To spark a social revolution behavior analysts must embrace community-based knowledge

Para desencadear uma revolução social analistas do comportamento devem abraçar o conhecimento comunitário

Para provocar una revolución social analistas del comportamiento deben abrazar el conocimiento basado en la comunidad

Guilherme Bergo Leugi ⊠ Bernard Guerin

University of South Australia

ACKNOWLEDGEMENTS

Guilherme Bergo Leugi acknowledges that he received support from Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES), as a PhD scholarship, and that support made the present publication possible. Both authors would like to thank Ana Arantes for her valuable inputs when reviewing initial versions of the manuscript.

ABSTRACT

This article is a critical commentary on the behavior analytical tradition regarding its attempts to deal with and interpret social phenomena and problems, focusing mainly on the choice for research questions that could lead to 'revolutions' both in the way we interpret such phenomena, and also by sparking broader social changes. We explored broader contexts controlling and informing behavior analysts' choices, and provided examples. The present paper suggests that, in order to promote social changes toward a more egalitarian society while using behavior analysis, researchers and practitioners should examine more thoroughly their own decisions on which knowledge sources must be considered when taking action upon our society.

[⊠] leugi.gb@gmail.com

Furthermore, the interpretation presented advocates for a radical social analysis of social phenomena, in agreement with radical behaviorism and contextual analysis. Such analysis should take into consideration the knowledge already produced or in production by the population that will participate in it.

Keywords: radical behaviorism; revolution; community-based knowledge; contextual analysis, social change.

RESUMO

O presente artigo é um comentário critico acerca da tradição analítico-comportamental em suas tentativas de lidar com e interpretar fenômenos e problemas sociais, concentrando-se principalmente na escolha por perguntas de pesquisa que poderiam levar a 'revoluções' tanto na maneira como interpretamos tais fenômenos, quanto na promoção de mudanças sociais em larga-escala. Foram explorados contextos amplos que controlam e informam as escolhas dos analistas do comportamento, e exemplos foram apresentados. Este estudo sugere que, para promover mudanças sociais na direção de uma sociedade mais igualitária pelo uso da análise do comportamento, pesquisadores e profissionais deveriam examinar mais meticulosamente suas próprias decisões sobre quais fontes de conhecimento deveriam ser consideradas ao intervir em sociedade. Ademais, a interpretação aqui apresentada defende uma análise social radical de fenômenos sociais, de acordo com o behaviorismo radical e análise contextual. Tal análise deveria considerar o conhecimento já produzido ou em produção pela população que dela fará parte.

Palavras-chave: behaviorismo radical; revolução; conhecimento comunitário; análise contextual, mudança social.

RESUMEN

Este artículo es un comentario crítico sobre el análisis conductual en sus intentos de interpretar fenómenos y problemas sociales, centrándose principalmente en la elección de temas de investigación que podrían conducir a 'revoluciones', tanto en la forma en que interpretamos esos fenómenos, como promoviendo el cambio social. Fueron investigados contextos amplios que controlan e influyen en las decisiones de los analistas de conducta, y se presentaron ejemplos. Este estudio sugiere que para promover el cambio social hacia una sociedad igualitaria utilizando el análisis conductual, investigadores y profesionales deben considerar con más cuidado sus propias decisiones acerca de qué fuentes de conocimiento deben utilizar para intervenir en sociedad. Además, la interpretación que aquí se presenta aboga por un análisis social radical de los fenómenos sociales, según el conductismo radical y análisis contextual. Dicho análisis debe considerar el conocimiento ya producido o en producción por la población participante.

Palabras claves: conductismo radical; revolución; conocimiento de la comunidad; análisis contextual; cambio social.

Behavior Analysis has undergone changes and rethinking over the decades of its existence, as with any school of thought, but the key epistemology has always stemmed from its definition of behavior: a relation established between the organism's action and the context for that action (Skinner, 1953, 1969). It is not describing the physical actions and the contexts taken separately that is important, nor just the combined description of a physical action and its surrounding environment. What forms the real basis of the epistemology is the resultant historic functional relation between both, which is expressed in terms of consistency between a class of environmental effects achieved through a class of actions, when a particular context presents itself. In any analysis, these relations have to be shown as particular instances or occurrences, rather than as the whole class, since that would be impossible (Baum, 2002, 2004, 2013; Catania, 1992; Chiesa, 1994; Hayes & Fryling, 2015; Lee, 1992, 1999; Skinner, 1953, 1963, 1986).

