Contributions of Behavioral Systems Science to Leadership for a New Progressive Movement

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Abstract We argue in this paper that we are in the midst of a period in which fundamental global change will be required if societies and many species, perhaps even our own, are to survive. The realities are inescapable, and the potential implications are likely to affect nearly every dimension of human life in the USA and globally. Current trends are discouraging and will be extraordinarily difficult to shift, given global structural realities. It is hard to imagine a time when effective leadership is more necessary or will be more challenging. Our thesis here is that behavioral systems science can contribute in meaningful ways to shaping and sustaining such leadership, leadership required to advance a new progressive movement.

Keywords Behavioral systems science · New progressive movement · Cultural analysis

“only the construction of another society based on total human development can politically and humanly emancipate men and women ... and eradicate poverty and inequality” (Ana Elizabete Mota¹)

Despite unprecedented advances in medicine, technology, transportation, and other facets of society, extreme human suffering persists across the globe, and the inevitability of human progress has been exposed as a myth of modernity (Touraine 1995). Indeed, we

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argue in this paper that we are in the midst of a period in which fundamental global change will be required if societies and many species, perhaps even our own, are to survive. The realities are inescapable, and the potential implications are likely to affect nearly every dimension of human life in the USA and globally. Current trends are discouraging and will be extraordinarily difficult to shift given global structural realities (Chance 2007; Skinner 1982, 1987). It is hard to imagine a time when effective leadership is more necessary or will be more challenging. Our thesis here is that behavioral systems science can contribute in meaningful ways to shaping and sustaining such leadership. We begin, however, with a discussion of critical issues facing the USA and then expand to a global perspective.

In recent decades, income and asset inequities have intensified to the point where the USA now has the greatest income inequality in the developed world (Organization for Economic Co-operation and Development 2013). The top 1 % of earners' share of total income more than doubled, from 9 to 20 %, between 1976 and 2011, a concentration of wealth that has not been seen since the Gilded Age in the early twentieth century (Alvaredo, Atkinson, Piketty, and Saez 2013; Tichi 2009) (Even Republican candidates for office often identify income and asset inequities as a growing social problem). Available data also suggest that social class is increasingly rigid and social mobility increasingly difficult (DeBacker, Heim, Panousi, Ramnath, and Vidangos 2013). Among the 29 most developed countries, the USA has both the second highest relative child poverty rate and child poverty gap, as nearly one in four US children live in households earning less than half of the country's median income, and these households, on average, earn nearly 40 % less than this median income (UNICEF Office of Research 2013).

There are many other issues, all of which are related to current economic relations. The USA has the highest rate of incarceration in the world, at 716 prisoners per 100,000 people (Walmsley 2013). This rampant incarceration costs the country approximately \$75 billion per year (Schmitt, Warner, and Gupta 2010). The USA also has the highest rate of domestic homicide by firearm of any developed country, more than 40 times higher than that of the UK (Bangalore and Messerli 2013). While levels of violence nationally are declining, in the urban centers in which violence is currently concentrated, the resulting social disruptions are severe. Violence and incarceration carry enormous costs at every level of society, including the costs of treating gunshot victims, declining property values, diminished economic activity, disruptions of family and community life, and serious mental health and child development impairments—not to speak of the loss of life (Centers for Disease Control and Prevention 2012; Cullen and Levitt 1999; Greenbaum and Tita 2004; Lynch and Rasmussen 2001; Singer, Anglin, Song, and Lunghofer 1995). Racial tensions, always a powerful undercurrent in US society, have recently resurfaced. Americans are also more likely to suffer from mental illness than the citizens of any other developed country (Bangalore and Messerli 2013; WHO International Consortium in Psychiatric Epidemiology 2000). Feeling under global threat, the country's defense spending exceeded \$640 billion in 2013, accounting for 37 % of all military spending worldwide, and was higher than the combined expenditures of the nine countries with the next largest military budgets (Perlo-Freeman and Solmirano 2014).

