nineteenth-century book about the Kazak-Kirghiz, nomads who rob caravans travelling across the steppes: rather than let one member of the gang have more than another, "they cut up the objects they have stolen into the most absurd and useless little bits."<sup>25</sup> Schoeck's conjecture exemplifies one kind of potentially illuminating social-scientific explanation, the most generalizing kind: tying historically and geographically distant phenomena together by reference to some underlying aspect of human nature.

Recent attempts to explain the spread of AIDS in sub-Saharan Africa, though less panoramic, illustrate my theme in a different way. The year before the epidemic was first reported in the Boston Globe in 1999, two million people in this region had died of AIDS, about 85% of the total number for the whole world, and more than 22.5 million people in the

region carried the HIV virus. In this part of the world, 55% of those with AIDS or HIV are women, and only 45% men, whereas in North America 80% are men and only 20% women. This region, we read in the press, "faces a crisis of shattered mores, where sexuality is no longer governed by traditional norms"; the disease is transmitted primarily heterosexually, with rape and prostitution playing major roles.<sup>26</sup>

More recently, researchers have found that the rate of HIV infection among migrant workers in South Africa is nearly two-and-a-half times higher than among other workers; according to a report in the Wall Street Journal, the HIV rate among AngloGold's miners is 30%. Dr. Mark Lurie comments: "If you wanted to spread a sexually-transmitted disease, you'd take thousands of young men away from their families, isolate them in single-sex hostels, and give them easy access to alcohol and commercial sex. Then to spread the disease around the country, you'd send them home every once in a while to their wives and girlfriends. ... That is basically the system we have."<sup>27</sup> A couple of days later, a correspondent observed in the letter column that part of the problem is that there's no TV in the miners' hostels. All of this makes perfect sense; but only because of assumptions about human nature unstated because too obvious to state: especially in the absence of other forms of relaxation, young men doing physically exhausting and dangerous work who are isolated from their wives and girlfriends for months or years at a time, even if

they are aware of the risks, will tend to get together with any women who are available.

The social-scientific components of the explanation of the crisis, no less than the social-scientific components, require a kind of generality. The behavior-patterns, like the infection-patterns, are local, obtaining here and not there; but we can no more explain the behavior patterns than the infection-patterns without fitting them into some generalizable categories; we need to identify kinds of behavior and mechanisms of motivation as well as a kind of virus and mechanisms of infection.

While some social institutions, etc., are universal, many are culturally specific. Everywhere there are differences of status, but only in some cultures are there differences of caste, or Sirs and Lords; everywhere people obtain and distribute food, but only in some cultures are there prices or markets. Real but restricted generalities, rooted in human nature but holding in the context of specific social institutions, allow for the possibility of explanation and even -- given appropriate limitations of scope and generous ceteris paribus clauses, and ordinarily only to a probability -- prediction.

Unlike natural kinds, social kinds aren't congeries of properties held together by laws of nature but congeries of behaviors held together by people's beliefs and intentions; often very loose congeries, as with the wide range of

arrangements anthropologists call "marriage" -- a concept the boundaries of which are being extended, in our own society, by advocates of same-sex unions. The looseness of social kinds, and the local, contingent character of social institutions, is the source of some notorious pitfalls of social-scientific inquiry: taking the local and culturally specific (e.g., our society's division of labor between the sexes) for something universal and inevitable; assuming that whatever is true of one variant of a social kind (e.g., the family as constituted in our society here and now) is bound to hold for other forms as well.

