Rethinking Dissemination: Storytelling as a Part of the Repertoire

Ronnie Detrich¹

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From the very early days of behavior analysis the mission has included “better living through behaviorism” with the goal of bringing behavioral technology to every aspect of human activity (e.g., Skinner, 1948). In their seminal paper on applied behavior analysis, Baer, Wolf, and Risley (1968) offered the following observation about dissemination: “...It is a fair presumption that behavioral applications, when effective, can sometimes lead to social approval and adoption” (1968, p. 91). Yet, the general conclusion among contemporary behavior analysts is that the social approval and adoption rate has been disappointingly slow and the dream of “better living through behaviorism” has not been realized at scales of social importance (Bailey, 1991; Doughty, Holloway, Shields, & Kennedy, 2012; Foxx, 1996; Skinner, 1981). We built a better mousetrap but the world did not beat a path to our door. It is somewhat ironic that what is arguably a science of influence (behavior analysis) has not been more effective at influencing the adoption rate of a science of influence.

A frequent proposal in the scholarly literature is that if behavior analysts used more accessible language for the broader public, there would be greater adoption of behavioral science (Bailey, 1991; Doughty et al., 2012; Foxx, 1996). Recently, there has been some empirical evidence to justify this assertion that the language of behavior analysts may be an obstacle to greater impact (Becirevic, Critchfield, & Reed, 2016; Critchfield et al., 2017; Jarmolowicz et al., 2008). In addition to changing our language when speaking with a non-behavior analytic audience, it may be an opportune time to re-think our dissemination efforts more completely. The very long baseline establishing the

✉ Ronnie Detrich
rdetrich@winginstitute.org

¹ Wing Institute, 2102 Dennison Street, Suite B, Oakland, CA 94606, USA

generally slow pace of adoption should occasion an exploration of other means of dissemination. Hineline's (2018) discussion of narrative offers an opportunity to consider the role of storytelling as a mechanism for dissemination. In his discussion, Hineline suggests that storytelling has been an effective means of influence by fundraisers and politicians (among others). In this essay, the aim is to address the practical value of storytelling as a means of disseminating behavior analysis (social influence).

A Functional Definition of Dissemination

Before discussing the role of storytelling in dissemination, a consideration of the definition of dissemination is warranted. Behavior analysis is rooted in pragmatism (Hayes, 1993) and its truth criterion is successful working with respect to a particular goal. From the perspective of pragmatism, a definition of dissemination is that it has been achieved only when a practice has been adopted (successful working). This functional approach is consistent with the way in which reinforcement is defined (e.g., Skinner, 1938). It is also different from the more common approach to dissemination that is topography based. Topography-based approaches are defined by the form of the behavior (e.g., publication) rather than the effect. The assumption being that dissemination occurs any time someone attempts to disseminate.

The most common dissemination efforts by behavior analysts are publications in scholarly journals and presentations at professional conferences. These efforts reach a very small subset of the potential audience for behavior analytic theory and practice. Other audiences include parents, educators, physicians, policy-makers, and anyone else involved in behavior change enterprises. The common feature across all of these is that they are not likely to read professional behavior analytic publications or attend conferences where behavior analysts are presenting. If dissemination to non-behavior analytic audiences is the goal, these strategies will not work because the intended audience is not listening. If we are to influence adoption rates among those audiences then it is necessary to utilize media that are more likely to reach them. Storytelling is one viable candidate.

Greenhalgh et al. (2004) have made a distinction between passive approaches to dissemination, "letting it happen," and active approaches, "making it happen." Passive approaches to dissemination are equivalent to the "train and hope" strategy in generalization (Stokes & Baer, 1977) and are likely to be about as effective. Publications and conference presentations are passive approaches. Active approaches "make it happen" by working directly with the relevant audience to systematically facilitate adoption of an innovation.

If we accept the functional definition of dissemination then it places dissemination efforts in the domain of operant behavior. One of Skinner's many important contributions was the concept of the generic nature of the operant (Skinner, 1969). In this concept, an operant can range from a simple, discrete bit of behavior to much more complex forms. In the experimental literature, there are instances in which a single key peck satisfies the reinforcement contingency and, in other instances, such as in the study of creativity, a pattern of pecks different from the previous n are necessary to meet the reinforcement contingency (Neuringer, 2003). Both the simple key peck and

an extended pattern of behavior can be members of the same operant class if they are maintained by the same reinforcement contingency. Dissemination is a class of operant responses that can vary in topography (e.g., publication versus storytelling) but are members of the same class to the extent that, at least occasionally, they produce the same consequence- adoption. Including storytelling as a member of this operant class expands the behavior analyst's dissemination repertoire beyond the narrowly defined topographies of publication and presentation and become more effective in disseminating our science and technology.