What has been shown with historically trained functional relations is that physical actions are changed when key environmental features change, so the two can indeed be considered as a unit (Thompson & Zeiler, 1986). In the research literature there are now thousands of reports of these modifications, most often induced by changes such as the spatial configuration of stimuli, and the frequency and intensity of stimulation.

The consistency with which action and context can be shown to change as a unit (once trained) has led radical behaviorists to begin analyses of social phenomena. This has mostly consisted of research with small and everyday social behaviors (Guerin, 1994), and new ways to think about social actions and social contexts (Guerin 1994, 2016). But this has also included ventures into larger scale behavioral changes through the adaptation of experimentally discovered behavioral patterns, systematically replicated into forms of intervention technology.

James Holland is one such (ad)venturer who has used the concepts of radical behaviorism to think and research about large-scale social patterns. In the article that inspired the present paper (Holland, 1973, 1974), Holland makes this point clear in the very first paragraph by listing behavior analysis' achievements in the laboratory, therapy, and education. All of these achievements are said to result from the effectiveness with which behaviorists identify and operate "certain fundamental laws" and "evidence of the lawfulness of behavior" which, in turn, have led to the "deliberate design in the control of human affairs, rather than leaving human affairs at the mercy of accidental contingencies" (Holland, 1974, p. 196).

The aim of the present paper is to show that while venturing into social contexts or contingencies with the behavior analytic epistemology is good and necessary, the behavioral principles are only a starting point and they only tell part of the story. As we illustrate with examples below, the current practices of behavior analysis focus more on the physical actions than on any complex environments, especially the social environments. Further, long-lasting, large-scale behavior modification, i.e. the revolution proposed by Holland, is necessarily an endeavor with many social agents, each with many different knowledges, and produced in very complex and convoluted social contexts. This is unlike the simple environments that began the study of forming and changing contingent relations outlined at the start of this paper. Without facing up to the complexities of

social contexts and the multiplicities of people with an interest or stake in any social issue, we are at risk of creating more problems than solutions. This is indeed what Holland (1978) himself pointed out with his title: *Behaviorism: Part of the problem or part of the solution?*

WHAT NEEDS TO CHANGE FROM A BEHAVIOR ANALYSIS PERSPECTIVE

If we treat social behavior as a *resultant historic* functional relation, in the same way as any other functional relation of actions and contexts, the physical action part seems to be fine for social behavior analysis (Guerin, 1994). The difficulty seems to arise first, in describing the social contexts or environments, and especially the relations between social actions and environment: social contexts are very fluid and change in complex ways, unlike the experimental environments used in behavior analysis research with both animals and humans. The second difficulty seems to arise from documenting the changes in social environments that would maintain — and indeed change — the social actions. Once again, in the behavior analysis research with animals, typically keeping the animal hungry and providing contingent food worked well and allowed a thorough exploration of contingent relations (Ferster & Skinner, 1957). We will say a little about each of these in turn.

THE COMPLEXITY OF SOCIAL CONTEXTS

In traditional experimental testing of functional relations, simple and sparse environments were used so the changing contexts could be localized as more or less discrete discriminative stimuli. Unfortunately, we know from all the social sciences that human social contexts are very complex, with layers of personal relationships, work relationships, societal relationships, political relationships, and others. Those behavior analysts working to emulate complex social settings in the laboratory are consistently faced with the limitations imposed by the history involved in that particular behavior — participants come to laboratories already immersed in complex social relations.

Further, it has been questioned whether behavior analysis is even the discipline for documenting the social contexts in the life of participants, even though Skinner believed that behavioral science ought to provide answers in that direction. Behavior analysts are not trained currently to measure, recognize or analyze the multiple social contexts in societies, nor the cultural variations. More of this rests on the expertise of social anthropologists and sociologists.