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#### **Questions of Method**

In the agenda inherited from Logical Positivism it was often assumed that we must choose either methodological monism, according to which the social sciences seek explanatory, causal theories and use the scientific method just as physics and chemistry do, or methodological dualism, according to which the social sciences seek understanding rather than causal explanation, and use a method of empathy rather than objective observation. This makes me feel like that legendary Irishman asked for directions to a distant village: "Sure and begorrah, I wouldn't start from here." For one thing, as I have argued, in the sense intended there is no

"scientific method." For another, the positivists contrasted their own methodological monism with a methodological dualism according to which, whereas the natural sciences seek causal explanations and depend on objective, publicly checkable observations, the social sciences must rely on a mysterious faculty of understanding, "a policy of deep breathing followed by free association,"<sup>28</sup> in Braithwaite's wonderfully scathing phrase. Whether or not this is adequate to the idea of Verstehen in its most exaggerated forms, it hardly seems fair to Max Weber or Alfred Schutz, who seem primarily concerned to insist on the unavoidable necessity of taking actors' conceptions of the world and their actions into account,<sup>29</sup> and who might have agreed with my Irish friend and myself.

As is probably already clear, I think contrasting understanding with explanation is misleading;<sup>30</sup> intentional social science tries to understand people's behavior by coming up with explanatory hypotheses about their beliefs, goals, etc., and seeking out and appraising the worth of evidence relevant to those hypotheses. This much is true of the natural and the social sciences alike; the difference lies in the nature of the explanations and the evidence. Social-scientific explanations typically appeal to motives, beliefs, desires. The motives ascribed will only be comprehensible insofar as they manifest common (though not necessarily universal) human characteristics. When an anthropologist explains that these tribesmen travel long distances in order to find the red clay

with which the young men decorate themselves for their initiation rites, we recognize the motivation even though this particular manifestation is unfamiliar; we see the similarity with, say, elaborate and expensive arrangements for a debutante's coming-out party. However, to say that the tribesmen travelled miles because they wanted this special clay (or that Jack went to the supermarket because he wanted fresh mayonnaise) is to say, in part, that the tribesmen's desire for the clay, in conjunction with their belief that it was to be found only at a distant river-bank, caused them to walk there (that Jack's desire for fresh mayonnaise and his belief that it was available at the supermarket caused him to drive there). Intentional, belief-desire explanations piggy-back on ordinary causal explanations.

Again, observing people and describing what they do, just like observing a cloud chamber or an X-ray photograph or a CAT scan and making sense of what you see, requires background knowledge. But the kind of background knowledge needed is very different -- understanding subjects' beliefs, interpreting what they say, placing their actions in the context of sometimes very culturally-specific practices: think of an economist's description of a trader as buying pork futures, or an anthropologist's description of a witch-doctor as casting a spell on his neighbor's cattle, or of a ceremony as rain-dancing, or a sociologist's description of an artisan as mending the strawberry nets, etc., etc..

Sometimes it is suggested that what is peculiar about the method of intentional social science is that belief-desire explanations presuppose rationality. But "rational" is multiply ambiguous. It is true, obviously, that belief-desire explanations apply only to creatures capable of forming beliefs and desires; and true that such explanations can be correct only when the behavior explained is consonant with the agent's beliefs and desires. It is not true, however, that such explanations can be correct only when the goals and beliefs in question are reasonable. (Part of the explanation of the high rate of HIV infection among very young women in some sub-Saharan African countries, for example, is apparently a widespread belief that sex with a virgin can cure AIDS.) It is true that to make sense of a person's behavior, you need to take account of the way he would describe what he does. It doesn't follow, and it isn't true, that you must presume that his description is correct, or that he agrees with you. The goal is to ascribe to him the beliefs he actually has, and, so far as possible, to understand why he has them: that, say, he lights a fire to warm the hut because he thinks it's snowing, when we know it's really the artificial stuff that, in hopes of learning the native word for snow, we arranged to have dropped from a helicopter.<sup>31</sup> This is no simple matter of maximizing the truth of another's beliefs, as Davidson's version of the Principle of Charity requires, or of maximizing agreement, as Quine's version requires.<sup>32</sup>



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A better approach would start out from the thought that all empirical investigation demands the same epistemic virtues: respect for evidence, care and persistence in seeking it out, good judgment in assessing its worth; and that, in a sense, all empirical investigation uses the same method -- the method of experience and reasoning: making an informed conjecture, seeing how it stands up to the available evidence and any further evidence you can lay hands on, and then using your judgment whether to drop it, modify it, stick with it, or what. What is distinctive about natural-scientific inquiry isn't that it uses a peculiar mode or modes of inference, but the vast range of helps to inquiry scientists have developed, many of them -- specific instruments, specific kinds of precaution against experimental error, specific models and metaphors -- local to this or that field or sub-discipline.

