One Way of Making a Social Scientist

By Howard Gardner

The fields of corporate law and social science research share one curious feature: Almost no child dreams of joining their ranks someday. A career as an athlete, movie star, physician, or even president is much easier to envision. If law is appealing, it is likely to be trial law; if research proves seductive, it is likely to be cutting-edge biology or physics. Yet here I am, at age sixty, a research psychologist for over thirty-five years who has investigated cognitive development in normal and gifted children; cognitive breakdown after brain damage; the nature of intelligence, creativity, and leadership; and the fate of professional ethics in a market-drenched society. If I had not at one point taken an academic turn, I would probably have joined a large law firm and now be contemplating retirement. What insights can I provide about my personal path?

Hitler's mission of ridding Europe of Jews had effects he could not have anticipated. I am part of the third wave of immigrants from Nazi Germany, the first two being those who fled as adults and those who escaped as children. My parents, born in Nuremberg before the First World War, came to the United States in 1938, arriving on November 9, the date of the infamous Kristallnacht in their hometown. They soon moved to the small coal-mining city of Scranton, Pennsylvania, where I was born in 1943 and my sister Marion three years later.

Two events cast large shadows on my childhood. The first was the Holocaust. Like many victims of the Nazi regime, my parents did not talk about it much to my sister and me**,** or to acquaintances. But their perennial preoccupation was clear from the many stories I heard about individuals lucky enough to escape beforehand, the few relatives who managed somehow to survive the death camps, and the less fortunate who did not. Just recently, I came to realize that my father had led a small brigade that traced the fate of every family member in Europe or elsewhere in the Diaspora. He provided whatever aid he could. Many relatives spent many nights at our small apartment in Scranton and some even lived there for a while.

The second event was the death of my older brother, Eric. Born in 1935, he arrived in America three years later without knowing any English, emerged as a precocious student, and then died before my mother's eyes in a tragic sledding accident. My mother was pregnant with me at the time. My parents thought they had lost everything; indeed, many years later they told me they would probably have committed suicide if my mother had not been carrying me. Strangely, almost

inexplicably to those of us living in the United States in the twenty-first century, my parents did not tell me about Eric. Probably they were just unable to. When I asked about the identity of the child whose photograph was prominently displayed around the house, I was told that he was a child "in the neighborhood." Of course, like all children, I eventually arrived at the truth myself. There is no question that the loss of the gifted Eric and the aspirations my parents transferred to me were important influences on my development, though it would take many years on the couch to unpack those effects.

In the studies my colleagues and I conduct of leaders in the professions, we ask people to reflect on what they were like when they were ten years old or so. If you had shadowed me in Scranton in the early to mid-1950s, what might you have seen? A dark-haired, slightly chubby, bespectacled boy of above average height, who walked and moved somewhat awkwardly. I was a studious sort. I loved to read. I was curious about many things and eagerly peppered older children, teachers, and adults with questions, the more difficult the better. I also liked to write, and by the age of seven or so I was a journalist, publishing my own home and school newspapers. I began to play the piano at that age and was a gifted and serious pianist until adolescence; I might have pursued a musical career—more probably as a composer than a pianist—except that I eventually found practicing onerous. Because of the circumstances of my brother's death, my parents discouraged me from athletic activities. I also suffered from poor eyesight; I had been born with crossed eyes, and I was color blind, myopic, unable to recognize faces, and incapable of binocular vision. The glasses helped some. I did go to summer camp for seven years and was a dedicated Cub Scout and Boy Scout, winning drilling contests and attaining the rank of Eagle Scout by age thirteen. I got a lifetime of camping out of the way before my bar mitzvah in 1956.

With regard to my development as a scientist, what stands out in my early biography is the *absence* of the usual markers—perhaps more surprising in future theoretical physicists or molecular biologists than it is in future social scientists. I did not crave the out-of-doors. I did not go around gathering flowers, studying bugs, or dissecting mice—unless required to do so by the scouting merit badge I was seeking. I neither assembled radios nor took apart cars. I did perfectly well in science and math in school but showed no particular penchant for pursuing these topics on my own; indeed, I was more interested in history, literature, and the arts. And I knew nothing about psychology, though I do remember looking through a psychology textbook when I was a teenager and being intrigued by the discussion of color blindness.

