
ROBERT K. MERTON

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ROBERT K. MERTON, one of the greatest sociologists of our time, and the doyen of the sociology of science, died in Manhattan on 23 February 2003, at the age of ninety-two. He was an exemplary discipline-builder who formulated key concepts with which to perceive and solve sociological problems, a masterful teacher, and a kind colleague. His passing left a large void in the intellectual world of social science.

THE RISE OF A SCHOLAR

Robert Merton was born in Philadelphia on 4 July 1910, the son of poor immigrants from Eastern Europe. In the only sketch of his personal life he allowed himself (in his Charles Homer Haskins lecture of 1994), he looked back on what he regarded as his rather inauspicious start “in the slums of South Philadelphia.” But he gratefully acknowledged that, although he lacked monetary capital, other kinds—social and cultural capital—were available to him through the first-rate public institutions in the city at the time, such as his high school, the Carnegie Library near his home, the Academy of Music, and the Museum of Art. They gave him the opportunity from earliest years to let his ever-curious mind grow, to broaden his horizon, and to develop his tastes. Indeed, his rise from those beginnings to his extraordinarily fruitful career is a worthy case study of the possibilities of success in America, given favorable internal and external circumstances.

Awarded a scholarship to attend Philadelphia’s Temple University, he was recruited as a research assistant by George E. Simpson. The project was called “The Negro in the Philadelphia Press.” It was his introduction to empirical social research in the form of content analysis. Having earned a bachelor’s degree in philosophy and sociology in 1931, young Merton found it difficult to see where to go next during those years of the Great Depression. But as a result of a serendipitous encounter with the formidable chair of Harvard University’s Department of Sociology, Pitrim Alexandrovich Sorokin, he applied there for his graduate study. A fellowship made it possible to go for his doctorate.

Among his teachers was Talcott Parsons. He had just started to build and lecture on his overarching theory, and it soon resulted in his book *The Structure of Social Action*. Other powerful forces were also working on young Merton. Having audited a course in the newly developing field of history of science given jointly by L. J. Henderson and George Sarton, Merton sought guidance from Sarton for his dissertation, entitled “Sociological Aspects of Scientific Development in Seventeenth-Century England.” It was a preview of one of his capacious powers that the dissertation involved making a quantitative

analysis of some six thousand entries in the *Dictionary of National Biography*. In those pre-computer days, such an analysis had to be done essentially “by hand.”

Merton’s dissertation was finished in 1936. A revised version appeared in 1938 as a monograph in Sarton’s series, *Osiris*, with the new title, *Science, Technology and Society in Seventeenth-Century England*. Later it was published in book form, with many foreign-language translations to follow. Against the prevailing view that religion and science were antithetical, Merton demonstrated the influence of Puritanism on the growth of seventeenth-century science in England, a finding that was at the core of the “Merton thesis,” as it became known in academic parlance. Complementary to Max Weber’s thesis about the origins of the capitalist spirit in Puritanism, Merton’s work was to become a foundation for the rise of the sociology of science in America. It spawned a flood of commentary, of which the best collection is *Puritanism and the Rise of Modern Science: The Merton Thesis*, edited by I. B. Cohen (1990). The fate of this work also exemplifies another theme that interested Merton—the preemption of scientific and scholarly attention. Thus, while the “Merton thesis” received almost all the attention of the commentators, other parts of the book were neglected, even though they, too, were substantial contributions to the sociology of science, such as detailing the influence of economic and military needs on scientific problem choice in seventeenth-century England.

FORMING HIS INDIVIDUAL AUTHORITY

Soon after his graduation, some of the quintessential concepts that were to constitute more of Merton’s gifts to sociology were being developed in his own lectures at Harvard University when he was appointed as an instructor. But before turning to his specific conceptual advances, it is useful to begin a biographical memoir of a scholar by sketching the psychological-social-intellectual landscape in which he found himself, and to stop to consider important questions: Where was Merton to situate himself intellectually? Whom should he follow, while still working on his dissertation?