As this suggests, insofar as intentional social science is methodologically like physics, it is also methodologically like history, detective work, etc., and like everyday empirical inquiry; while insofar as it is methodologically different from physics -- e.g., in its reliance on questionnaires or interviews rather than electron microscopes or cloud chambers for making observations, in its preoccupation with statistical significance -- there are also differences between physics and biology. The underlying patterns of hypothesizing, reasoning, and testing are the same for all empirical

investigation; but the special techniques overlaid on them will differ from field to field. This is not to say that whatever techniques are used in a field are ipso facto good: the question of the relative worth of clinical and other kinds of evidence in psychology, for example, is certainly a substantive one.<sup>33</sup> Nor is it to deny that among the helps scientists devise are helps to the intellect, including statistical techniques of special relevance to certain of the social sciences.

In those parts of the social sciences, such as physical geography and anthropology, most closely akin to the natural sciences, borrowing and adapting natural-scientific helps is quite appropriate, and has proven fruitful. But in intentional social science not all those natural-scientific helps are necessarily appropriate, and some can be counter-productive. Many sociologists, as Robert Merton observes, "take the achievements of physics as the standard for self-appraisal. They want to compare biceps with their bigger brothers."<sup>34</sup> "Physics-envy" has sometimes given us cargo-cult social science,<sup>35</sup> the form without the substance of real inquiry: bits of bamboo in the ears, but no actual radio; "methodology" in spades, but no real effort to discover the truth; symbolic formulae, but no real precision -- as with David Abramsen's so-called Second Law of Criminal Behavior: "A criminal act is the sum of a person's criminalistic tendencies plus his total situation, divided by the amount of his resistance," or, as he

continues, "C = (T+S)/R."<sup>36</sup>

Not that quantification or measurement is necessarily inappropriate in intentional social science -- on the contrary, it can be enormously useful; but it is worse than pointless when it disguises banality, when what is being measured or quantified is ill-defined or ambiguous, or when quantification diverts attention from what is important to what can be measured. Hence two key ideas motivating Stanislaw Andreski's exasperated description of social science as "sorcery": that in the social sciences the quantification essential to the natural sciences too often serves only to camouflage the obscurity or the vacuity of underlying concepts and categories; and that an excessive preoccupation with methodological technicalities too often substitutes for genuine originality or depth.<sup>37</sup> This is no doubt why, re-reading William James musing about what makes people tick, I am struck by an insight, a penetration, that more recent and more self-consciously "scientific" psychology sometimes seems to have sacrificed.<sup>38</sup>

Even in economics, where numbers are undeniably apropos, combining precision and depth is a difficult balancing act. Sophisticated mathematical models often rely on artificial and unrealistic assumptions about people's motivations; mathematically sophisticated theory and statistically sophisticated empirical work often fail to mesh as you would hope. The problem is not so much idealization as such (physicists, after

all, postulate frictionless surfaces and the like), as tunnel-vision, blindness to other motives besides the economic.

Because of its mathematical character, economics is sometimes called "the physics of social science." But surely, if any discipline is properly so-called, it is psychology, the discipline to which it falls to investigate the basic contours of human motivation. The misconception arises because we look to mathematical trappings rather than conceptual depth and breadth to identify the most basic social-scientific field. Correcting the mistake, we may begin to suspect that the divisions among the various sub-enterprises of the social sciences are somewhat artificial; and that crossing those disciplinary boundaries -- political scientists borrowing economists' methods, economists looking to sociology or psychology, etc., etc. -- might be more potentially fruitful, and less potentially dangerous, than crude forms of physics-envy.