These issues, however, are not limited to the USA; indeed, the stark inequities that characterize the current global situation are at least equally challenging. The world's poor are increasingly besieged by extreme forms of structural violence, primarily as a result of the rise of unconstrained corporate capitalism and the relative weakening of the state within the global economy (Biglan 2015; Biglan & Hinds 2009; Davis 2006;

Farmer 2003; Hedges and Sacco 2012). Farmer's definition of structural violence describes structural arrangements that privilege some, while denying others—the poor, people of color, women, and children, for example—elementary freedoms or leaving them at high risk for serious illness, injury, or early death, characterizing these as “pathologies of power” (title page). Among these populations are young people dying in street violence, as most such violence is largely an outcome of personal, intergenerational, and community experiences of exclusion and marginalization (Aspholm in preparation; Hagedorn 2008). The United Nations Office on Drugs and Crime's 2011 *Global Study on Homicide*, for example, concluded that interpersonal violence is “rooted in contexts of paucity and deprivation, inequality and injustice, social marginalization, low levels of education and a weak rule of law” (p. 29). Moreover, one billion people, or one in six people worldwide, now live in slums, including one-third of all urban dwellers (UN-HABITAT 2006). Hedges and Sacco (2012) characterize these and other places to which marginalized people are confined as “sacrifice zones,” excluded from the benefits of social progress as the result of economic arrangements that ensure the comfort of the elite (p. XI).

The recent neoliberal evolution of the global economic system has aggravated inequality to such a degree that even some of its previously staunchest proponents, such as the International Monetary Fund, the World Bank, and many capitalist economic scholars, have explicitly recognized the role of current economic arrangements and neoliberal structural adjustments in promoting social misery and instability (Kumhof and Rancière 2010; Spence and Hlatshwayo 2011; World Bank 2011). Indeed, support for economic globalization has weakened a substantial number of governments worldwide, worsening already severe living conditions and contributing to radicalization, violent unrest, and civil wars (Briceño-León and Zubillaga 2002; Conteh-Morgan 2006; Lindner 2009). Unfortunately, such violent campaigns for liberation often ultimately reproduce the oppression they sought to eradicate (Chenoweth and Stephan 2011; Mattaini 2013).

Resulting from and contributing to all of these issues, resource-intensive consumerism as required to sustain unconstrained corporate capitalism threatens the planet's very ecological equilibrium (Grant 2011). Again, the implications of extreme inequality are evident, as the world's wealthiest 7 % are responsible for approximately half of all global carbon dioxide emissions, while the poorest half of the world's population emit “essentially nothing” (Pacala 2007). Moreover, climate change has particularly severe implications for developing countries and their poorest citizens, who will increasingly and disproportionately face climate change-related displacement, water scarcity, natural disasters, and social and political upheaval, among many other adverse effects (Intergovernmental Panel on Climate Change 2014; United Nations Human Rights Council 2009). The modest steps that are being taken to address climate change and the other issues that threaten and impede the safety and wellbeing of increasing numbers of the global population described above are demonstrably and frighteningly inadequate.

One reviewer of this paper described the material presented above as “quite vitriolic and based on scare tactics.” While reviewers are entitled to their opinions (which are often helpful), we believe that the well-sourced data presented are in fact cause for serious concern and that the increasing recognition of these realities offers an opportunity for collective action.

Why a “Progressive Movement?”

The late nineteenth and early twentieth centuries in America were dominated by myriad issues associated with unprecedented levels of immigration and urbanization resulting from the rapid industrialization of US cities during this period. New arrivals overwhelmingly lacked formal education and industrial skills and, given their rural backgrounds, were largely unfamiliar with urban life. Millions of people were confined to dangerously overcrowded and severely under-resourced and neglected slums and were often forced to work dangerous jobs for little pay or face starvation. In accordance with the increasing popularity of Social Darwinism, the US government employed a *laissez-faire* approach to regulation, facilitating the emergence of powerful corporations that willingly exploited the labor of desperate urban migrants (Painter 2008). The unprecedented wealth enjoyed by a small number of capitalist tycoons as a result masked the dismal circumstances faced by the majority of Americans during this period and earned these years the euphemism the “Gilded Age” (Cashman 1993).