My life changed fundamentally when I entered Harvard College as a freshman in September 1961. I had long been the proverbial big fish in a little pond. Now, for the first time in my life I was surrounded by peers who were at least as able as I was in matters academic and artistic. Daunted at first, I rose to the challenge to become a successful college student. I loved Harvard; it was an Elysian field for the mind. I took many courses and audited more courses than anyone else I knew, running the gamut from Chinese painting to the history of economic thought. I also found my academic interests cohering. Beginning as a history major, I soon discovered that empirical social science questions were more interesting than purely historical ones. I shifted my major to something called social relations, a newly emerging, hybrid field (it never truly emerged) combining psychology, sociology, and anthropology. I was deeply influenced by the charismatic psychoanalyst Erik Erikson, who became my tutor in my junior and senior years, and by other scholars in the social sciences broadly construed—several of whom were of European or Jewish background and representative of the first and second wave of 1930s immigrants.

Whether consciously or not, I took courses that would have been expected of a pre-law or pre-med student and did well in them. But I had no desire to pursue law or medicine; rather, I wanted to show myself (and no doubt my parents) that I could have pursued those careers had I wanted to. Already I was edging toward a life in the social sciences, probably psychology. At first, under the influence of Erikson, I was attracted to clinical psychology. But once I had encountered Harvard's cognitive psychologist Jerome Bruner and begun to read the powerful writings of Jean Piaget I turned to cognitive developmental psychology. And so, after a year of reading in sociology and philosophy at the London School of Economics, that was the direction I followed in my graduate work at Harvard. At Harvard I came to know the distinguished philosopher Nelson Goodman, who in 1967 established a research group at the Graduate School of Education called Project Zero, which focused on systematic studies of artistic thought and creativity. I was a founding member of the group and have happily remained there ever since, serving for twenty years as its Co-Director.

What about the "harder" sciences? I was never much attracted by mathematics, physics, or chemistry. I did like biology – it helped to have George Wald, soon to receive a Nobel Prize, as my teacher in college. As a postdoctoral fellow, however, working with neurologist Norman Geschwind, I chose to work in neuropsychology and spent twenty years working in an aphasia clinic. My most important scientific papers are in neuropsychology, where I was one of the first to

investigate the linguistic competences of the right hemisphere. I probably could have had a reasonably successful career as a cognitive neuroscientist, or perhaps even a developmental neurobiologist, but I eventually left the straight science track and moved to issues of educational reform and social policy.

Could I have excelled as a classical benchtop scientist? The answer is "Probably not." My talents lie more in the area of synthesis than in the area of innovative experimentation; my research was perfectly respectable but it did not stand out from that of dozens of other researchers. I marvel at investigators like Paul Ekman who has for decades studied the expression of facial emotions. I could never do that! I sometimes wonder whether, given a different early history, I might have been attracted to the hard sciences rather than the humanities and arts. I always did better in the quantitative than the linguistic sections of standardized tests; however, neither the inclinations of my parents nor the skills of my teachers pushed me in the direction of science, and I did not have strong enough intrinsic motivation to pursue it on my own. What would have happened if I had been raised in the household of, say, biologists George Wald and Ruth Hubbard is anyone's guess!

Given that I ultimately became a researcher and synthesizer in the social sciences, what clues to my career line can I find in my early experiences? Four stand out.

First, I always had a wide and relatively undisciplined curiosity. As a child I liked to read books, newspapers, magazines, even encyclopedias. I particularly cherished biographies. Today, I read more newspapers and periodicals than anyone else I know—and far more than is advisable! This kind of searchlight curiosity is probably more appropriate for social science than the laser-like focus needed by molecular biologists and particle physicists. It also may explain why I have not hesitated to investigate new areas even when cautioned not to do so. I am eager to learn about things that have not yet been described and analyzed and to share my tentative syntheses with others.

Second, my interests have tended to focus more on people and social matters than on the operations of the nonhuman natural world or the world of physical objects. Why this is so is hard to say, though it's also true of most of my family. My guess is that the older generations of my family, though profoundly dedicated to the education of their children, were not themselves highly educated, so their knowledge of science was modest. It was easier and more natural for them to direct their curiosity to the human sphere.

Third, my interest in the humanities has always been characterized by a certain distance. I'm more interested in understanding human beings than in portraying them (as a novelist would) or in

helping them (as a clinician or a schoolteacher would). As a member of two marginal groups in Scranton (immigrants and Jews), I was more aware of these "human" issues than the average WASP member of the majority. Yet as someone who had been shielded from painful events—the Holocaust, the death of my brother—I found myself guarded when it came to dealing directly with the pain of human experience. I prefer to investigate them at one step removed. In fact, I have found it almost unbearable to learn about the Holocaust from photographs, films, writing. I was able to watch the movie *Schindler's List* only because of a research project I was involved in, and I recently walked out of *The Pianist* because I found it too painful to observe the inexorable transitions from lives of comfort to lives of discomfort, torture, and eventual annihilation.