Physics-envy, however, is not the only pitfall of intentional social science. There is an equal and opposite danger: transmuting what could and should be inquiry into social phenomena into socio-political advocacy.

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### **Questions of Value**

But can social-scientific inquiry be value-free? The

question fairly bristles with ambiguities. In several senses of the phrase, the social sciences clearly aren't value-free, nor would we want them to be. Social scientists often investigate questions which engage our moral and political values: race relations, educational provisions, tax policies. They sometimes investigate what people value: how party platforms affect voting patterns, the relative importance of profit-maximization versus empire-building in the motivation of managers of large businesses. And they sometimes investigate whether or not desired values have been achieved: whether target schools succeed in their educational objectives, whether tax reductions increase productivity.

However, since social-scientific inquiry is a kind of inquiry, it falls within the scope of the epistemic values -- concern for truth, respect for evidence -- relevant to all inquiry. Disinterestedness is one of these epistemic values, requiring the inquirer to seek the truth "regardless of what the color of that truth may be";<sup>39</sup> regardless, in particular, of what he would like to be the case, or of what it would serve his interests to have believed. In this sense, value-freedom is an ideal for social-scientific as for inquiry of every kind. Matters are complicated by the fact that "disinterested" has several senses: (i) uninterested;<sup>40</sup> (ii) having no interest (especially, no financial interest) in a question's coming out a certain way; (iii) not motivated by the desire that an inquiry come out this way rather than that.

In the third, crucial sense, "disinterested" is equivalent to "unbiased" or "impartial." In this sense, "disinterested inquiry" is a pleonasm, and "interested inquiry" an oxymoron.<sup>41</sup>

Sometimes it is thought that disinterested inquiry is impossible, because you wouldn't inquire at all if you weren't interested in the answer. Actually, it isn't clear that this is so; often enough people inquire because it's their job, or, as Machlup reminds us, because they have to write a dissertation on something.<sup>42</sup> But even if inquiry were always interested in the first sense, it wouldn't follow that it is always interested in the third sense as well. Nor, as Ernest Nagel pointed out long ago,<sup>43</sup> does this conclusion follow from the fact that any inquiry involves selective attention, taking an interest in only some aspects of the phenomenon under study. Sometimes, again, it is thought that if an inquirer is interested in the second sense, i.e., stands to gain financially or otherwise if the inquiry comes out this way rather than that, it follows that he can't be disinterested in the third sense, that he is bound to be partial. This too is a non sequitur. But it is human nature to hope that a question will turn out as it would be in your interest for it to turn out; it is harder to be disinterested in sense (iii) if you are interested in sense (ii).

Impartiality doesn't require that you start with a blank slate, a mind empty of beliefs -- in fact, you couldn't inquire at all if you did; but it does require that you have

no unbudgeable preconceptions, that you be willing to check out all the evidence, and will change your initial judgment if the evidence turns out against it. As Andreski says, "the ideal of objectivity is much more complex and elusive than the pedlars of methodological gimmicks would have us believe."<sup>44</sup> It is less a matter of technique than of character: of respect for evidence, of a contrite fallibilism, of good faith in inquiry. Remember Crick: "If [Watson and I] deserve any credit at all, it is for persistence and the willingness to discard ideas when they became untenable."<sup>45</sup> Some years before the first World War, a political journal asked several prominent French social scientists what they regarded as the most important method of their field. Others returned detailed methodological recommendations; Georges Sorel replied in one word: "honesty." As Andreski observes, "this lapidary answer has lost none of its relevance."<sup>46</sup>