The Progressive Movement emerged in response to these conditions, which came to be recognized as the by-product of exploitive corporations and disinterested government. As it became clear that urban problems were not the result of the “unworthiness” of the poor, leadership for the movement emerged primarily from Victorian, middle-class, and college-educated women and men, increasingly outraged by the stark inequality endemic during the period (McGerr 2003). Jane Addams, Eleanor Roosevelt, Susan B. Anthony, Ida B. Wells-Barnett, Louis Brandeis, Florence Kelly, Jacob Riis, and Mother Jones remain some of the most recognizable names in the history of early-to mid-twentieth century America and are widely recognized for their work both within and beyond the Progressive Movement. The primary aims of the Progressive Movement included “the control of big business, the amelioration of poverty, and the purification of politics” (McGerr 2003, p. xiv). By the mid-1920s, the Progressive Movement had successfully brought about women’s suffrage, various child labor laws, establishment of a number of federal anti-trust laws, federal supports for mothers and children, establishment of juvenile courts, and the prohibition of alcohol, among other achievements (Chambers 2000; Tichi 2009). Not all of the advances of the Progressive Movement could be sustained, but those responding to the Depression of the 1930s drew lessons from some of those who shaped and led the Progressive Movement (Skocpol 1995).

The stark inequalities that helped bring about the Progressive Movement have disturbing parallels with current economic, political, and social realities both nationally and globally. Indeed, considerable data demonstrate the need for changes of a magnitude exceeding even those of the Progressive Era. The successes of the Progressive Movement relied on strong, committed leadership, and organization. Our current realities will require no less, and probably more. We argue, however, that contemporary advances in behavioral systems science can provide considerable guidance for a New Progressive Movement, powerful enough to have a profound impact on the issues noted above (Mattaini 2013). We further argue that only a powerful social movement could achieve the needed changes, as current cultural and social structures have proven highly resilient and resistant to social change, while the inertia of affluence and delay discounting make major shifts very challenging (Chance 2007; Nevin 2005; Piven 2008).

The Leadership Dilemma

The path to leadership for those participating in existing politico-economic structures is relatively well established, especially for advantaged members of dominant racial and economic groups. Entrance is facilitated through education, association, mentorship, and the skills of maximizing return on labor and capital. Current sets of interlocking behavioral contingencies and metacontingencies leave little opportunity for the actions required to address the issues being discussed here, as current self-organizing and self-sustaining networks of behavioral systems have demonstrated (and have been selected for) great resilience. Therefore, leadership of a progressive social movement will face substantial challenges. Actions to shift priorities of existing institutions and organizations in progressive directions will not yield the same aggregate products and profits that current functioning does and will therefore not be easily selected within current systemic arrangements. Actions to initiate new institutions and organizations whose practices challenge current economic and institutional structures will in many cases not be widely reinforced and may often be punished. Therefore, considerable disruption of structural realities would be required to achieve meaningful social and ecological change, and this will not be easy for either existing or new social institutions. This is the dilemma for leaders of a New Progressive Movement; most currently - valued reinforcers for leaders and those led are available primarily within conventional systemic arrangements.

B. F. Skinner (1987) recognized the dilemma and did not believe that a piecemeal approach could achieve lasting change of the kinds we are discussing. He placed his best hopes in what he called the “uncommitted”—those who were not deeply embedded in and committed to government, religion, or the corporate world. Others in the behavior analysis community have expanded upon Skinner’s comments (Chance 2007) and suggested possible responses (Rumph, Ninness, McCuller, and Ninness 2005; see also Leigland 2011). Skinner included among the uncommitted scholars, scientists, teachers, and journalists—groups who were not at that time deeply braided into governmental, corporate, and religious structures. At present, however, the extent to which members of those groups are financially and institutionally dependent on those institutions is substantial and growing (Arena 2012).