That behavior analysts do not have training in dealing with the larger complex issues was argued, for instance, by Willems (1974), in a paper published the same year as Holland's essay was published in English. Willems argued that there is a naivety about those "applying behavioral technology" when dealing with broader contexts, since they have no training in analyzing them. While analyzing the points of contact between behavioral technology and behavioral ecology, Willems (1974) claimed that behavior analysts did not "have enough perspective as yet to even judge whether a mistake has been made" (p. 164) regarding such complex systems of behavior within their intricate environmental relations. Willems' paper is dated if considered only within the scope of behavioral ecology, since progress has been made in that field since. Nonetheless, the message is still a valid one if applied to intervention on

social issues: we should radicalize the socialness of our research if we are to tackle social issues, and stop acting as if there is something like a 'neutral' tool or technology. We clearly need to work with others, both academics and communities, who do know something about the social contexts.

THE CHANGES IN SOCIAL CONTEXTS THAT INCREASE OR DECREASE SOCIAL BEHAVIORS

A second problem we will discuss with 'social context' in traditional behavior analysis is that of what changes behavior. Traditionally this is seen as 'reinforcers' delivered contingent upon the behavior produced. Many of the early attempts to extend behavior analysis merely tried to do this on a large scale, and by treating money as a key reinforcer.

There are a few problems we wish to point out with this. First, while money can act to increase or decrease the rate of behavior, it is itself a complex social phenomenon that does not exist outside of social systems (Marx, 1952/1809, 1962; Simmel, 1978/1907). It is not a constant feature of the environment that is unchanging, and it does not motivate and satiate in anything like the way that food does with hungry organisms in laboratory research.

A second problem is that the use of money-as-reinforcer has led to many replications of laboratory experiments on a large social scale in which we are looking for simple increases in production of social behaviors, usually ones deemed good by the society. This has fared well for such projects since it appears fully in line with the western society demands of good citizens producing good social behaviors, and it seems behavioral technology can assist with their goal. Such a goal can be described as what Ward and Houmanfar (2011) called the 'service-delivery' look of studies involving human simulations, though the rationales for effectiveness, what effectiveness is or how it is measured, and how it relates to the broader social context, remain untouched and unchallenged apart from what 'society' deems 'good'. In the behavior analytical tradition, there is little discussion on the differences between the demands presented by social problems and the broader social and political contexts in which these demands are inserted by the technology.

Some of this was noted by Holland (1974) in fact, when he turned to the revolutionary literature to find out more about how large social changes might be produced. The revolutionary literature has debated the dialectic interaction between the localized demand and the broader systems in which it is contextualized with definitions of two possible courses of action: 'reform' and 'revolution'. For instance, that contrast was presented on Rosa Luxemburg's famous socialist pamphlet published in 1900, *Reform and Revolution*. As Holland (1974) pointed out:

> When a revolutionary force seizes power, the revolution is not complete; it has barely begun. Let us suppose that the goal of the revolutionary society is one in which every citizen is truly equal in his status and in his access to material needs . . . Here the old reinforcement systems of competition, accumulation of wealth, and climbing in the elite system of power are to be replaced by altruism . . . Cooperation rather than competition would characterize society. Signs of separate managerial class or a separate intellectual or academic class would go unreinforced. (p. 205)

To succeed [revolutions], the reinforcement systems must change. Revolution requires remaking of man [*sic*]. (p. 206)

If the success of revolution depends on changing the nature of man [sic] or his values, then changing the nature of each individual's reinforcement system surely must be an important role for the science of behavioral modification. (p. 206)

Similarly, the manipulation of behavior through access to financial resources or monetary rewards, even though it might be effective experimentally, does not help challenge the effectiveness of such forms of reward itself, but preserves such reinforcement systems. The changes we should or ought to do, from a revolutionary perspective, should go beyond what Day (1977) called an "indirect reference to controlling agencies" (p. 13). Revolutionary change needs to challenge the controlling social and political contexts themselves.