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I was careful to describe disinterestedness as an ideal, for real human beings are rarely if ever purely disinterested, completely impartial inquirers; it is rather a case of more or less genuinely seeking the truth of some question, of greater or lesser willingness to seek out and pay attention to evidence that disfavors the conclusion it would be in your interest to reach. But other things being equal, the closer you come to the ideal of impartiality, the greater your evidential reach, the fairer your judgment of the worth of

evidence, and the better-conducted your inquiry. People are sometimes tempted to think that bias doesn't matter, so long as competing biases can fight it out. Epistemologically successful "fighting it out," however, requires a community of people who, fallible and susceptible to bias as they may be, are disinterested enough that they can be budged by evidence from their preconceptions, or from what they would like to believe.

The fact that scientific inquiry is a community affair compensates, to a degree, for individuals' falling short of the ideal; and sometimes an obstinate adherent of some approach or line can advance inquiry not despite but because of his obstinacy. It still doesn't follow that impartiality isn't the ideal, let alone that it is just as good, or even better, if each person just pushes his, or his party's, line. That would be as disastrous as having opposing advocates slugging it out with no judge to referee, and no jury trying to determine the truth of the matter.

There's no denying, however, that disinterestedness can be especially hard to achieve in intentional social-scientific inquiry, especially where the inquirer's moral or political values are deeply engaged; nor that a covert evaluation can easily get built into social-scientific theories. Theorizing about the function of sex roles within the family, for example, or about the causes of inflation, can covertly seem to legitimize, and perhaps thereby help perpetuate, existing



social arrangements; definitions of unemployment can disguise how many people are really out of work. More generally, terms referring to this or that social, psychological, political, economic, etc., phenomenon often carry evaluative connotations, positive or negative -- and sometimes the terminology shifts with changing political sensibilities, as the "undeveloped" countries to which economists referred in the 1950s and 60s became the "underdeveloped" countries of the 70s and the "developing" countries of the 80s.<sup>47</sup>

Robert Heilbroner discusses a simple but revealing example of built-in evaluation: describing government borrowing as "crowding out" private investment covertly gives priority to private enterprise over government spending, evading the necessity to say why a private casino should be thought more worthy than a public child-care center.<sup>48</sup> And this is no superficial difficulty; it arises from the culturally-specific character of many social arrangements, such as polygamy or -- the example on Heilbroner's mind -- capitalism. Presented as the results of scientific investigation, truths about culturally-specific social institutions or roles are easily mistaken for truths about human societies generally.

We expect psychology to help the mentally disturbed, and hope that social-scientific, especially economic, investigation will show us how to solve social problems (a hope, as Merton wryly observes, about as realistic as expecting William Harvey, having just discovered the

circulation of the blood, to come up with a cure for heart disease).<sup>49</sup> In principle, questions of ends and means are distinct; and in principle, also, it is clear that, while the task of determining what means would lead to desirable ends is reasonably assigned to the social sciences, deciding what social ends are desirable is a political task.<sup>50</sup> In practice, however, these questions are often almost inextricably intertwined.

In principle, factual questions about the workings of the market, or of polygamy, are distinct from evaluative questions about the relative desirability of market versus feudal, socialized, or mixed economies, or of polygamy versus polyandry or monogamy. In practice, however, these questions too are often almost inextricably intertwined.

In principle, again, descriptive and evaluative aspects of the meanings of key terms are clearly distinguishable. "Crowding out" implies that funds which might have been used for purpose A are no longer available if used for purpose B -- the descriptive element; and that purpose A is more worthy -- the evaluative element. In practice, however, the descriptive and evaluative aspects of the meanings of key terms are often almost inextricably run together. And when what is at stake engages our feelings very strongly, even if we invent new, neutral terminology, it won't stay neutral very long. As Andreski puts it, "no matter how aseptic and odourless when first coined, psychological and sociological terms very

quickly acquire overtones of praise or blame in accordance with whether the reality to which they refer is liked or not."<sup>51</sup> If "crowding out" were replaced by "displacing," probably "displacing" would soon enough take on the old, unfavorable connotation.