Potential Behavioral Systems Contributions to Leadership for a New Progressive Movement

Accepting that the dilemma is real, where to begin? We see two interlocking possibilities. First, clearly not everyone who is “committed” to existing institutional structures is fully committed. Many academics, scientists, media folks, artists, social workers, behavior analysts, and other citizens are not entirely comfortable within existing structures, even while being aware of the risks of challenging them. Most are unlikely to abandon their positions, but with support may be willing to take smaller steps, and to encourage others to take larger ones. These then may provide support for the second, probably essential, possibility: raising up new members of the uncommitted. Our attention in the latter case would be directed toward constructing coordinated actions among young behavior analysts, although related principles should apply elsewhere.

Shaping and Sustaining Scientific Activism among Behavior Analysts

Many behavior analytic students come to the discipline with deep concerns about and real commitment to major social and environmental issues. They learn early on that behavior analysis and behavioral systems analysis constitute a powerful science that can predict and influence what people and organized groups of people will do. We can teach them the science, and we can teach them to be among the uncommitted at least to a significant extent, before the incentives offered by existing funding and institutional arrangements have fully shaped scientific repertoires consistent with those current societal structures. The following options are among those that we believe could shape and sustain new leadership repertoires contributing to a New Progressive Movement. As scientists, of course, we must view these proposals as possibilities to be tested.

Behavioral Systems Science Education As an important part of training, behavior analytic scientists could learn to analyze the behavioral systems dynamics involved in major social and environmental issues. Behavioral systems science, which includes both the analysis of the dynamics of behavioral systems (behavioral systems analysis) and intervention into those dynamics, includes the study of interlocking behavioral contingencies within organizations, institutions, and other organized groups, as well as functional relations among behavioral systems and their contexts including metacontingencies and related constructs (Malott 2003; Mattaini 2013). (Behavior analytic science forms a critical substratum of behavioral systems science; Mattaini 2013). Early work (and much current as well) in behavioral systems science has been framed in terms of *cultural analysis*, language that began with Skinner and has been extensively developed by Sigrid Glenn (2010) and others. We believe, however, that behavioral systems terms are preferable, both to avoid confusion with the many other usages of the term “cultural” in common usage and because they emphasize the transactional dynamics involved in analysis and intervention. There is limited behavior science work, whether observational, conceptual, or experimental related to any of the problems we have discussed, but a great deal is known about each. Behavioral systems scientists and students therefore would need to mine existing literatures, often in collaboration with other disciplines, to develop credible and testable hypotheses regarding the behavioral systems dynamics sustaining major problem configurations, and those required to construct genuine alternatives. Such conceptual analyses, diagrammed and developed in detail, could then be explored historically, experimentally, and through ecological observation (Mattaini 2013). This work would clarify the types and magnitude of the interventions needed, as well as accessible intervention points, and not incidentally would provide valuable extensions to our existing scientific knowledge base. Initial experimental work, particularly simulations, also is likely to provide significant direction in the near future.

“Living in Truth” In 1978, Václav Havel, Czech playwright, dissident, and ultimately president, wrote an essay entitled “The Power of the Powerless” (published in the book *Václav Havel: Living in Truth* in 1987). In this essay, he recognized the seductions of a consumer society that privileges personal benefit and material comfort over action to address social welfare and oppression (thus “living in the lie” that all is well, or as good as it can be). He further argued that those committed to justice need to commit to living

in a different way—“living in truth.” There is an interesting confluence here with the Acceptance and Commitment process, which is accumulating significant evidence of utility (Biglan 2015; Hayes, Strosahl, and Wilson 2011). In both, one identifies core values and commits to acting in ways consistent with those values, recognizing and accepting the consequences even when they may be aversive. Author Jonathan Schell (2003) described living in truth for Havel as “directly doing in your immediate surroundings what you think needs doing, saying what you think is true and needs saying, acting the way you think people should act” (p. 196). We are talking here about commitment to a form of integrity and to living in ways consistent with active engagement with issues consistent with core values. Such repertoires can be encouraged and reinforced in many cultural contexts, but are likely to be sustained only by participating in communities that share similar commitments (Mattaini 2013). Academic settings in particular offer opportunities for students, mentors, and instructors to experiment with these methods of building commitment to social and environmental action.