The system allowing the particular arrange of controlling agencies we have today, if we can step out of behavioral science terminology, is related to what has been called *neo-capitalism* by the social sciences. This is, in fact, one of the main social contexts within which all the social behavior of people living today in western societies take place. Skinner's methods were clearly focused for good reason on increases and decreases in producing specified (good) behavior, but this is itself part of the background to neo-capitalism. The use of monetary 'reinforcers', for instance, is not a natural or neutral part of the social environment. For revolutionaries, those reinforcers are part of the problem. It follows, then, that there is crucial influence of broader controlling agencies on people's decisions involving how and whether to make social changes.

HOW DO WE DOCUMENT AND CHANGE SOCIAL CONTEXTS?

We have seen so far that moving behavior analysis straight from laboratory techniques to attempting social change has proceeded without acquiring expertise in analyzing the social and political contexts within which the participants are situated, and without analyzing the roles of those techniques within that social and political context itself. To go further we must, like Holland did to a small extent, go to those who know the social and political contexts better. This argues for a greater role in not blindly changing the behavior of communities because we are told behavior change is important, but in consulting and working with those communities to first document and understand the social contexts, and second to change what needs changing according to them.

While we should certainly learn more about social and political analysis from social anthropologists, political scientists and sociologists (Guerin, 2016), another important group is clearly going to be the people who are living in those social contexts. However, most of those living within a social system are likely to be unaware of the how the system is defining and controlling their behavior, or else complacent with the system especially if in positions of power and privilege.

This in turn suggests that it might actually be fruitful when attempting social change to consult with those who think about revolutionary strategies with respect to the large social and political system. We do not have to agree with all they say, but we should learn much about how change might be effected. If behavior analysts are tied to the systems, and we need to change people's behavior that currently lie within those systems, then we need to consult with those who are thinking already about how to change the systems for individuals and groups. Even if this means we begin to question whether we *should* be changing those behaviors, as we will see in our example below.

AN EXAMPLE OF SOCIAL CHANGE AND THE 'EXPERTS': CHANGING VIEWS OF HOMOSEXUALITY

We will now give an example of the above points, especially the last conclusion that consulting with those who are already involved in changing the social and political contexts can help with large social changes, and, indeed, that we would be foolish to not listen to them. For a behavior analysis of social change and even revolution, we need to work with community-based knowledge.

The interesting example can be found in fact in Holland's (1978) paper, *Behaviorism: Part of the problem or part of the solution?*, the author analyses 'problem' behaviors and the way they have been dealt with within behavior analysis, exemplified by three individuals: the alcoholic, the criminal, and the behavior analyst. As far as the analysis go, Holland points out that from the identification and characterization of the problem to the choices of treatment courses, broader social contingencies have an essential role. Here he focuses on the possible relationship between punishment techniques such as aversion therapy and the way society viewed certain categories of problems:

Perhaps given the way the problem is defined, the punishing aspects of the technique might actually

contribute to its use... It is interesting that aversive therapy is used almost exclusively for behaviors that in nontherapeutic settings are the object of severe sanction and retaliation. Many condone, or demand, the punishment of the homosexual, the child molester, the violent person, the drug addict, and the drunk [emphasis added]. These victims [emphasis added] are the object of scorn and retribution; they are also the object of aversion therapy. At the same time, aversion therapy is notably absent in the treatment of a number of problems that do not generally repulse others. The phobic is not shocked when he shows fear; nor is the under-assertive person shocked for passivity, unlike the over-assertive, aggressive prisoner. A homosexual may be shocked for having an erection when shown a photograph, but the patient in therapy for impotence is not shocked for failure to attain an erection in similar circumstances. If aversive therapy is at all effective, why is it reserved for acts viewed as despicable? Is there an element of social retaliation in its use? (Holland, 1978, p. 165)

While linking the behavior analysis technique to a societal issue is useful, a subtler limitation on the actions of behavior analysts remains but might be unnoticed — an aspect of the short-sightedness sometimes produced by the behavior analytical approach to social and cultural phenomena. In the passage above (underlined sections), the author lists problematic behaviors by referring to these as characteristics of the person, and then labels them automatically as 'victims'; these include 'the child molester', 'the violent person', 'the drug addict', and 'the drunk'. Of interest for our example here is Holland's inclusion in 1978 of 'the homosexual'. Like the others listed, 'the homosexual' is also seen

as a victim, but not of prejudice against their sexuality, but of their sexuality itself.

