

[Column 71 Set 2] Exploring More Mysteries of Living: Jobs Abound for Contingency Engineers But Degree Programs Remain Scarce



by **Stephen F. Ledoux**

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 that these columns describe. See the 72 columns of the first set, in the *Explaining Mysteries of Living* book or on **BehaviorInfo.com**, for the *basics* of this science.

This and the next column turn from details *about* the natural science of behavior to considering what seems at present to be one of the most important areas, or perhaps *the* most important area, for *applying* the science of what we know about human behavior. This is the area concerning the behavior components of understanding and solving global problems.

In a couple of columns, however, we cannot and will not cover how to apply this science in that arena. Our interest now concerns preparing for that task, because the world still lacks adequate human resources fully trained in behaviorology, at all academic–performance levels, to contribute fully to solutions for those problems through research and teaching and interventions.

Many major businesses offer jobs, under various names, for “sustainability staff and managers.” Holders of a four–year bachelor’s degree in sustainability, one that includes a major in the natural science of behaviorology along with basic familiarity with all the other foundation natural sciences (i.e., physics, chemistry, and biology) would make exceptionally capable staff.

But most universities and colleges still pour their resources into agential psychology majors for dealing with understanding behavior. Very few so far offer behaviorology majors. Given the importance of solving global problems to humanity’s civilized survival, this might strike you as a poor use of your tax or tuition dollars. If so, speak up! Behaviorology bachelor’s degree programs might not replace psychology programs, but higher education should at least offer them.

For managers of sustainability staff, after earning the kind of bachelor’s degree described

for staff, a master's degree would make an appropriate academic program. If the program stressed applied behaviorology, it would make exceptionally capable managers.

Again, however, most universities and colleges still pour their resources into agential psychology master's degree programs for dealing with behavior concerns. Too few so far offer behaviorology master's degree programs. Given the importance of solving global problems to humanity's civilized survival, this too might strike you as a poor use of your tax or tuition dollars. Behaviorology master's degree programs might not replace psychology programs, but higher education should at least offer them. So speak up!

Of course, you need professors to provide the behaviorology courses for the academic programs for sustainability staff and managers. For all these professors, doctoral degrees in behaviorology would make the appropriate academic program.

Yet again, most universities and colleges still pour their resources into agential psychology doctoral degree programs. Far too few so far offer behaviorology doctoral degree programs. Given the importance of solving global problems to humanity's civilized survival, this again might strike you as a poor use of your tax or tuition dollars. Behaviorology doctoral degree programs might not replace psychology programs, but higher education should offer them. Again, speak up!

Applying behaviorology as part of the science–team efforts to solve global problems remains of such significance that, of the first set of 72 columns, the last *nine* columns addressed various aspects of this topic in substantial detail. So this and the next column—the last columns of the *second* set of 72 columns—provide just a review of some of the concerns that benefit humanity through your consideration and, hopefully, action, regarding solving global problems.

Some of the main topics that those last nine (of that first set of 72 columns) covered concerned (a) interdisciplinary developments, (b) dangers from unbalanced educational playing fields, (c) contributions to and from fellow natural scientists, and (d) aspects of establishing behavior–related academic science programs. Of course, the presumption is that you already have read, or will read, those earlier columns. Given the action recommendations contained in them, revisiting them could lead to giving substantial help to supporting science in general, and behaviorology in particular, in addressing the behavior components of solving humanity's individual, local, and global problems.

In this second set of 72 behavior–related columns, after touching on the research methods behind behaviorology's discoveries and developments, we briefly toured several topics needing and benefiting from interpretative scientific answers to many of humanity's ancient, and a couple more recent, questions. These answers derived from extensions of behaviorology. The topics we covered included verbal behavior, the reinforcers–values–rights–ethics–morals series, consciousness, life, personhood, death, reality, robotics, and evolutions. We addressed all these topics in light of the concepts, principles, methods, and practices of behaviorology.

Before that, in the first set of 72 behavior–related columns, our topics had included the value of a scientific philosophy of science, and the ubiquity of the emotional and intellectual behavior related to the continuously operating processes of respondent and operant conditioning. We also covered reinforcement schedules, the stimulus controls of evocation and generalization, direct stimulus control, direct–acting contingencies and

rule-governed behavior, and a range of intervention practices grounded in these lawful relations (e.g., differential reinforcement, shaping, chaining, fading, extinction, and clicker training).

All of those topics from both sets of columns become, in far more depth and detail, the core of educational programs designed specifically to enable students at all academic levels to address effective applications to helping solve global problems. We can call this academic area *green contingency engineering*, an area particularly relevant to many pressing issues including the humane reduction of population levels and the building of sustainable lifestyles.

Perhaps the culture could currently derive the most benefits by first expanding behaviorology into this educational area, from which graduates could then extend it into other needed practical areas. Consider a degree in *Green Behavior and Engineering* (or *Behaviorology and Green Engineering*) that includes basic coverage of the full roundtable of foundation natural science and engineering disciplines (e.g., physics, chemistry, biology, behaviorology) so that graduates can contribute to any and every area of solutions for global problems. We are sitting on the brink of a breakthrough to substantive successes in solving global problems by building a more complete science and engineering team—a team with members from all the natural sciences—to address these concerns.

The BOOKS page at www.behaviorology.org provides a full description of the book that contains the first set of 72 columns, *Explaining Mysteries of Living*. This page also provides full descriptions of many other books containing greater detail about behaviorology than these columns could cover, such as the *Running Out of Time—Introducing Behaviorology to Help Solve Global Problems* book, and the less comprehensive but easier to read *What Causes Human Behavior—Stars, Selves, or Contingencies?* book, a general-audience primer.

Writing these columns occurs separately from membership in The International Behaviorology Institute (TIBI, at 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). Write the author through this paper's Editor. This is column 71 of the second set of 72. Copyright © 2020 by Stephen F. Ledoux