Hineline (2018) conceptualized storytelling within a speaker/listener paradigm. As a dissemination tactic, the function of storytelling (speaking) is to influence a listener to adopt a particular practice. A complete framework of dissemination must account for the behavior of the disseminator and adopter (note that adopting a practice is also operant behavior). The task for the behavior analyst is to identify those behaviors of the speaker that have the highest probability of contacting reinforcement (adoption) and to identify variables influencing adoption.

Skinner's (1957) analysis of verbal behavior provides a useful starting point. Here a brief review of manding and tacting is necessary. A mand is a verbal operant that specifies its reinforcement. For example, a speaker says "bring me water." The reinforcement for this statement is water. A tact is a verbal operant that labels or identifies a feature of the environment and is maintained by generalized social reinforcement such as praise or agreement. For example, a child sees a horse, says "horse," and the parent says "yes, that is a horse!" In this example, the reinforcement is agreement with the child, a generalized social reinforcer.

When a speaker tells a story as part of a dissemination strategy that speaker is manding for adoption, even if that mand has many topographical features of a tact. The story is probably more effective if it is not obviously a mand. Politicians have long used storytelling as a means of manding for votes. For example, in nearly every election cycle one will encounter a television advertisement in which a constituent tells an inspirational story about a candidate's passion, values, and effectiveness. For instance, "When Senator Jones heard about the water problem at our elementary school she worked night and day to make sure our kids could be educated in safety...." Sometimes the story communicates that a candidate's political opponent does not share the proper values and, if elected, will take actions that can harm the subject of the story and, by extension, the voters. For instance: "Mr. Smith wants to cut funding for our schools. If Mr. Smith is elected, we will not be able to make our aging schools a safe place for our children to be educated."

An Emerging Science of Dissemination

Behavior analysts are not the only group of scientists and scholars who are concerned with effective dissemination of science to a broader audience. Scientists across many disciplines are equally concerned about "getting their message out." In his classic work, *Diffusion of Innovations*, Rogers (2003) argued that diffusion (for the purposes here diffusion is a synonym for dissemination) is a social process rather than a technical matter. Characterizing dissemination as a social process makes the analysis of speaker/listener relations relevant to understanding and improving dissemination efforts. One of

Rogers' key suggestion was that the innovation has to be compatible with the values, beliefs, and past experiences of individuals in a social system if it is to be adopted. Only if a speaker has a good understanding of the audience can storytelling be an effective means of relating an innovation to values, beliefs, and experiences of the listener.

In *Escape from the Ivory Tower*, Baron (2010) argued that speaking and writing for a scientific audience requires a different repertoire than is effective for communicating with journalists and policymakers. She further argued many scientists have not developed the necessary repertoire. In scientific writing, the usual approach is for the researcher to define the problem and what is known about it, describe how the problem was studied in a particular instance, report the outcome of the research, and discuss why it is important. From the perspective of journalism, scientists "bury the lead" by waiting until the results section to tell what happened. Effective journalism usually tells what happens in the first paragraph, and the story is often best told by personalizing it by telling the story from the perspective of one person.

In the context of dissemination, the importance of storytelling is the effect on the audience. To understand the decision to adopt, it is necessary to understand the variables influencing the listener. When considering the behavior of the listener, it may be useful to think of adoption as the end result of a decision-making process. It is reasonable to assume that the decision-maker is trying to solve some problem. It is easy for the behavior analyst to fall into the trap of assuming that everyone is persuaded by data in the same way that behavior analysts are and dismiss as irrational or foolish those who are not. However, this is not productive if the goal is to influence the rate of adoption.

Decision-making is often presumed to be a rational process; however, it has been well documented that often this presumption is unwarranted (Kahneman, 2011). Kahneman (2011) and Thaler (2015) have recently won Nobel Prizes for their work demonstrating the irrationality of decision-making. Behavior analysts have a long tradition of researching the topics of behavioral economics and delay discounting that contribute to the literature on the so-called irrationality of behavior (Madden & Bickel, 2010).

One can think of a decision to adopt as choosing from an array of options. For decades behavior analysts have extensively studied choice in a concurrent operants paradigm (Herrnstein, Rachlin, & Laibson, 1997). The matching law summarizes the relation between the rate of reinforcement and response allocation across the options (choices). The basic relation is that responses are allocated to match the rate of reinforcement on each of the alternatives. This is the rational part of choosing. The irrational aspects of choosing under concurrent reinforcement schedules are labeled as bias, and consist of preference for one response option that is unrelated to reinforcement.