To be fair to behavior analysis and James Holland, they were no worse than the rest of the scientific community as a whole in 1978 regarding the understanding of homosexuality as a perversion rather than a natural aspect of sexuality. Further, aversive therapy was not only common but socially endorsed at that time, and homosexuality was treated as deviant behavior, just as it was referred to by the author in the passage above. In fairness, and as part of our argument, behavior analysis shows malleability and, when ethical questions about aversion therapy and 'conversion' to heterosexuality began to arise in academia, behavior analysts were some of the first to change: "these questions were raised, ironically, primarily by behaviorists who once boasted of 'success' in treating their homosexual clients" (Coleman, 1978, p. 354, referring specifically to Davison, 1977).

Our point here is to document briefly the links between the techniques of social change and the social and political context of that period. It is therefore important to highlight two aspects of this attitude shift that led to the abandonment of aversive therapies. First, there was no reason within the epistemology and approach of behavior analysis to consider homosexuality deviant or a perversion, even though initially the behavior analytic interventions included aversive therapy to 'convert' homosexuals into heterosexuals. This course of action taken by behavior analysis was obviously influenced by several dominant social contexts or controlling agencies, extraneous to behavior analysis but which in retrospect, were clearly involved in said approach to a very large extent. Second, there were reasons for abandoning aversive therapies that were extraneous to behavior analysis. Carvalho,

Silveira, and Dittrich (2011) have provided a thorough review of articles on homosexuality published in *The Journal of Applied Behavior Analysis* and come to the same conclusion, that the decisions made regarding changes the behavior analyst implemented were intrinsically and strongly related to the political and historical contemporary ideologies (Carvalho, Silveira, & Dittrich, 2011, p. 79).

We will attempt to illustrate these kind of influences on the behavior analytical thought with a few examples. Of importance to notice in the scenarios below is that the *LGBTQ communities of those days knew much of this and knew what changes needed to occur*. If those making the interventions had listened more to them, all of this could have been improved much earlier, although it might have needed something of a revolution for behavior analysts to get any changes made in removing such techniques because of the authorities in charge.

It is also important to note that the whole story about the depathologization of non-heterosexual sexual orientations is certainly more complex than we can describe here. What we would like to highlight, however, is that there has been influences from different sources, different knowledges whose combined influence changed cultural and scientific landscapes. In addition to grass root level activism, there were some academic knowledges that played a role in the slow change. For example, the Kinsley Reports were published in 1948, with considerable impact on the academic community by redefining homosexuality as part of a natural spectrum of sexuality, and not a 'sexual inversion', as it was widely referred to. Nonetheless, the American Psychiatric Association would only declassify homosexuality as a disorder in 1973, after a series of gay rights activists' demonstrations

challenging the APA's classification in the preceding years, in what was part of a momentous cultural change initiated in 1969 with the *Stonewall Riots*.

In terms of the community revolution or activism against the social and political systems in place, the rise of the Gay Liberation Movement in the 60s, not only kick-started modern changes on a broader acceptance of non-heterosexual sexual orientations in society but *also* in the academic community. The knowledge already consolidated within the LGBTQ community began to influence more outspokenly researchers, therapists, and the general public. Moral imperatives, rather than research results only, were brought into play within the intrinsically complex issue of the pathologization of non-normative sexualities. To illustrate the beginnings of the behaviorist shift towards what we now accept as scientifically accurate, drawing from knowledge produced in action, however precarious and lacking evidence (at the time), and influenced strongly by the LGBTQ community pleas for equality and acceptance, we give three passages from early issues of The Journal of Homosexuality:

