

## Column 69: Exploring Mysteries of Living: Contributions to and From Fellow Natural Scientists



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### **A Los Alamos member of The International Behaviorology Institute**

*Why these Columns?* Because human behavior causes global problems, and solving these problems requires changes in human behavior... So *everyone* benefits from knowing something about the natural science of human behavior (called behaviorology) that these columns relate. Having first appeared as newspaper columns, these columns began appearing on **BehaviorInfo.com** starting in 2020.

The behaviorology discipline also makes contributions to the capabilities of other natural scientists. As mentioned previously, after becoming basically familiar with behaviorology, scientists in many disciplines are more able to remain naturalistic in dealing with subject matters at the edge of, and beyond, their particular specializations. Perhaps you are such a scientist.

That benefit reduces slipping into the compromising use of common, culturally conditioned, superstitious agential accounts. With behaviorology familiarity, you may also add desirable details to accounts within your specialization. For example, when natural scientists (like Sam Harris or Michael Shermer) say that science accounts for morals and values, mentioning the controlling relations that behaviorology describes for these topics strengthens their point.

Also, behaviorology provides the students of natural scientists with a natural–science alternative to the non–natural disciplines that most of these students must currently study when covering behavior–related subject matters. (This provides a substantive reason for these scientists to require, even demand, the addition and expansion of behaviorology courses at their universities.)

For their part, other natural scientists can also help themselves by contributing to behaviorology in several ways. They can support the wider availability of academic behaviorology programs and departments located within their university or college natural–science units.

They can also increase their own familiarity with behaviorology, which may be particularly valuable in the efforts to solve world problems, as we discussed in the earlier column on *recombination of repertoires* research. Our world needs these contributions now. They increase people’s contact with behaviorology, which reduces or avoids the

increased difficulty in solving problems that stems from culturally conditioned susceptibilities to behavior-related superstition and mysticism.

The need to locate behaviorology programs and departments within university or college natural-science units proves difficult to meet not only due to biased academic playing fields but also because, as a result of the historical circumstances of the origins of their discipline, many academic behaviorological scientists and engineers remain scattered among academic departments of non-natural disciplines. Traditional natural scientists can quickly help solve this problem by promoting the addition of behaviorology courses and programs in their own larger academic units.

For most people a meaningful amount of contact with behaviorology will occur when behaviorology is a requirement in high school science curricula along with the other foundation natural sciences of physics, chemistry, and biology.

To achieve that, science teachers must have behaviorology courses available in their college training programs. To make those courses available, faculty to teach them must be trained in this discipline. And for *that* to happen, programs and departments of behaviorology need to become more widely established at colleges and universities, an action that requires assistance from other natural scientists.

That would also generate increased development of basic research and behaviorological engineering applications, including those contributing to solving personal, local, and global problems on which natural scientists in general are already working together.

Since 1989 a consensus has existed among behaviorologists regarding some departmental curricula for various academic levels. One of the obvious places from which to grow behaviorology programs and departments is from within departments of biology, especially within strictly natural-science schools.

Skinner recognized early in his 1963 article, "Behaviorism at Fifty," that the *natural* science of behavior was an offshoot of biology. As he elaborated the connection in his 1979 book, even though he was earning his doctorate through the psychology department at Harvard University in the 1930s, much of his work occurred with W. J. Crozier who headed the physiology section of Harvard's biology department and who had been associated with biologist Jacques Loeb.

Both Crozier and Loeb not only emphasized studying the whole organism, including its movement (behavior), but they also emphasized studying the causal mechanism of selection, which Skinner successfully adapted from biology and applied to behavior.

While those activities essentially started this natural-science discipline, modern behaviorology now features its own level of analysis and, as we have seen, can stand alone on its own disciplinary merits. These disciplines complement each other, but are not logically dependent. Consequently, a biology department would be only a good temporary home for behaviorology.

Other disciplines may also find value in behaviorology. Over the last several centuries, authors in many disciplines have written much that mentions causes for human behavior. Occasionally these writings invoke stars as causes. More often they invoke selves, or other inner agents, as causes.

Only a rare writer has invoked contingencies, and then, while intuitively on the right track, contrary contingencies induce unnecessary embarrassment, worries, and apologies. Yet human knowledge and effectiveness could grow in leaps and bounds in, for example, historical analysis or literary analysis, if new writings took behaviorological contingencies into account. This benefit likely holds for other disciplines as well.

Consider paleontology, archeology, anthropology, botany, geography, zoology, linguistics, ecology, and so on. Indeed, since most disciplines affect, and are affected by, human behavior, naming a discipline that could not benefit from taking behaviorology into account seems rather difficult.