Being interested in the nascent phase of creative production, I am struck by the courage it must have required to take such risks. For, despite some trepidation, young Merton did not settle for any one of the various modes of his potential role models, and he did not choose a topic that fitted neatly into the research program of any of the great scholars from whom he learned. As he noted later, he was taking on the much more difficult and subtle exercise of studying the interplay and interdependence of science and other social institutions, the inter-

action in both directions between science and the environing social and cultural structures, and the notion that there is sometimes a “cultural soil,” fertile for the growth and spread of science. Moreover, he wanted to demonstrate the role of these interactions in the intellectual rise of science, as well as the shaping and acceptance of the institution of science through the inventory of utilities it provided—utilities for religion, economics, technology, military matters, education, and nationalistic ambition. This was not only an enormous range, but one that required that this “neophyte” (as he later called himself) quarry the raw material in several different fields. As it turned out, his formulations were prescient of the recent attention to the interaction of basic scientific research on the one hand, and societal problems on the other.

Another difficulty he had to overcome was that the scholarly community in sociology and in the history of science and technology was still fragmentary and small in the 1930s. Thus, no serious book on the behavior patterns of scientists was yet available. In short, it fell upon Merton to bring the nascent sociology of science to term and maturity. As Craig Calhoun has observed, to the end of his career, “sociology of science remained the field closest to Merton’s heart.”

In those crucial years at Harvard, the reinforcing resources or so-called “influences” came to Merton from many different directions and in different shapes. The young scholar was working in the presence of men of such intellectual power and stature that he might well have become a follower, a disciple, as so often happens. There were around him the fiery Sorokin, Talcott Parsons, glowing in the prestige of his recent trip to Germany, L. J. Henderson, also A. N. Whitehead, J. B. Conant, J. A. Schumpeter in economics, C. I. Lewis in philosophy, and some of Merton’s fellow graduate students, such as W. V. Quine. And above all, there was Sarton, who thought that science, when properly understood, was the antidote for religion and superstition. But his “unruly apprentice” (Merton’s characterization of himself) was writing a dissertation on the religious component in the matrix that helped make modern science flourish, writing, for example, “Quite clearly is it true that the originative spirits of the [Royal] Society were markedly influenced by Puritan conceptions.”

Books were of course another reinforcing and possibly captivating or repelling resource. It is not likely that the average sociology student in those days would have read Comte, Marx, Spencer, Durkheim, Toennies, Weber, Pareto, Veblen, Usher, and a few other standard authors. But Merton did. Partly from the footnotes and bibliographies of Merton’s writings, we know that he read widely if skeptically in these and other sources, including Ernst Mach, P. W. Bridgman, Rudolf Carnap, and the neo-positivists. Of all these authors, Durkheim played a crucial

but generally underestimated role. Merton admired especially Durkheim's classic work, *Suicide*, because it tested theory throughout with empirical evidence. Durkheim's analysis provided one of the starting points for Merton's own work on social structure and anomie.

But no matter what the positive or negative reinforcements and blandishments were, or the distinctions of the would-be models around him, Merton did not fall directly under any of these "influences." That is a puzzle. While he was exposed to Parsons's functionalist approach, he remained critical in important points and forged his own path. What made this young mind during the nascent period of its first major work so self-confident? As a first-order approximation, let me propose an answer in the form of a metaphor: the notion of the creation of a private space and of a personal equilibrium, achieved against these various attractions and repulsions from different directions. The age-old mentor game of competing to establish dominance over a young person's mind failed here; instead, Merton opened his own clearing amidst the contending, clamoring personalities and books, and put his own center of gravity there. From the point of view of each of the various contenders around him, each considering himself of course as central, Merton's own space appeared marginal (certainly intellectually, and, one might presume, also socially). But from the point of view of the young man situated in his own clearing, that is where work could be done to achieve a centrality of his own.

