Of Human Potential: A Forty Year Saga

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When I was growing up in Scranton Pennsylvania in the 1940s and 1950s, I never thought of myself as a future scholar. (Yes, Joe Biden is from Scranton and we are the same age!) In fact, as the prototypical Jewish boy (the son of immigrants from Germany who arrived in the United States "just in time",) I assumed that I would become a doctor or a lawyer--- and most of our family friends had me pegged as a future lawyer. It was only when I attended Harvard College, and found that I identified with my teachers in the social sciences, did I begin to consider a career as an academic.   And as I relate in a memoir that has just been published (Gardner 2020). I enjoyed the life of the mind more than the pursuit of a particular discipline. I might equally well have become an historian, a biologist, a musicologist, or even a law or medical school professor. But in the end, I chose the qualitative social science, with a focus on developmental psychology.

Scholars typically begin their work by building on the contributions of their own teachers as well as on the achievements of those whose works they have studied. I was no exception—I began by studying the works of Jean Piaget in developmental psychology. And when I began to carry out empirical studies, I used Piagetian methods to study the artistic development of children, which Piaget had neglected because of his focus on logical and scientific thinking.

Through a series of plans and accidents, I conducted research at two different sites: Harvard Project Zero, where I was studying the development of cognitive and symbolic skills in children, particularly those employed in the arts; and the Veterans Administration Hospital in Boston, where I studied the breakdown of symbolic and artistic capacities in individuals with

acquired brain damage. Being (for whatever reason) more of a book-writing than an article-writing scholar, I wrote books on artistic development in children (Gardner 1973a), on Piaget's theory (1973b), and on the breakdown of cognitive capacities under conditions of brain damage (1975).

Had I not gone through my old files from a few years ago, I would have forgotten that in 1976 I had outlined a book called "Kinds of Minds". In that never-to-be-written book (and there are several of those in my basement), I planned to describe the kinds of cognitive capacities that I'd seen developing in children and te ways in which those cognitive capacities break down under conditions of brain damage. As the grandiose title signaled, I was prepared to argue that human beings can foreground different kinds of minds—e.g. the scientific mind, the artistic mind, the mechanical mind, etc.

I put that project aside, at least for a while. Then, in 1978-1979, I had one of those experiences that end up being life-changing. A Dutch foundation, the Bernard Van Leer Foundation, approached the Harvard Graduate School of Education (HGSE), where I was a non-faculty researcher, living on (or off) "soft money." The Foundation was prepared to offer the school a very generous grant—ultimately well over one million dollars over a five-year period—to answer a broad and amorphous question: "What is known about the nature and the development of human potential?"

The Dean of HGSE, who happened to serve on the board of the Foundation, was also looking for ways to cover some of my salary (and that of one other junior member of the school). And so he asked whether, with the support of a few key senior faculty members, we would be willing to lead a "Project on Human Potential." At the time, with an eye toward Berkeley, Palo Alto, Malibu, and Esalen, I quipped "Human potential is more of a 'west coast' term than an

'east coast' term;" and yet I was quite happy to accept a leadership position and to devote some years of my life to exploring this wide-open and mind-opening question.

"Human potential" turned out to be somewhat of an inkblot test. Philosopher Israel Scheffler probes the meaning of the term in a thoughtful book called "Of Human Potential" (1985). Anthropologist Robert LeVine and sociologist Merry White looked at human potential as it is conceptualized and realized across a variety of cultures and cultural settings; their conceptualization and conclusions are reported in "Human Conditions: The Cultural Basis of Educational Development" (1986).

In my case, generous support from the Foundation allowed me, aided by several excellent researchers, to carry out a far-ranging examination of the social scientific and natural scientific evidence about various human cognitive capacities—as it were, the research needed to lay out and support a systematic argument about "Kinds of Minds." To embrace a term that I have subsequently adopted, I applied my 'synthesizing mind" to these diverse concepts and data.

Very briefly, in *Frames of Mind* (1983), I developed the idea that intellect should be conceptualized as pluralistic. Rather than thinking of individuals as 'smart' or 'dumb' across the board, one can accrue considerable evidence, from a range of disciplines, that intellect is better conceived as consisting of a number of relatively independent computational devices; I elected to call these 'multiple intelligences' (which I soon abbreviated as "MI"). And so, an individual might be strong (or weak), say, in her logical abilities, and that assessment simply does not allow us to predict performance on spatial tasks, musical tasks, use of the body to solve problems, or capacity to understand the motivations of other people.

Of all of my scholarly work, "MI" had by far the most immediate and, at least so far, the greatest long term impact. While few psychologists have embraced the theory (due to their

allegiance to the concept of general intelligence, abbreviated as g), my formulation has seemed

plausible to many biologically-oriented scholars. And it has attained and maintained popularity

within education and with the general educated public—both in the United States and abroad.

