

## BOOK REVIEW

### **DEVELOPING COALITIONS FOR EFFECTIVE ACTION: *THE FIVE HORSEMEN OF THE MODERN WORLD: CLIMATE, FOOD, WATER, DISEASE, AND OBESITY*. BY DANIEL CALLAHAN<sup>1</sup>**

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Our culture has produced the science and technology it needs to save itself. It has the wealth needed for effective action (Skinner, 1971).

The “five horsemen of the modern world” are climate change, food shortages, clean water shortages, chronic disease, and obesity. Cofounder and former president of the Hastings Center—a biomedical research organization—Daniel Callahan covers each of these horsemen in his new book titled: *The Five Horsemen of the Modern World*. Each topic has a unique history bridging the often tenuous relationship between science and public policy. According to Callahan, however, the horsemen share a single feature: Problems arising from climate change, food and water shortages, chronic disease, and obesity *are getting worse* despite several decades of expensive and concerted efforts to mitigate or eradicate them.

Peppered with facts and vetted by experts, part one of the book reviews how we arrived at our current state. The information presented allows an interested behavior analyst to detect and understand ideological splits, relevant academic and research disciplines, specialized university programs, meetings, organizations, and pertinent journals. By providing all of this information in one location, Callahan helps anyone new to the depth of each topic to catch up quickly so they can begin to participate more fully. Behavior analysts hoping to increase their impact for any one of these problems would benefit greatly from the information in part one.

“Examining the pathways through the thickets” fittingly titles part two of the book. In each chapter of this section, Callahan covers familiar pathways to solving societal problems. These include increased use and advances in technology; changes in public policy, public opinion and media; and regulation via law and governance. Compounding the thickets is an ever-growing and increasingly aged population. Population dynamics exacerbate the five problems by requiring the development of novel solutions as well as demanding more from existing solutions. For behavior analysts interested in any one of the pathways, each chapter provides an overview of the disciplines that span policy and regulation, through academic research. In addition, Callahan provides substantial references to some of the current researchers and people involved with advances in technology, public policy, media, law, and governance. Where part one provided the outsider with relevant history, part two provides the outsider with current interventions and active players.

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Whether it highlights opportunity or evokes disappointment for readers of this journal, the need for strategies and policies of individual behavior change is frequently acknowledged but little detail is provided on how to achieve such change.

The third part of the book covers the future. In the first chapter of this section, Callahan shares a perspective similar to other cultural commentators (e.g., Grant, 2010; Harris, 1977; Quinn, 1996; Skinner, 1971) proposing that humans need a “change in vision.” Economic growth currently comes by way of behavioral patterns that involve overconsumption of resource-intensive reinforcers and underconsumption of resource-light reinforcers (Grant, 2010). In Callahan’s words, humans currently overvalue progress—the notion “that human life ought to always get better, that it has no natural stopping point and should never cease aspiring to move ahead.” Callahan takes the position that globalization plays a large role in the push for more, a theme common to many recent and current political campaigns in the US and abroad. For developing countries, growth as the premiere value toward improving quality of life has been modeled by developed countries and is now being pursued without concern for the five horsemen. Affluence has become the new normal but determining the line of how much is enough has yet to be decided—so onward, ho! Callahan argues that the value of progress, and its “errant offspring” of capitalism, are not likely to be changed anytime soon.

Because the values of progress and capitalism are unlikely to be abandoned, Callahan uses the final chapter of the book to discuss the necessary coalition for sufficient cultural change and mitigation of the five horsemen. The recommended coalition includes social movements, legislatures, and business. Callahan uses the antismoking campaign as an example of social movements that resulted in significant social change. Many areas of society came together with a sufficient “emotional and personal punch” to effect change. The antismoking campaign also serves as an example of a dual strategy for achieving the necessary level of public support to effect change for any of the five horsemen: fear and business. “What is dangerous is to be feared” (p. 322), and Callahan uses work from economic historians to highlight how fear during the Great Depression and World War II sufficiently mobilized the population to be willing and prepared to accept personal and economic costs for a greater good. But fear alone is unlikely to be sufficient. Many businesses worldwide survive based on the *status quo* and their ability to lobby legislators to develop policy in their favor. As a result, the money and influence that businesses have are tools needed by the coalition. Using these tools to effect the cultural change needed could be accomplished by reframing each of the horsemen as an opportunity for innovation, progress, and profits that target a triple bottom line—people, planet, and profits. That is, make solutions to the horsemen attractive business ventures.