Sometimes it is suggested that disinterestedness is not desirable in social science. According to some, sociological research cannot just describe the social world, but will inevitably change it as it reveals the ideology by means of which the dominant class keeps underdogs down; indeed, they say, this is precisely the point of social research -- to improve the world, not just to describe it. I don't deny that social research can be disturbing, and quite properly so; the example that comes to my mind is Caroline Bird's The Case Against College, a most unsettling book for one committed to the academic life. And I shall resist the temptation to ask how many sociologists it takes to change a light-bulb? (none; it's not the light-bulb, it's the system that has to change!). It's more important to point out that the thesis that sociological research is inevitably destabilizing presupposes that sociologists uncover truths which the ruling class would prefer not to have generally known; and that the idea that the goal of social research is to improve the world presupposes that we can know not only what would constitute a genuine improvement, but also what steps would likely bring that improvement about. So these radical views presuppose the

possibility of the very kind of investigation of social institutions and interactions which I take for granted, but which they officially repudiate.

Sometimes, finally, loose talk about "political discourse" is simply allowed to blur the line between inquiry and advocacy. Political theory, focussing on sovereignty, authority, liberty, justice, fairness, welfare, and the like, takes questions about value-concepts as its subject-matter. But that political theorists are engaged in inquiry into normative concepts doesn't mean that they aren't really engaged in inquiry at all.

Only too often, supposedly disinterested social inquiry has been little more than political advocacy in disguise. But to draw the conclusion that the ideal of disinterested social inquiry is humbug is to succumb to the Passes-for Fallacy: that ubiquitous but crashingly invalid argument from the true premiss that what passes for truth, evidence, known fact, honest inquiry, etc., is often no such thing, to the false conclusion that the ideas of truth, evidence, knowledge, honest inquiry, etc., are ideological humbug.<sup>52</sup> Honest, well-conducted intentional social-scientific inquiry isn't impossible; just very difficult.

So why don't the intentional social sciences seem to have made the same impressive progress as the natural sciences? In part, probably, we take a dim view of the achievements of the social sciences because historians, playwrights, etc., have already taught us so much about the complexities of human nature and human society -- which makes it harder for a psychologist or a sociologist than for a physicist or a biologist to discover something that seems genuinely new, not already part of our commonsense knowledge, and explains why social scientists sometimes seem to be presenting the familiar, even the banal, in a pointlessly forbidding jargon. Nevertheless, and despite the difficulty of making clear sense of comparative judgments of progress, despite those who reassure us that, in a Kuhnian sense, the social sciences have "progressed" just as the natural sciences have, the feeling lingers that the social sciences, so far anyway, have lagged behind.

Why should that be? In part because the social sciences have sometimes hamstrung themselves by trying to be like physics in the wrong way, focussing too much on mathematical trappings, too little on the underlying demands of well-conducted inquiry. But in part, also, as Merton, Wilson, Andreski, and many others have observed, simply because the task of the social sciences is in some ways more difficult and more demanding even than the task of the natural sciences. The social sciences investigate questions on which people have

strong personal and political feelings, and, besides, are often under pressure to come up with solutions for social problems for which the public or the government demands speedy remedies, making it harder for social than for natural scientists to remain free of bias. The objects of the social sciences have a peculiar complexity, and, besides, can react to claims and predictions made about them as the objects of the natural sciences cannot, making the task of the social sciences intellectually more difficult.

In many areas of social science, controlled experiments aren't feasible; of course, they aren't feasible in astronomy, either. Social scientists often investigate questions which arouse strong feelings and political prejudices; but so do medical scientists -- think of the outrage provoked by the suggestion that abortion might increase the risk of breast cancer,<sup>53</sup> or by the hypothesis that homosexuality might have a genetic basis. In fact, the same is true of any kind of investigation which threatens dearly-held beliefs about ourselves and our place in the universe. But intentional social-scientific inquiry more often labors under more of these difficulties than natural-scientific inquiry does.