Happily, the elders around him did not fail to perceive the promise of this independent man, and saw to it that he was eventually appointed as an instructor. This was only a temporary appointment in bleak economic times. Merton later recalled writing nearly a hundred letters to colleges and universities inquiring about jobs, and Tulane University was the only one that offered him a faculty position. Within a year of his arrival, he became a full professor and chairman of the department. After two years at Tulane, he went on to Columbia University, where he remained for the rest of his distinguished career, as university professor from 1974. Among many other collaborations there, he joined the sociologist and polymath Paul F. Lazarsfeld for more than thirty years at Columbia's Bureau of Applied Social Research, for a "shared life of learning, . . . and social research in a wide variety of substantial problems," in Merton's words. That institution was a veritable hothouse in terms of publishing and invigorating the intellectual community. Equally important was Merton's mentoring and launching of some two dozen extraordinarily gifted advanced students, of whom many became leaders in the discipline. Among those, let me mention only Harriet Zuckerman, whose publications have been prolific and influential, who eventually became Merton's

wife, who collaborated with him, and lovingly provided care right to his last day.

At this point it might be expected, but would be editorially inelegant, to recite the long list of Merton's honorary degrees, distinguished awards, fellowships, and public service. The list would fill several pages. Because Merton, who abhorred pomposity, mentioned none of them in his autobiographical sketch, I will follow his example here, except to note that he received the American Council of Learned Societies Prize for Contributions to the Humanities, and also was the first sociologist to receive the National Medal of Science (1994).

THE FORMATION OF KEY CONCEPTS

I turn from his personal biographical memoir to the intellectual one. Here one might well start with the observation that for the scholar in the social sciences or humanities, *powerful concepts* are necessary tools of thought. Merton had the habit, so useful to his fellow scholars, of reflecting at length on the origin, meaning, and limits of the words and phrases that he—with abundance, legendary felicity, and grace—introduced or reshaped as concepts for studies in sociology. I shall briefly elaborate some of his concepts below (there are of course many more that I cannot add here; see, for instance, the list in Piotr Sztompka's *Robert K. Merton: An Intellectual Profile*, 31–32).

While Merton's early work had examined the relationship between science and its cultural, religious, and social environment, his later work focused on features and dynamics within science. Early on, he had provided a fundamental characterization of the scientific spirit—he called it the ethos of science (defined as the “affectively toned complex of values and norms which is held to be binding on scientists”)—that included the four moral norms of universalism, communism (in the sense of “communalism,” as B. Barber put it), disinterestedness, and skepticism. It became a prolific program for him and his collaborators to investigate how the social system of science works in accordance with, and often also in contradiction to, the ethos of science.

In this newer focus on the social organization of science, Merton studied the reward system in science, priority disputes between scientists, and the effect according to which already famous scientists receive disproportionately more credit for their contributions, whereas the contributions of less well-known scientists receive disproportionately little attention. He evocatively dubbed this effect the Matthew effect, in reference to the Gospel according to Matthew (“For unto every one that hath shall be given and he shall have abundance; but from him that hath not shall be taken away even that which he hath”). In this

case, Merton demonstrated how the real social system of science structurally deviated from the ethos of science (by violating the norm of universalism). Merton also greatly advanced our understanding of science careers when he pointed out that science careers are shaped by the dynamics of the accumulation of advantages and disadvantages.

Another example of Merton's sensitivity to the proper use of terminology is the passage (pp. 264–69) in his last book, *The Travels and Adventures of Serendipity*, where he reflected on his proposal, as early as the 1940s, to adopt the ancient term “paradigms” for use in sociology (e.g., in his essay of 1945, “Paradigm for the Sociology of Knowledge”). He reports that he soon found many colleagues thinking the usage of the term to be “unusual, not to say bizarre.” Little did they know how powerful it would be in Merton's hands.