So what’s a behavior analyst to do? Although rich with pertinent information, the book lacked definitive plans for targeting individual behavior. This is to be expected given Callahan’s background. Policy and law are only effective to the extent that the contingencies are maintained for an individual’s behavior. Individual people behave, not groups. This is where readers of this journal could have significant impact. Recent work on microsocieties has examined concurrent schedules in which one alternative benefits the individual to the detriment of the group and a second alternative benefits the group to the detriment of the individual (e.g., Borba & Glenn, 2014; Borba, da Silva, Anjos Cabral, de Souza, Lustosa Leite, & Tourinho, 2014). Research in behavioral economics has led to improved understanding of the impact of losses versus gains in influencing behavior (e.g., Magoon & Critchfield, 2008; Rasmussen & Newland, 2008). This may speak to Callahan’s call for enhancing the salience of what we have to lose as the horsemen approach. Furthermore, researchers are developing techniques to make distant, future consequences more

influential—these efforts seem particularly relevant to behavior change in light of the approaching horsemen (e.g., Koffarnus, Jarmolowicz, Mueller, & Bickel, 2013; Madden, Petry, Badger, & Bickel, 1997). In addition, behavior analytic researchers have demonstrated how demand curve analyses can be successfully utilized as a conceptual and analytical paradigm for developing and evaluating public policy (e.g., Grant, 2007; Hursh & Roma, 2013). Finally, researchers using feedback and incentive-based strategies have already demonstrated behavior change across several of the five horsemen such as climate change (Foxy & Hake, 1977; Foxy & Schaeffer, 1981; Frazer & Leslie, 2014), and prevention of chronic disease and obesity (e.g., Krentz, Miltenberger, & Valbuena, 2016; Kurti & Dallery, 2013; Wengreen, Madden, Aguilar, Smits, & Jones, 2013). In addition, Biglan (2015) has illuminated how behavioral principles can aid in prevention and influence policy in many areas of society relevant to the horsemen. In short, the list of future relevant behavior analytic studies seems long and wide open.

In addition to focus on individual behavior change, behavior analysts are well equipped to study cultural evolution (Biglan, 2016). A legitimate empirical question is the extent to which metacontingencies differ from the sum of the individual contingencies that comprise them. As Biglan (2016) notes, previous authors have argued that "...it is the collective action of individuals that lie at the heart of the dilemma" (Ehrlich & Kennedy, 2005). However, researchers have yet to examine whether it is more efficient to intervene at the level of the metacontingency (e.g., policy that alters the consequences of organizational practices) or on a critical number of key individual contingencies (e.g., behavior of corporate leaders). These and other research agendas proposed by Biglan (2016) highlight the critical need for an empirical science of cultural change. Although a selectionist analysis of cultural practices is not a new idea (e.g., Gilbert, 1978; Harris, 1977; Malagodi, 1986), a corresponding experimental analysis has yet to be fully realized.

*Conclusion.* Throughout the book, Callahan argues for unification of efforts across experts from areas such as policy, psychology, engineering, and agriculture. Although he mentions changing individual behavior on several occasions, most suggestions are written at the policy level in line with Callahan's background. The contribution of behavior analysts toward the problems in this book will continue to be through demonstration of individual and cultural behavior change. Continued work in areas such as laboratory microsocieties, behavioral economics, and contingency management will help serve this purpose. Finally, and perhaps most important, is Callahan's message for collaboration. Behavior analysts will need to increase contact and collaboration with legislators, social media, and business. Collaborating with members across a broad coalition would bode well for increasing the visibility and impact of our research on behavior and social issues. This in turn will increase the possibility of social change.

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