Emotion is a source of bias and often influences decision-making (Kahneman, 2011). Marketing firms have long understood this, and consequently often tailor commercials to appeal to emotion. From the days in which long-distance phone calls were a pricey commodity, consider AT&T's "Reach out and Touch Someone" campaign featuring brief heart-warming stories of the powerful emotional connection that can happen with a phone call. The commercials were designed so that the viewer would identify with the story and make a phone call to a loved one. The available evidence

suggests that the frequency of long distance phone calls did increase (Weinberger, Campbell, & Brody, 1994).

Another example of an emotional appeal is the “Don’t Mess with Texas” anti-littering campaign. The goal of the campaign was to reduce roadside litter. To accomplish this, the directors of the campaign organized an initiative that directly appealed to Texans’ pride in their state with a specific focus on men aged 18–35 who were the primary contributors to roadside litter. The first 30 s public service announcement featured Stevie Ray Vaughn sitting in front of a large Texas flag playing *The Eyes of Texas*. During the playing, there was a voiceover describing the costs of cleaning up roadside litter and at the end of the announcement Stevie Ray Vaughn stopped playing his guitar, looked directly into the camera, and very coolly said, “Don’t mess with Texas.” For Texans, the flag and song are powerful, emotionally evocative stimuli, and at that time Stevie Ray Vaughn was an icon to this target population. Later public service announcements centered around the phrase “Don’t Mess with Texas” featured other Texas musical icons such as Willie Nelson, the Fabulous Thunderbirds, and George Strait. Likely as a result, between 1986 and 1990 roadside litter was reduced by 72% (McClure & Spence, 2006). This campaign illustrates the power of an emotionally charged message using cultural symbols to change behavior. This same approach likely would not have been as effective if applied to other states (e.g., “Don’t Mess with Rhode Island”) in which different cultural values and identities are prevalent.

More pertinent to behavior analysis is Catherine Maurice’s (1993) book, *Let Me Hear Your Voice*. This story of one mother’s search for an effective treatment for her two children with autism arguably has had a greater impact on the demand for behaviorally based autism services than any other factor, including all of the relevant published scientific research. She most likely would not be remembered as one of the great disseminators of applied behavior analysis had she penned a summary of evidence on its effectiveness. Her story had the capacity to bring tears in a way that no statistical table ever could. The research was necessary, but not sufficient, to have significant influence on the adoption of behavioral treatment for children with autism. Maurice’s emotionally evocative story resulted in many more parents advocating for early intensive behavioral intervention for their children. Driven by the demand for responsible qualified practitioners, the Behavior Analyst Certification Board® was created in 1999. Since that time, the number of Board Certified Behavior Analysts (BCBA) has increased dramatically (Deochand & Fuqua, 2016) and most of the those with the BCBA certification are working with children with autism. In response to this increased demand more universities than ever before are providing courses of study to prepare well-trained behavior analytic practitioners. Parents, now connected to the culture of an evidence-based practice, have become involved in the public policy arena advocating so that services for their children will be covered by health insurance policies. The wide-scale adoption of early intervention for children with autism is the most successful dissemination effort in behavior analysis. *Let Me Hear Your Voice* was a major impetus for this.

Lessons for Behavior Analysts

Given the impact of *Let Me Hear Your Voice*, the question becomes are there general lessons to be drawn from this story that can be applied to other domains. There are.

Rogers (2003) identified several variables that influence the adoption of an innovation, including: (1) the innovation has to solve an important problem for the “client;” (2) the innovation must have a relative advantage over current practice; (3) the person championing the innovation must be seen as credible by the client; (4) the innovation must be compatible with the existing values, experiences, and the needs of the intended audience. All of these factors can be seen to operate in Maurice’s story. For example, regarding the third factor, Maurice was the right story-teller. As a capable writer, intelligent professional, and (perhaps most importantly) parent of children with autism, Catherine Maurice was likely to be seen as credible by the book’s primary audience, parents of children with autism. Her description of a desperate quest to find effective services for her children were similar to the experiences and needs of many other parents of children with autism. In addition, they likely shared the same values regarding doing whatever was necessary to provide the best opportunities for their children.