Care for the Casualties of Environmental Arrangements Recognizing, for example, homeless persons, youth involved in violence, and those living in or on the edge of extreme poverty as *casualties* of environmental and structural arrangements—as behavior analysts must see them, knowing what we do of the determinants of behavior—rather than as individuals making immoral or foolish choices should be conceptually easier for behaviorists than for many others. Active engagement and accompaniment with such marginalized people, however, can bring a deeper understanding, as context is (nearly) everything and is best observed through immersion. Participation in providing care to those excluded from lives of health and dignity can therefore be of help in both taking small steps toward addressing social issues and understanding their contexts in sufficient depth for analysis. As behavior analysts have often found in work with persons with disabilities, such involvement also tends to increase empathy and commitment to those affected. Internships focused on social and environmental issues could help move more students toward related long-term engagement in these areas, as could extended volunteer participation.

Participation in Existing Non-governmental Organizations (NGOs) Similarly, behavior analytic students and professionals have almost unlimited, but largely untapped, opportunities to participate in the work of NGOs working for environmental and social justice. At this stage, behavioral system analysts are not often likely to be invited into such organizations as paid consultants, as we have not yet demonstrated useful expertise (and we have much to learn). Rather, we would in most cases be entering as volunteers (as other professionals often do), willing to do the work required with due humility given the limits of our current applied knowledge in these areas. Behavior analytic and behavioral systems knowledge could contribute here to the work done, to planning efforts, and perhaps to refining leadership behaviors. We would initially, however, be entering as learners, who can then bring back what is learned to the behavior analytic community. In these ways, behavior analytic systems could become increasingly interlocked with NGO systems across the range of issues we care about. (As an example, one recently early-retired behavior analytic Ph.D. with a long-standing commitment to environmental issues is now working full-time as a volunteer in a state

Sierra Club office.) The more involved behavior analysts become in service settings and NGOs, the more likely our graduates will come to be seen as realistic candidates for (perhaps modestly) paid positions.

Construction of New Behavioral Systems Perhaps, the most challenging area at this point in the development of behavioral systems science would be the development of new programs, institutes, or centers with missions of specifically applying the science to particular issues. Certainly, given the behavior analysis' history of developing such systems for autism services and the available expertise in organizational behavior management, this might be done. Funding is probably not impossible; there are, for example, a number of relatively well-supported university institutes oriented toward international relations, peace and justice, and race and ethnicity. Behavior analysis educational programs could build specializations around this work, incorporating several of the options sketched above. Beyond academia, movement centers dedicated to science-guided activism are another possibility (these could learn from the history of movement centers established during the Civil Rights Movement, Morris 1986). A mission oriented to the application of behavioral systems science to core social and survival issues could draw support over time, especially as impact was demonstrated. A promising research focus for some such centers would be public education. It is well established that simple awareness campaigns seldom change opinions shared in public, and even less often what is said in private conversations. Public health research has generally (and surprisingly) focused primarily on individual behavior change. Behavioral systems analysts already have a collection of behavioral and systemic tools available that could be devoted to elaborating and realizing a collective vision of just and sustainable societies. With experimentation, the strategic options could no doubt be expanded. Existing tools would draw from what we know of relational responding (Hayes, Barnes-Holmes, and Roche 2001; Mattaini 2013), conversational behavior as fulfilling social functions (Guerin and Miyazaki 2006), rule-governed behavior (Hayes 1989; Mattaini 2013), and consequence analysis (Moore and Mattaini 2001). Successful public education demonstration projects would further substantiate the utility of behavioral systems science for social and cultural change. The work of the Work Group for Community Health and Development at the University of Kansas provides a valuable example of related work.