While researchers have rarely followed up my work directly, I think it has held up pretty well in

the intervening decades—for reviews see, Chen, Kornhaber, and Gardner (2018); Davis,

Christodoulou, Seider and Gardner (2011); Gardner (2006); Kornhaber, Fierros, and Veenema

(2004); Shearer (2009).

From the vantage point of several decades, I believe that I have a clear idea of how the

view of human potential captured in my writings of the 1980s represented a scholarly advance—

as well as the ways in which it was limited.

In comparison to other scholarship on intelligence, I drew on a far wider set of disciplines

(neurology, genetics, anthropology) and had a much more capacious view of intellect—not only

solving school-style problems, but also creating products that are valued in one or more cultural

settings. I was not tied to a particular kind of test in a formal setting—indeed, I was strongly

biased toward ordinary (and on occasion extraordinary) behaviors in natural settings. I was much

more open to the kinds of abilities that were valued in pre-historic times (hunting, gathering,

fishing, farming, divining) and to the ways in which scholastic settings have also called on

different abilities in different settings at different historical periods. Of course, my examples and

evidence still drew heavily on Western research in recent decades. But when I was criticized for

cultural bias, I responded, "Well, I am sure that my work is influenced by my own background

and the society in which I have lived, but it is far less biased than work on intelligence

undertaken by most other scholars."

But today, with the advantage of hindsight, access to new research, and considerable knowledge of what has happened in the world since the late 1970s, I would point several limitations. And these limitations, in turn, suggest how—looking forward—one might formulate 'human potential' more capaciously.

l. While I was trained across the social sciences (in a field that encompassed sociology and anthropology), I was thinking and writing very much as a psychologist. And while psychologists have important things to say about human nature and human potential, we scarcely have a monopoly of wisdom on that topic.

Today: In writing about human potential, I would pay far more attention to differences across cultures and across historical eras.

2. Even within psychology, I had a fairly narrow conception. Almost all of my work on intelligence/potential focused on human cognition—though I had a much broader view of cognition than many of my peers. When I spoke about interpersonal and intrapersonal intelligences, I was fixed on 'knowing' about self and others, and not on more affect-laden or personality aspects of human nature. (In this way, my work differs from the well-known work of Daniel Goleman (2006)).

Today: I would avoid the almost exclusive valorization of cognition. However, defined or delineated, I would pay more attention to social, emotional, and personality factors. These are often called "non-cognitive." I don't endorse that rejection, but I am content to refer to them as "soft skills."

3. Also, and importantly, my view of human intelligence was pointedly amoral. Any intelligence can be used for benign purposes or malignant purposes: one can use language to write exquisite poetry or to instigate ethnic cleansing.

I have certainly atoned for this omission. For over twenty-five years, with many colleagues, I've been studying the nature of ethical and moral thinking, across the life span, and across many different professions. In this work, we have focused on what it means to use intellectual (and other) strengths in ways that are positive for the wider community. While we recognize that what is "good" can be complex and controversial, we avoid the post-modern trap of refusing to pass judgment on issues of character and behavior (Gardner, Csikszentmihalyi, and Damon, 2001; Gardner, 2010; and thegoodproject.org).

4. More so than almost any other line of research on cognition at the time, I searched for relevant evidence from biology—particularly from neuroscience (the representation of different capacities in the human cortex) and from genetics (the extent to which different capacities may be heritable). But in the intervening decades, we have learned a great deal more about the biology of human potential—and so an informed study of the intelligences today would delineate what we do know, what we expect to know, and what remains wrapped in mystery (Shearer and Karanian, 2017). I suspect that the division into 8 or 9 intelligences is not sufficiently fine-grained from a neuroscientific point of view, but it captures the insight clearly for educators and non-specialists.

5. Understandably, in a wide ranging study of intellect, I focused on the human capacities that pervade the species. Individuals with special talents or specific deficits occupied only a small part of the radar screen. But in the succeeding decades, with colleagues like David Feldman, Lynn Goldsmith (1991), and Ellen Winner (1997), we've taken a much closer look at talent, expertise, prodigiousness, creativity, leadership, and genius, as well as individuals and groups that exhibit flagrant deficits in various areas (Gardner 1993; 1995;

1997; 2006, Chapter 3). Humans differ from one another at least as much as do snowflakes or bacteria—and we need to survey that entire canvas in any account of human potential (Rose, 2016)

6. Even though the Project on Human Potential was carried out in a school of education, none of the principal investigators had been trained in that area—we were drawn from the social sciences and the humanities. Accordingly, much of our writing about education was incidental, rather than focal. Both because of my longevity in a school of education and because of the unparalleled interest in my work among educators, I've devoted a great deal of time to thinking about how best to realize human potential—which I would now immediately pluralize as 'human potentials'.