At any rate, Merton seemed to feel the ethical imperative to provide in *Serendipity* once again, perhaps for new readers, a careful definition of the term “paradigm” as he understood and used it: “I adopted the term ‘paradigm’ to refer to exemplars of codified basic and often tacit assumptions, problem sets, key concepts, logic of procedure, and selectively accumulated knowledge that guide [theoretical and empirical] inquiry in all scientific fields.” Thereupon, with customary gentleness, he went on to distinguish the main functions of his use of this term from that of T. S. Kuhn's starting in 1962. Merton repeated a wise warning that he had made earlier: “Equipped with a paradigm, sociologists may shut their eyes to strategic data not expressly called for by the paradigm. . . . Misuse results from absolutizing the paradigm rather than using it as a tentative point of departure.” Such advice, with pedagogic implications, can be fruitful indeed. In an analogous way, Henry David Thoreau is reported to have said that he was always glad to show the owner of a woodlot the shortest way through it.

Merton elaborated early what is known as functional analysis in sociology, of which he became one of the leading exponents. He was critical, however, of classical functionalism, which viewed society as something akin to a well-oiled machine, in which all parts worked together to keep the machine going. Crucial innovations that Merton made included the description of unanticipated consequences of social action, of latent functions, and, finally, of dysfunctions. His essay “The Unanticipated Consequences of Social Action” (1936) shed light on the wide terrain of human activity where things do not go as intended, and where paradoxes and strange outcomes occur. One of these is the “self-defeating prophecy,” which, through the very fact of its being promulgated, turns out to be wrong. Merton illustrated this phenomenon with a reference to Marx's prediction that, in modern society, wealth would concentrate in fewer and fewer hands, and that

the masses would suffer increasing impoverishment and misery. This very prediction helped galvanize the socialist movement, which in turn in some countries slowed, if not eliminated, the development Marx had predicted. With characteristic erudition, Merton further described the concept by turning a Goethean passage on its head—"Die Kraft, die stets das Gute will, und stets das Böse schafft" (The force that always intends the Good, and always creates the Evil).

The counterpart to the self-defeating prophecy is the more widely known "self-fulfilling prophecy," as when an originally baseless prophecy turns out to be correct because the prophecy is believed and, what is more important, acted upon. That concept has been widely applied, in social studies and among laypersons. It has proven useful in the study of stereotypes and their effects, and has played an important role in research on education, politics, international relations, psychology, race relations, public health, medicine (placebo effects), and economics.

Through his distinction between manifest and latent functions, Merton again urged the sociologist to dig deeper and discover latent functions, those that are neither intended nor recognized but nonetheless vital ("Manifest and Latent Functions," 1949). Here Merton's analysis of the political machine is a fine example of latent functions. He described all of the negative consequences of political machines, but then changed the angle of vision and showed how the bosses of the machines, acting in their own interest, were meeting the social needs that were not being met by government bureaucracies and institutions.

In his writing about dysfunctions, Merton highlighted the problems that tend to keep social systems from fully meeting all their functional requirements, again pointing out the intricacies and paradoxes of the concept. One group's function can be another group's dysfunction, and a general phenomenon can be functional and dysfunctional even for the same group ("Social Dysfunctions," 1976). For instance, Merton wrote, a certain degree of social cohesion facilitates the productivity of a group and is thus functional. Social cohesion, however, can turn dysfunctional when it exceeds a certain threshold, because, at that point, the members of the group may become reciprocally indulgent and fail to hold one another to rigorous performance standards.

All these innovations have in common that they question the image of society projected by classical functionalism. Among Merton's concepts, these are the ones "with a twist"; they go beyond that smooth surface and reveal contradictions, paradoxes, and ironies. Here was one of the seeds that blossomed into Merton's structural analysis. As he progressed in his career, he placed increasing emphasis on the structure of society, which he saw to be interdependent with individuals' actions. Social structures provided both constraints and opportunities

to the individuals' actions, and these in turn might have consequences for the structures. "Opportunity structure" became a central term in Merton's sociology, as he was exploring how social structure worked. His theoretically appealing sociological model allowed room for the individuals' choices, as well as for ambiguity and conflict, and it proved fruitful in a variety of substantive analyses. Major elements of his thinking can be found in his *Social Theory and Social Structure* (first published in 1949, and re-edited in 1957 and 1968), which became a classic text for the discipline of sociology.