Construction of Advocacy Groups and Alternative Cultures Another possible but challenging option would be to initiate new activist cultures, including advocacy groups and other forms of alternative cultures. Given the thousands of existing advocacy groups, starting such organizations is clearly possible. The primary challenge is that most of these (and particularly many of the least compromised) operate with little funding and great dedication—they operate as voluntary, alternative, and sometimes countercultural behavioral systems relying on quite different incentive systems than do for-profits or non-profits contracting with government agencies (Mattaini 2013). Development of such organizations seems most likely to be led by behavior analysts with prior experience in existing NGOs, advocacy groups, or alternative nonconforming cultures. Three possible varieties of such organizations are sketched below, some more challenging than others. An important and challenging issue for such organizations would be to function with full integrity to the science, avoiding the kinds of distortions

and hyperbole on which many advocacy and activist organizations rely (Fawcett et al. 1988). Doing so, however, could make behavior science advocacy a valuable model for other participants in a New Progressive Movement.

Advocacy Organizations Advocacy organizations grounded in behavioral systems science would be committed to the intentional construction, shaping, and maintenance of behavioral systems dynamics encouraging just and sustainable practices within networks of existing cultural entities and societies. Strategies and tactics would be grounded in behavioral systems science, including engaging in behavioral systems analysis (which, along with full integrity, would distinguish them from most other advocacy groups), as well as persuasion and where appropriate protest. Persuasion is a strategic option that involves offering or clarifying incentives for desired actions, popular education, and shifts in relational responding and conversational behavior (Mattaini 2013, chapters 5 & 8). Protest involves establishing aversive conditions that can generate escape or avoidance contingencies and metacontingencies pending desired action, generally without generating major disruptions (Mattaini 2013, chapter 8). Given that current social, economic, and political systems are deeply involved in the generation and continuation of our most pressing social issues, there will necessarily be an element of political resistance in these activities, which should be expected to generate opposition. The political resistance in which these advocacy groups engage would, however, be consistent with existing science, open to new evidence, and committed to changes needed for justice and survival, reflecting a significant values component. The first step for behavioral advocacy groups would be to identify a goal area to which many behavior analysts (especially young behavior analysts) are likely to be willing to commit. Literature review and analysis would follow (Mattaini 2013, chapter 4) and should then guide subsequent actions. Real challenges that would also require analysis would be establishing and maintaining leadership and organizational solidarity and stability (Mattaini 2013, chapters 5 & 6). The history of other advocacy and activist groups indicates that specific attention to constructing interlocking networks of rich mutual reinforcement and solidarity is central to sustained action over time.

Experimental Cultures An even more ambitious strategy would be the intentional construction and progressive shaping of cultures that potentiate and demonstrate lifestyles generating alternative preferred generalized reinforcers (Grant 2011). Grant's analyses suggest that asking people to relinquish valued reinforcers for the common good is unlikely to be effective enough to evoke major social change. Based on that conclusion and on the matching law, cultures that potentiate resource-light reinforcers (especially activity reinforcers) and act in ways that produce collective benefit that are also incompatible with social or environmental damage appear to be the most promising directions to emphasize (what Grant refers to as Bohemian cultures). Some experimental cultures might be collective living communities, with some obvious parallels to Skinner's Walden Two, but with one essential difference. Walden Two was largely self-contained and insulated from the wider society. To make a difference in larger social and survival issues, integrated experimental cultures would need to stay engaged with—and by their very existence demonstrate resistance to—mainstream culture and practices, operating as demonstration projects, models for what might be