The social sciences don't have the impressive track record of successful prediction that astronomy does. Of course, meteorology doesn't either, and in part for the same reason: predicting a race riot or a general strike, like predicting where a hurricane will make landfall, requires

knowledge of an enormously complex mesh of variables. But only in part for the same reason: while there is no barrier in principle to our knowing the whole mesh of meteorological variables, it is doubtful that, even in principle, we could know everything about all the sociological variables. Though we might predict that medical scientists will know the cure for cancer within the next hundred years, we can't predict that they will know that the cure for cancer will be XYZ; for if we could, we'd know it now.<sup>54</sup> More importantly, because of the always-open possibility of unforeseeable conceptual innovations, we can't predict what people's beliefs will be a year or a decade or a century from now. Its subject-matter, in other words, imposes in-principle limits on the possibility of social-scientific prediction.

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#### **And, In Conclusion**

It bears repeating that advocacy is not inquiry, and a fortiori not science. As to whether inquiry into social phenomena is properly called "science," it bears repeating, also, that the honorific usage in which "science," "scientific," etc. are all-purpose terms of epistemic praise is more trouble than it's worth, and is best eschewed. And as for the debate between the optimists and the pessimists, that fine old Leibnizian riddle has it about right: What's the difference

between an optimist and a pessimist? They both think this is the best of all possible worlds!

An optimist would hope, given the epistemological importance of cooperation and competition within the sciences, and of their environment within the larger society, that sociology of science could make a significant contribution to our understanding of the scientific enterprise. A pessimist, looking for the inevitable cloud behind every silver lining, would fear that in the actual world such friendly cooperation between epistemology and sociology is hardly to be expected. As we shall see, once again they're both right.



1. Lowe, "Comment" (on Hans Jonas), p.154.
2. I have been helped to see this by Walker Percy, "The Fateful Rift: the San Andreas Fault in the Modern Mind"; Percy, in turn, refers to Peirce, with his conception of Man as a Sign.
3. My source is Stanford's Humanities and & Sciences Quarterly, summer 1998, "Defining Disciplines: Anthropology Becomes Two Departments."
4. Wilson, Consilience, p.133; Begley, "Culture Club"; de Waal, The Ape and the Sushi Master.
5. Wilson, Consilience, pp. 131-2; Wilson refers to Savage-Rumbaugh and Lewin, Kanzi: The Ape at the Brink of the Human Mind; Wrangham, McGrew, de Waal and Heltne, eds., Chimpanzee Culture; and Fischman, "New Clues Surface About the Making of the Mind."
6. Packard, The Status Seekers, p.24.
7. See Kitto, The Greeks, pp.36 ff., on the role of its mild climate in enabling the extraordinary cultural achievements of ancient Athens.
8. Author of Watership Down, the stirring story of a perilous

journey undertaken by a group of brave, and not-so-brave, rabbits.

9. Wilson, Consilience, p.116, p.70.

10. Wilson, Consilience, p.131.

11. Despite some philosophers' efforts to assimilate the two cases; see Stich, From Folk Psychology to Cognitive Science, and Haack, Evidence and Inquiry, pp.162 ff.

12. Churchland, "The Ontological Status of Observables," "Folk Psychology and the Explanation of Behavior," and "On the Nature of Theories"; discussed at length in Haack, Evidence and Inquiry, chapter 8.

13. See chapter 4 above, p.000.

14. Wilson, Consilience, pp.71, 79.

15. Wilson, Consilience, p.120.

16. See Haack, Evidence and Inquiry, pp. 173 ff; Price, Belief.

17. Perhaps, given his enthusiasm for connectionism, Churchland's bizarre thesis that no-one believes anything could be charitably reconstrued as an exaggerated way of saying that to have a belief is to be, not in some simple

neurophysiological state, but in some complicated neurophysiological configuration.