Case examples of Merton's penchant for illuminating social paradoxes are the following two theories in specific sociological areas. An early interest of his was the sociology of deviance. Merton argued that anomie resulted from the interplay of goals and means ("Social Structure and Anomie," 1938). He argued that people who possess no legitimate means of achieving societal values turn to non-legitimate means. In his work on bureaucracy, he pointed out that real-life bureaucracies are often plagued by what he called "goal displacement"; i.e., something that originally was merely a means to an end (procedural rules are set up to serve a societal goal) becomes an end in itself (following those rules becomes the ultimate goal).

MERTON AS MENTOR, TEACHER, COLLABORATOR

Merton went to extraordinary lengths in commenting on his students' and colleagues' work. For example, when Dr. Gerhard Sonnert, my research associate (and co-worker on this as on many previous publications) prepared with me a book manuscript about gender differences in science careers, we casually used the term "serendipity," meaning it to describe a certain kind of good-luck event that occurs in a scientist's career. Merton was one of the readers of the manuscript. Imagine our surprise when, in addition to his regular comments, we received from him directly a letter of several pages, patiently explaining the meaning and history of the concept, along with a number of references to highly pertinent but arcane sources. It was an example of his generous sharing of information and insight. In this instance it is obvious what motivated Merton's detailed response—his long-standing interest in the concept that had, already in the mid-fifties, resulted in an unpublished manuscript, co-authored with Elinor Barber. The much-worked-on manuscript was finally published in Italian in 2002, and in English posthumously in 2004, under the title *Travels and Adventures of Serendipity: A Study in Sociological Semantics and the Sociology of Science*. In a sense, serendipity was the most serene variation of Merton's career-long theme of unanticipated consequences of social action—the discovery

by chance of something of value while one was looking for something else.

Even his unexpected, kindly meant commentary was an exemplar of what awaits Merton's reader, from his first writings to his last: Based on his imperative for high standards, and his encyclopedic knowledge and attention, he opens one's eyes to the actual or potential contexts and complexities behind an idea, to see the hidden structures and functions. It is as if he were opening a door for you, only to show there is another door beyond that one, and yet another, and so on—and each of these would open for you for your further exploration.

This case touches also on what Merton called his “almost lifelong addiction to editing.” For in addition to his many books, articles (177, starting in 1934), introductions and forewords (32), and (believe it or not) 161 translations and compilations in book form published by the Arno Press (with others), he also confessed to having succumbed to his inability to stay his “editor's pen,” therefore helping out editorially in roughly 250 books and 2,000 articles over some six decades. Moreover, he also reviewed manuscripts for publishers, was the longtime sociological editor for Harcourt Brace and its successor company, and wrote a large number of book reviews. While such tasks may be considered unglamorous by some in academic life, Merton devoted himself to them to an unusual degree. One can suspect that for him such activity was a form of necessary relaxation, or a safety-valve release of excess energy. Without doubt, it also held the intrinsic reward of communicating with his friends and colleagues at a distance, and making the sociological literature more sound and better written.

POINTING TO THE CORNUCOPIA OF OTHER FRUITFUL CONCEPTS

Here we should point, if only briefly, to a few more influential concepts in Merton's work, which are discussed in detail in the burgeoning literature. In particular, Merton advanced the understanding of social groups. He developed a theory of the reference group (i.e., the group to which individuals compare themselves, which is not necessarily a group to which those individuals belong), and elaborated on the concepts of in-group and out-group.

Central for Merton's understanding of social groups were social roles. The term “role model” first appeared in a Columbia study of the socialization of medical students, and was to become wildly popular. Merton emphasized that, rather than assuming one status and one role, a person has a status set in the social structure to which is attached a whole role-set of expected behavior—and that, within those sets, ambiguities, incompatibilities, and conflicts almost inevitably lurk.

A major focus of his empirical studies was mass communication (*Mass Persuasion*, 1946, with M. Fiske and A. Curtis). One question Merton and his co-workers addressed in this area was how certain people influence others in a community. Merton arrived at the distinction between opinion leaders who are “local influentials” and those who are “cosmopolitan influentials” (i.e., are oriented to the wider world outside their community).