Behaviorologists would benefit also. Their education would then finally include, for example, *scientifically* informed history courses and literature courses. They would not have to spend part of their careers undoing some of the damage that accrues from continuing to approach such subject matters solely **un**scientifically. That would make more energies available both for experimental research to discover more about human behavior and for helping to solve global problems.

Every discipline connects with human behavior if only through its practitioners being human. Explicit scientific understanding of human behavior could help understanding in any discipline.

Consider consciousness. It clearly can and has benefited humans, particularly as a primary process supportive of the verbal behavior through which we accumulate both individual and cultural archives of knowledge that extend our intellectuality.

However, the age-old misconstrual of consciousness, as involving mystical inner agents, detracts from that intellectuality by helping superstition to go unchallenged. This agential age-old misconstrual of the nature of human nature, of life, of living, of behavior, and of consciousness behavior, might just represent the greatest analytical error in human history.

The implications of that error compound across so many aspects of today's human culture, and threaten its very survival by interfering with appropriate solution responses to global problems through delays in establishing the needed behaviorology departments and programs.

Coincidental contingencies have led a surprising array of disciplinary domains into superstitious, analytical dead-ends. During times when humanity's numbers posed little threat to environmental stability, the superstitious assumptions continued relatively benignly, and possibly with occasional short-term benefits, as some countered others that led to systematic violence.

However, humanity's population has climbed well beyond the Earth's carrying capacity. The resulting environmental stresses currently, and predictably on into the future, present us with increasing numbers of survival tests at an increasing rate. Have we passed them? Can we continue to pass them? Do humanity and the rest of life have a future?

Current environmental data suggest clearly that humanity can no longer afford its traditional reliance on, and modern compromises with, superstition and mysticism.

Culturally, our intellectual history provides the basis, in the natural sciences, for understanding, solving, and preventing our problems. These sciences include behaviorology, the science that accounts for consciousness and shows that by itself consciousness cannot provide a complete solution; it is one factor, albeit a potentially helpful one, among many.

Behaviorology itself can help solve global problems. But how helpful can its existence be when superstitions are so thoroughly entrenched in the culture that a person can get advanced degrees in various superstitious disciplinary domains at most major universities, and yet rarely encounter behaviorology at these same institutions?

Meanwhile, even many natural scientists are not as yet under contingencies to assure that their own students contact the natural science of behavior. Rather, they continue to accept their students' contamination from courses in the currently more prevalent mystical disciplines of behavior. They need instead to assure the availability of behaviorology courses and the necessary professor-producing programs.

Will humanity become a victim of its own ignoring of these concerns, or a beneficiary of their resolution? Will we resolve our conundrum between science and mysticism in a timely enough fashion? In his 2008 book, Lawrence Fraley puts the question this way. "Will we witness it [the resolution] safely from the secure perspective of an intellectual alternative that portends cultural survival or from the comfortably seductive perspective of an intractable mysticism that leaves us blissfully imperiled?" (p. 1098)

With humanity, evolution has produced a species with extensive capacity for consciousness, intellectuality, and emotionality. Are these enough to prevent the destruction to which coincidental contingencies are leading by producing collective behavioral mistakes?

Without invoking inner agents, having written these columns makes me think that I must think that those capacities are enough, but I can certainly be wrong. They will be enough only if more humans, especially more natural scientists, come under contingencies to participate in expanding educational options for far greater numbers of humans in the sciences, especially, at this juncture, in behaviorology.

This science helps us understand ourselves and our shared place in the web of existence that we call life, and thus helps the realities of global problems evoke more effective solution behaviors among more people. Behaviorology experimentally studies and interprets human nature and human behavior, and provides the derivative engineering technologies for effectively addressing accessible independent variables in ways that bring about improvements in behavior.

The contingencies of global problems are inducing us to implement these engineering technologies not only at home and work, in education and diplomacy, and in interpersonal relationships, but also in the global problem-solving applied-behavior fields of recycling, sustainable lifestyles, the management of dangerous asteroids and coronal mass ejections, resource and biodiversity protection, dealing with overpopulation, and so on.

Beyond its immediate domain, behaviorology coordinates with other natural-science disciplines. It even overlaps with some of these, and understanding these overlaps helps

build our interconnected perspective (as the next column discusses).

For more recent developments in behaviorology curricula, see my article, "More Assistance in Developing Behaviorology Courses and Programs," in the Fall 2018 issue of *Journal of Behaviorology* (on the "Specific Articles" page at [www.behaviorology.org](http://www.behaviorology.org)). Chapters in my other books cover consciousness.

*Writing these columns occurs separately from membership in The International Behaviorology Institute (TIBI, at [www.behaviorology.org](http://www.behaviorology.org) where you can always find more information and resources). The author is not speaking for TIBI, and the author and TIBI need not be in agreement. TIBI welcomes feedback, members, and donations (501.c.3). This is column 69 of 72.*