18. A question put to me by Corliss Swain.

19. This sentence was written before I saw, in the Kon-Tikki exhibition in Oslo, a stone pillow from Easter Island. But I will let it stand.

20. See chapter 5 above, pp.000-000.

21. Searle, The Construction of Social Reality; the quotation is from p.3.

22. Giddens, "Nine Theses on the Future of Sociology," p.p.30-31; my source is Windschuttle, The Killing of History, p. 206. As we shall see in chapter 7, "reflexivity" has a rather different use among sociologists of science.

23. Machlup, "Are the Social Sciences Really Inferior?", p.161.

24. Schoeck, Envy, p.3.

25. Schoeck, Envy, p.369, citing Levchine, Description des hordes et des steppes des Kirghiz-Kazaks ou Kirghiz-kaissaks, p.343.

26. My sources are "AIDS and the African," Boston Globe; "A

Devastated Continent," Newsweek; Bartheolet, "The Plague Years"; Cowley, "Fighting the Disease: What Can Be Done." The quotation is from "AIDS and the African," October 10th, 1999, A1.

27. Mark Schoofs, "Undermined"; the quotation is from page A10.

28. Braithwaite, Scientific Explanation, p.272.

29. Weber, "The Interpretive Understanding of Social Action"; Schutz, "Concept and Theory Formation in the Social Sciences." I am also relying on Brodbeck, "Introduction" to Part 1 of Readings in the Philosophy of the Social Sciences, and Heritage, Garfinkel and Ethnomethodology, pp.38 ff.

30. Were I able to undertake it, this would be the place for a more expansive engagement with Habermas's philosophy of social science; which, however, will have to be a task for another time.

31. The example is adapted from Burdick, "On Davidson and Interpretation."

32. On the differences between Davidson's and Quine's versions of the Principle of Charity, see Burdick, "On Davidson and Interpretation"; Haack, Evidence and Inquiry, pp.61 ff.; and Haack, "'La teoria de la coherencia de la verdad y el cono-

imiento' de Davidson."

33. See Meehl, Clinical Versus Statistical Prediction.

34. Merton, Social Theory and Social Structure, p.47.

35. I believe this nice phrase is due to Richard Feynman.

36. Abramsen, The Psychology of Crime, p.37; I owe the example to Barzun, Science: The Glorious Entertainment, p.222.

37. Andreski, Social Sciences as Sorcery, chapter 10.

38. James, "On a Certain Blindness in Human Beings"; "The Methods and Snares of Psychology."

39. Peirce, Collected Papers, 7.605 (1902).

40. Incorrect in British English, but according to Webster's dictionary a legitimate sense in American English.

41. See also Haack, "Confessions of an Old-Fashioned Prig."

42. Machlup, "Are the Social Sciences Really Inferior?", p.165.

43. Nagel, "The Value-Oriented Bias of Social Inquiry" (of course, he doesn't use my terminology).

44. Andreski, Social Sciences as Sorcery, p.103.

45. Crick, What Mad Pursuit, p.70.
46. Andreski, Social Sciences as Sorcery, p.232.
47. I owe the example to Victor Fuchs.
48. Heilbroner, "Economics by the Book," pp.18-19.
49. Merton, Social Theory and Social Structure, p.???
50. As Fuchs writes in the first section of "What Every Philosopher Should Know About Health Economics," entitled IF YOU DON'T KNOW WHERE YOU ARE GOING, ANY ROAD WILL GET YOU THERE, "Part of the problem is that we have not decided what it is we want our health care system to do"(p.186).
51. Andreski, Social Sciences as Sorcery, p.100.
52. See chapter 1, pp.000-000.
53. McGinnis, "The Politics of Cancer Research."
54. The general argument about prediction in the social sciences is made by Popper in the Preface to The Poverty of Historicism.