At the methodological level, Merton introduced the concept of the strategic research site. When setting up their research, investigators look for a certain area or environment that lends itself particularly well to examining the specific research questions. When studying the hierarchy of the social system of science, for example, it may be enlightening to look at the very top of achievement; Harriet Zuckerman, together with Merton, followed this strategy by carefully investigating the scientific elite of Nobel laureates. Merton also originated the research method of the focused interview, which morphed (not to Merton’s unalloyed pleasure) into the now ubiquitous focus group (*The Focused Interview*, 1956, with M. Fiske and P. L. Kendall).

MERTON’S LOVE OF LANGUAGE

I mentioned earlier that Merton had great respect and love for language, for clear and memorable words and phrases. Social science writing is often—and sometimes correctly—accused of being opaque, confusing, and overloaded with unnecessary and pompous jargon. Merton’s writings contained none of this. His style serves as an exemplar of how clear and engaging social science prose can be. He was meticulous about the origins of important words and phrases. Merton gave a monumental testimony to his concern with the origins of words and phrases in his book *On the Shoulders of Giants: A Shandean Postscript* (1965), which provided an exhaustive account of the history of the title phrase, with a veritable fireworks of unsuspected treasures of scholarship and lighthearted but instructive asides.

His interest in the language combined with a special talent for coining terms and phrases that were so evocative that they quickly passed into everyday language, and feel as if they had been there forever—one thinks especially of role model and the self-fulfilling prophecy. Merton introduced another term, “obliteration by incorporation,” for this very process (once a concept has entered the standard body of knowledge, its source is forgotten). By the same process, many sociologists have been using Merton’s concepts without consciously regarding themselves as members of a Mertonian school. He also emphasized that the

sociology of science was self-exemplifying; by studying the sciences, it partly studied itself and thus could use itself as an example. In this case—obliteration by incorporation of some of his concepts—Merton became the example of one of his own concepts (which might have pleased his ironic disposition).

MERTON AND A GENERAL SOCIOLOGICAL THEORY

Having glanced at Merton as discipline builder, concept creator, colleague, mentor, and teacher, I finally return to Merton's essential scholarly legacy. The major theme that runs through Merton's work and that ties together his contributions in many different substantive areas seems to me his penchant for exploring the "depth" of social structure. He was a master in shifting the angle of vision, and thus exposing the often unexpected and paradoxical workings of social structures of many different kinds.

One might then wonder to what extent Merton's work also advances a grand sociological theory that claims to encompass the entirety of social life. But here one remembers Merton's own resistance to the project of a grand sociological theory. Having been exposed, as a graduate student, to heavy doses of grand theorizing, Merton eventually emphasized the need for rigorous logic and empirical testability in sociological theories. As an antidote to speculative theorizing, he introduced the concept of the "middle-range theory" that easily allowed empirical testing ("On Sociological Theories of the Middle Range," 1949). He continued to profess his preference for less than comprehensive theories, and advocated "theoretical pluralism" (in "Foreword: Remarks on Theoretical Pluralism," 1981). For instance, he declared that structural analysis and symbolic interactionism (focusing on the micro-level of face-to-face interactions) were "like ham and eggs"—different, yet complementary.

While he clearly thought that a general sociological theory was premature, Merton did not consider its eventual achievement impossible in principle. Despite his professed allegiance to middle-range theories, his writings, as Arthur Stinchcombe and others have pointed out, do contain elements that point to a grand sociological theory. Not only his conceptualization of social structure itself, but also some of his concepts, such as unanticipated consequences of social action, role-set and status-set, appear to be of such generality that they would very likely play a part in any future grand theory of sociology.

In "Theories of the Middle Range," Robert Merton wrote, "Perhaps sociology is not yet ready for its Einstein because it has not yet

found its Kepler.” While Merton’s field is still awaiting its Einstein, it may well have had the privilege of experiencing its Kepler.

Elected 1959; Committees: Advisory on Election of Members 1987–88; Membership III 1986–88; 1993–97; Nomination of Officers 1989–93; Publications 1992–93; Research (consultant) 1986–88

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