Any bias that I may have had toward explanations of human potential in terms of genetic contributions has been greatly countered by my (and others') increased knowledge of the large differences in educational outcomes both within and across nations and cultures. Relatively few of those differences seem due strictly to individual differences in individual human genomes. Rather, as I have come to put it, how much one achieves within or across intelligences is a joint product of how <u>important</u> that capacity is in the society where one happens to live, how highly <u>motivated</u> one is to develop that capacity, and how <u>skilled</u> are the teachers and the technologies of education available in one's culture—or, nowadays, across the globe.

I have always had lots of curiosity and the desire to explore and understand many facets of life— this is both an advantage (I never get bored) and a challenge (why doesn't Howard stick to one topic?). And so, building on the work on intelligence, I turned my attention to other human

potentials- particularly, creativity (Gardner 1993) and leadership (Gardner 1995). In both cases, borrowing from my undergraduate adviser, the psychoanalyst, Erik Erikson, I carried out case studies of exemplary creators and exemplary leaders. These were among the most enjoyable projects that I've undertaken in over a half a century of research and writing.

While I am primarily a social scientist, I have also done extensive work in education. First applying the lens of developmental psychology, I have sought to understand the way that the developing mind comports or clashes with the agenda of schooling—particularly school as it is implemented in modern Western settings. A multiple intelligences perspective can be helpful if there is curricular and pedagogical flexibility, but not if there is laser-like a focus on standardized testing—which necessarily narrows what is taught, how it is taught, and how it is assessed. And, focusing on issues that have always been important to me personally, I have contemplated how best to inculcate an appreciation of the true, the beautiful, and the good (Gardner 2011). The subtitle of the paperback reveals my slant: "Educating for the Virtues in the Age of Truthiness and Twitter"—as does my co-authored book "The App Generation" (Gardner and Davis, 2013)

Which brings us up to the 21st century:

In what has been termed the era of homo sapiens, we have assumed that the species is basically fixed (Harari, 2015). Once Neanderthal had become extinct, for whatever reason, our ancestors came increasingly to dominate the natural world and to make the planet ours—for better or for worse.

And of course, we have witnessed the better: I would valorize the emergence of religious and moral codes; the efflorescence of the arts, the invention of writing; the domestication of

animals; the mastery of farming and hunting; wide access to written materials; the emergence of machines, electronics, and digital technologies—the list goes on.

But of course, we have also encountered the <u>worse</u>: almost everything just listed has been put not only to good but to malignant use. As an example, religion has motivated murderous crusades while also fostering humane treatment of the old, the lame, and the sick. And of course, we have had slavery, warfare, genocide, mass pestilence, and lesser forms of chicanery and less flagrant sins. Even globalization—initially lauded as the culmination of the Enlightenment, if not the End of History—can foster ugly forms of tribalism, nationalism, and warfare. And of course, the use of fossil fuels— long lauded as an expander of human possibilities—risks damaging the planet if not eliminating life as we know it.

But in recent decades, it has become increasingly clear that <u>homo sapiens</u> represents but a chapter in the history of the planet, and not its glorious culmination. From the angle of science and medicine, we can for the first time make significant alterations in the human genome—enhancing or extinguishing traits, or even creating new ones, temporarily or permanently, and enhancing our lifespan, some say infinitely. Human potential becomes the terrain of what biologists and geneticists can conjure up—and what the rest of the population will allow or even encourage.

From another angle—that of technology, computer science, robotics, and artificial intelligence—we can begin by enhancing (or, again, eliminating) certain already existing human traits (Harari, 2015). Or, to go further, we can create entities that surpass the species in cognitive capacities (as well as other traits). So much so, indeed, that we may eventually choose or be forced to cede human problem solving and product creating capacities to entities that we can only dream about—or, that we used to relegate or elevate to the realm of science fiction.

Accordingly, when we change the definition of what it means to be human, or when we create entities—biological or computational—that far exceed what used to be meant by the species and its potential(s), we are likely to need an entirely different set of concepts and explanations. Indeed, in using the term 'we' I am already anticipating that the new species is a linear descendant of ours—but that assumption in itself might be fallacious. Entire lines of evolution have disappeared (Where are the dinosaurs or the species that existed before the Cambrian explosion?), and each biological species has its point of origin.

I salute the new experts—the biologists and the computer scientists—who may create new species and new conceptions of post-human potential. But in doing so, I hope that we do not neglect the amazing achievements of our own species. We did not simply invent writing: we enabled Plato to document what Socrates thought and said; we enabled Shakespeare to portray the enduring features of human beings and Virginia Woolf to capture the experiences of the moment. We did not simply create the first musical instruments and figure out how to write musical scores: we enabled Bach to compose exquisite music, Yo-Yo Ma to perform it on the cello, and Renee Fleming to sing it. And it was human beings who created enduring institutions (churches, schools, and civic offices) and enduring processes (legal systems, constitutions, and Bills of Rights) While a scholarly work necessarily focuses on those findings that can be generalized, human potential as we know it is realized in some way in each and every person. And while we still can, we should admire the heights of human potential…and make sure that whatever happens next can preserve and build on those achievements.

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