> A statement of values: value judgments have always been implicit or explicit in research. Research on sexual behavior has not escaped subjective judgments. In the past, research designs into homosexual behavior have been replete with explicit negative injunctions. If the Editorial Board were polled, we would find most viewing homosexuality as a valid life-style. They would not perceive homosexuality per se as pathology. This bias on the part of the board members is not accidental. The board is composed mainly (but not exclusively) of those researchers and clinicians who eschew the medical model of homosexuality. Not viewing

homosexuality as a pathology per se is simply an outcome of this rejection. (Silverstein, 1976, p. 5. On the Editorial of The Journal of Homosexuality's inaugural issue)

And indeed, I tend to believe the evidence is still lacking for a suppression of homosexual behavior or ideation via aversive procedures. Nonetheless, even if one were to demonstrate that a particular sexual preference could indeed be wiped out by a negative learning experience, there remains the question as to how relevant this kind of data is to the ethical question of whether one should engage in such behavior change regimens. In discussing this possibility with some students and colleagues, I was convinced that data on efficacy are quite irrelevant. Even if we could effect certain changes, there is still the more important question of whether we should. I believe we should not. (Davison, 1977, p. 203)

On what basis do we come to conceive of homosexuality as a 'life-style' in contrast to a 'behavioral problem'? I do not believe this is an empirical question. That is, I do not believe homosexuality can be demonstrated to be either one or the other on the basis of any study. ... At best, they only confirm the hypothesis that homosexual persons are not as crazy as many have hitherto believed... Homosexuality has not been classified as a 'mental illness' on the basis of presumptions about a showing on measures of adjustment. It has been so categorized because it is perceived as a significant departure from acceptable standards of conduct in the area of sexual behavior. ..

Coming to regard homosexuality as simply another life-style in contrast to a disorder . . . is not equivalent to learning something new about homosexuality; it is more akin to judging it differently, while in possession of the same old facts. (Begelman, 1977, p. 218)

The LGBTQ rights movement was on the rise in 1978 (the year of the publication of Behaviorism: Part of the problem or part of the solution?), and our guess is that the average behavior analyst would have been oblivious to these movements at this time, and therefore not questioned intervention techniques which seemed natural extensions of behavioral epistemology and principles. Because there was no consultation with the communities of interest, which would have included the LGBTQ communities, the description of the social context producing the 'homosexual' behaviors and the techniques to do the appropriate thing and convert them, was never questioned. This was only one important issue facing society but our main point is that this should not happen again, even though it is probably occurring now and we need to be vigilant and aware of what communities around us are saying.

CONCLUDING REMARKS

Behavior analysis can be a powerful tool for change when we accept and embrace community-based knowledge and, even more importantly, acknowledge and check the political and social contexts influencing the decisions made by the behavior analyst on what changes to promote and how. Accepting those kinds of knowledges into a behavior analytical account does not propel us toward a major epistemological shift, rather it simply highlights the *historical* aspect of social behavior.

The history of a given social behavior presents itself in the form of its context, and that implies great complexity. "Old reinforcement systems" (Holland, 1974, p. 205) can be acritically documented and promoted, or we could challenge the system as a whole. The example of using money-as-reinforcer should demonstrate the pervasiveness of such systems, and how they sometimes remain unchallenged. The example on changing view of homosexuality should illustrate how subtle (and yet flagrant in hindsight) the problems created by overlooking the community history when planning intervention can be. They are subtle, however, only regarding our scientific discourse, as the outcomes for the community affected by any intervention can be enormous. A sensible way to minimize these harmful effects is consulting with those who are in a more direct contact with the systems we wish to change, and then revaluate goals and procedures based on that consultation.

REFERENCES

- Baum, W. M. (2002). From molecular to molar: A paradigm shift in behavior analysis. *Journal of the Experimental Analysis of Behavior*, *78*(1), 95–116.
- Baum, W. M. (2004). Molar and molecular views of choice. *Behavioural Processes*, *66*(3), 349–359.
- Baum, W. M. (2013). What counts as behavior? The molar multiscale view. *The Behavior Analyst*, *36*(2), 283–293.
- Begelman, D. A. (1977). Homosexuality and the ethics of behavioral intervention. Paper 3. *Journal of Homosexuality*, *2*(3), 213–219.
- Carvalho, M. R. A., Silveira, J. M. da, & Dittrich, A. (2011). Tratamento dado ao tema "homossexualidade" em artigos do Journal of Applied Behavior Analysis: Uma revisão crítica [Articles on homosexuality in the Journal of Applied Behavior Analysis: A critical review]. *Brazilian Journal of Behavior Analysis*, 7, 72–81.