done more broadly. An alternative scenario, however, would be to develop new cultural practices, contingencies, and metacontingencies within existing cultural institutions that tend to be more open to change (for example, alternative education settings, some progressive religious groups, and alternative media) and may struggle themselves with structures of power. Restorative practices are one example that is demonstrating great utility in juvenile and criminal justice as well as educational settings and is an area where behavioral systems analysis can make a contribution (Boyes-Watson 2008; Mattaini 2001). Grant (2011) suggests that education that potentiates resource-light, activity, and artistic reinforcers should be a primary emphasis in this work. Given the realities of an economic system dependent on ever-expanding consumerism, shifting behavior to these alternative activities indirectly functions as forms of resistance to mainstream politico-economic structures. There is a significant history of such efforts relying on *constructive noncooperation* as a strategic emphasis, including some that have produced massive social and governmental changes (see Mattaini 2013, chapter 7). Constructive noncooperation refers to the construction of alternative cultures and institutions within, and in tension with, current societal structures. Clearly, the construction of lasting experimental cultures will be very challenging, but Grant's (2014) arguments suggest that this strategy may be literally essential to meaningful social change relevant to justice and survival issues. If so, it is clearly important that careful scientific analysis of the kinds of experiments suggested here be conducted, and the results widely distributed in ways that function as powerful motivative antecedents for widespread implementation.

Resistance Movements Related to but distinct from the previous approaches is the development of progressive resistance movements, dedicated behavioral systems committed to strategic resistance to social and environmental destruction and disruption of structural violence. Such organizations would use the best available science to challenge severely unjust cultural policies and practices that create, expand, and sustain serious damage to people and environments. Resistance movements have a long history of successes (Mattaini 2013; Piven 2008), relying on a diversity of tactics including persuasion, protest, disruption, and constructive noncooperation to shift practices toward those supporting just and sustainable societies. Some justice and survival situations clearly call for extreme responses to save lives or life. Existing scientific evidence strongly suggests that violent resistance typically produces poor outcomes; in many cases more powerful and entirely nonviolent methods are available (Chenoweth and Stephan 2011), many of which are consistent with behavioral systems science (Mattaini 2013).

Cultural Practices Supporting and Opposing Engagement and Activism for Just and Sustainable Societies

A number of options exist by which behavior analysts might contribute to achieving a vision of just and sustainable societies, while expanding our scientific knowledge. We have also suggested that most of the behavior involved in such work is likely to come from young and emerging behavior analysts who are as yet at least partially uncommitted in terms of their scientific and scholarly trajectories and to whom such a vision is

attractive. It is also quite clear that simply suggesting, even loudly, to students, practitioners, and those who may be interested in the field that they focus on these critical but largely undeveloped areas will not serve as a powerful establishing operation. So realistically, where to go from here?

Anthony Biglan (1995) developed a promising framework for constructing new cultural practices within groups, using a matrix that included columns for cultural sectors (e.g., schools, media, religious groups, and others), practices within each of those sectors that do or could support a desired outcome, practices within each that do or could present obstacles to that outcome, and sources of contingencies for each sector that could realistically increase supporting practices and decrease opposing practices. The desired outcome here is that more behavioral systems analysts and, in particular, the at-least-somewhat uncommitted among them engage in some of the strategies outlined above. A Biglan-style analysis appears to be useful for suggesting testable strategies that could engage and leverage the multiple systems involved to establish context and contingencies for such engagement. For that reason, Luke and Mattaini (2014) are coordinating preparation of a project exploring (a) supporting and opposing practices, (b) motivative antecedents, and (c) consequences across approximately two dozen cultural sectors (e.g., behavior analysis departments, allied disciplines, artists, SABA) that might support increased engagement with, and commitment to, behavioral systems science that resists structural violence and environmental destruction, and supports just and healthy alternatives.

Ultimately, survival requires that such engagement must happen; it is our hope that the sectors we have identified and the strategies suggested here will facilitate significant scientific exploration and science-based action before even more severe damage is done, more communities and groups are forced to live with and die by structural violence, and we are faced with final emergencies of social and physical survival. Ongoing developments in areas such as technology, communications, and transportation, moreover, will present new challenges and opportunities for the development of creative behavioral strategies to combat these alarming trends. With all due humility, there is a place for behavioral systems science here.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Human and Animal Rights and Informed Consent This article does not contain any studies with human participants or animals performed by any of the authors.

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