Finally, my approach to understanding has typically begun with an effort to define, categorize, create taxonomies. In that sense, as E. O. Wilson once pointed out to me, I approach the human sphere as a naturalist would. Even my earliest papers in psychology and social relations display this classifying bent. My books follow a pattern: the description of an intriguing phenomenon; the development of an approach, which involves the introduction of a taxonomy; and the working out of the approach with reference to a set of examples spawned by the taxonomy. I have followed this procedure in my studies of cognitive science (*The Mind's New Science*), creativity (*Creating Minds*), leadership (*Leading Minds*), professional ethics (*Good Work*), and, most recently, *Changing Minds.* My approach is also primarily descriptive rather than explanatory. One can learn a great deal from careful description (thus speaks the lingering humanist in me) and I am leery of plunging into explanatory models, with their associated bells and whistles. I am also suspicious of the sharp line usually drawn between description and explanation; good descriptions take us quite a bit of the way into explanations. Something else that separates me from most scientists (even most social scientists) is that my preferred mode of expression is the book rather than the article or monograph. I think readily in book form. I like to play out my emerging understanding of phenomena in book form, to lead the reader along the path I followed myself—and to do so in as harmonious and well-constructed a way as possible.

Perhaps because I see myself primarily as a describer and synthesizer instead of a pioneer, I have been surprised to find myself at the center of controversies. I have preferred to work quietly in my study, investigating topics that do not attract the interest of others and avoiding polemics. I was surprised by the strong public and academic reactions (pro and con) to my theory of multiple intelligences – the claim that human beings have eight relatively autonomous intelligences rather

than a single one. But I learned that I could engage in debate without losing my bearings. Over a lifetime of reading and reflecting, one reaches strong conclusions. Perhaps this occasional involvement in controversy has allowed me to express some of the latent performer and lawyer traits suppressed by my career decisions nearly forty years ago. Also, I have always been an independent person, unwilling to accept orthodoxy, willing to speak up and defend myself. While I do not relish conflict, I have never run away from it.

By now, some readers will have wondered why, in attempting to make sense of my life line, I have not invoked the theory of multiple intelligences. In fact my ultimate choices do reflect my idiosyncratic configuration of intellectual strengths and weaknesses. Most fundamentally, I am a creature of language and music. I spend my life working with these two symbol systems and expect to do so as long as I am able. I work directly with words, I work while listening to music, and I would like to think that a certain musical sensibility pervades my writing. I am quite adequate in logical-mathematic pursuits, much less skilled in spatial or bodily-kinesthetic endeavors. I have considerable curiosity about the world of other persons, though that curiosity typically involves a certain distance from the more emotional aspects of human life—in this sense I resemble my mentors, Jean Piaget and Jerome Bruner, rather than my teacher, Erik Erikson. As for intrapersonal intelligence, the understanding of oneself—well, that is up to the reader to judge.

If I were facing a career decision today, I think it unlikely that I would elect to go into psychology. Instead, I would search for the current career options that allow me maximum latitude to pursue my interests in human nature, systematic understanding, and communication with others. And that is precisely the advice I give to young persons who seem dead set on a certain career: "Don't choose the career first; decide what you want to do, and then see which careers are most likely to allow you maximum opportunities and flexibility in the decades ahead."

Let me offer one final perspective. Throughout my writings on education, I have addressed the tension between two important desiderata: the need for years of *discipline*, in order to master any approach to knowledge, and the appeal of *creativity*, the impulse to break out of conventional ways of thinking and discover a new truth about the world. Surely this focus of mine is no accident. From my European—and especially my Germanic—background, I discovered the necessity (and the pleasures) of mastery, be it in the performance of music or the execution of psychological experiments or the drafting of a book. From my life in the United States at a time of notable creativity in many spheres, and because of my somewhat independent and iconoclastic personality, I

could never be satisfied just to add one more brick to the current edifice of knowledge. I was prepared to take some chances, in order to possibly break new ground. In this manner, the accidents of individual personality intersected with the conditions of a particular historical era, in the process spawning one social scientist.

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