- Catania, A. C. (1992). B. F. Skinner, organism. *American Psychologist*, *47*(11), 1521–1530.
- Chiesa, M. (1994). *Radical behaviorism: The philosophy and the science*. Boston: Authors Cooperative.
- Coleman, E. (1978). Toward a new model of treatment of homosexuality: A review. *Journal of Homosexuality*, *3*(4), 345–359.
- Davison, G. C. (1977). Homosexuality and the ethics of behavioral intervention. Paper 1: Homosexuality, the ethical challenge. *Journal of Homosexuality*, 2(3), 195–204.
- Day, W. (1977). Ethical philosophy and the thought of B. F. Skinner.
 In J. E. Krapfl & E. A. Vargas (Eds.), *Behaviorism and ethics* (pp. 7–28). Kalamazoo, Michigan: Behaviordelia.
- Ferster, C. B., & Skinner, B. F. (1957). *Schedules of reinforcement*. New York: Appleton-Century-Crofts.
- Guerin, B. (1994). *Analyzing social behavior: Behavior analysis and the social sciences*. Reno: Context Press.
- Guerin, B. (2016). *How to rethink human behavior: A practical guide to social contextual analysis.* London: Routledge.
- Hayes, L. J., & Fryling, M. J. (2015). A historical perspective on the future of behavior science. *The Behavior Analyst*. <u>http://doi.org/10.1007/s40614-015-0030-9</u>.
- Holland, J. G. (1973). ¿Servirán los principios conductuales para los revolucionarios? In F. S. Keller & E. Ribes-Iñesta (Eds.), *Modificación de conduta: Aplicaciones a la educación* (pp. 265–281). Mexico: Trillas.
- Holland, J. G. (1974). Are behavioral principles for revolutionaries? In F. S. Keller & E. Ribes-Iñesta (Eds.), *Behavior modification: Applications to education* (pp. 195–208). New York: Academic Press.
- Holland, J. G. (1978). Behaviorism: Part of the problem or part of the solution? *Journal of Applied Behavior Analysis*, *11*(1), 163–174.

- Lee, V. L. (1992). Transdermal interpretation of the subject matter of behavior analysis. *American Psychologist*, *47*(11), 1337–1343.
- Lee, V. L. (1999). "Behavior" does not mean "behavior of the organism": Why conceptual revision is needed in behavior analysis. *Behavior and Social Issues*, 6, 67–80.
- Marx, K. (1952). *Capital: Volume 1.* Chicago: Encyclopaedia Britannica. (Original work published 1809).
- Marx, K. (1962). *Selected writings in sociology and social philosophy*. London: Penguin Books.
- Silverstein, C. (1976). Editorial. *Journal of Homosexuality*, *1*(1), 5–7.
- Simmel, G. (1978). *The philosophy of money*. London: Routledge & Kegan Paul. (Original work published 1907).
- Skinner, B. F. (1953). *Science and human behavior*. New York: Free Press.
- Skinner, B. F. (1963). Operant behavior. American Psychologist, 18(8), 503–515.
- Skinner, B. F. (1969). *Contingencies of reinforcement: A theoretical analysis*. New York: Appleton-Century-Crofts.
- Skinner, B. F. (1986). What is wrong with daily life in the western world? *American Psychologist*, *41*(5), 568–574.
- Thompson, T., & Zeiler, M. D. (Eds.). (1986). *Analysis* and integration of behavioral units. NY: Psychology Press.
- Ward, T. A., & Houmanfar, R. (2011). Human simulations in behavior analysis (1987-2010): Facilitating research in complex human behavior. *Behavior and Social Issues*, *20*, 72–101.
- Willems, E. P. (1974). Behavioral technology and behavioral ecology. *Journal of Applied Behavior Analysis*, 7(1), 151–165.