When considering the broader dissemination of behavior analysis, at least two key points can be derived from the present discussion. The first is that if we are to be effective in disseminating behavior analysis, we must be functional and pragmatic in our approach and define the audience that we are trying to reach. It is important to recognize that not all audiences are the same and will not be affected by the same story. Hart and Risley’s (1995) work on the language development of young children has been well recognized. This work inspired the 30 Million Words initiative that has been implemented in a number of cities across the United States (Suskind & Suskind, 2015). To realize the goal of implementing this project it is necessary that policymakers adopt it so that there will be funding for it. Once funding has been secured, it is necessary to find and train service providers who are willing to implement the program. Finally, parents must be recruited to participate. Very different repertoires, for instance, are required for working with policymakers than working with parents. In all instances, the problem is the same; getting the 30 Million Words initiative adopted; however, each of these groups constitutes a different audience with different values, norms, and contingencies influencing them. Influencing each of these groups will involve different stories. Championing this project begins with determining who the different audiences are and developing a solid understanding of the variables influencing them. Only then can stories that appeal to each group be constructed. This is a complex task and may best be accomplished by a team of “story tellers” who have the necessary skills to work with these different audiences.

If we are to reach different audiences it is important to identify the specific cultural values and norms influencing them. To do this, the behavior analyst should function as a cultural anthropologist. As part of the anthropological investigation, the behavior analyst must learn what the culture defines as important problems. Strain, Barton, and Dunlap (2012) provided a convincing account of the importance of understanding the client’s values and definition of what is important before intervening, and suggested that, had they not collected social validity data prior to implementing an intervention, they would have selected the wrong behavior change goals and intervention. Quoting from Strain et al. (2012):

Our preconceived notion was that families would be most interested in their children displaying specific developmental skills associated with routines, such as

independently dressing self, feeding, and tooth brushing. Relatedly, we also expected that families would be focused on communication skills such as expressing one's needs, wants, and discomforts. Contrary to our a priori judgments, families were most interested in completing routines in a timely fashion. (p. 184).

It was in collecting up-front social validity data that Strain and colleagues functioned as cultural anthropologists. These data taught them about client values, and their work was the better for it. This approach is consistent with Rogers' (2003) dissemination framework, and also exemplifies the dynamic interaction between speaker and listener. In asking the social validity questions, the researchers were the speakers. When answering the questions, the families became the speakers and the researchers the listeners. As researchers made their recommendations for intervention, they were again the speaker, and the parents became the listener who made the final adoption decision to either accept or reject the recommendations.

A second lesson that can be derived is that scientists in general and behavior analysts in particular may not have the necessary repertoire to be effective storytellers. Most scientists do not tell a story with the panache of a Catherine Maurice. For example, it is reasonable to suggest that Maurice was more effective than Ivar Lovaas¹ in disseminating behavioral interventions for children with autism. As a consequence, scientists may not be the best choice for disseminating their science. Scientists, after all, are products of graduate training programs, which teach a precise technical language that allows communication with other scientists, within a very particular narrative structure (e.g., Introduction, Method, Results, Discussion). Despite its benefits to scholarly discourse, this language and narrative structure may serve as impediments in attempts to dissemination to non-scientific audiences (Baron, 2010; Critchfield et al., 2017; Jarmolowicz et al., 2008).

Effective dissemination of behavior analysis to a broader audience will require expanding our repertoires and learning how to tell stories that are compelling and engaging. This may necessitate that we take classes or workshops in storytelling to develop the relevant repertoire. Olson (2015), was a marine biologist and tenured professor at the University of New Hampshire before leaving academia and enrolling in the University of Southern California's film school. His aim was to use film to better communicate the threats of climate change. Extending one's behavioral repertoire to better disseminate the science of behavior is the goal; adapting one's behavior to fit local circumstances is the essence of selection and is consistent with our functional, pragmatic roots. Restricting our repertoire to only those relevant to scientific audiences restricts our scope of influence. Form should follow function.

Hineline's (2018) essay is a good start to the understanding of narrative and the role it plays in human affairs. As Hineline asserted, the task for behavior analysts is to contribute to the scientific understanding of narrative and, at the same time, use narrative to reach to a broader audience about what we have learned. These different tasks entail entirely different repertoires. In the first instance, narrative is the dependent variable and the subject matter for science. In the second instance, narrative is the independent variable and is a tactic for influencing the rate of adoption. At this stage of our science, the ability to analyze phenomena is more fully developed than our ability

¹ Whom many would consider a fairly gifted storyteller, at least for a scientist.

to disseminate our findings. Our field will benefit from a thorough understanding of the science of dissemination as we work to achieve the dream of “better living through behaviorism.” This will be a great story to tell.

References

- Baer, D. M., Wolf, M. M., & Risley, T. R. (1968). Some current dimensions of applied behavior analysis. *Journal of Applied Behavior Analysis*, 1(1), 91–97.
- Bailey, J. S. (1991). Marketing behavior analysis requires different talk. *Journal of Applied Behavior Analysis*, 24(3), 445–448.
- Baron, N. (2010). *Escape from the ivory tower: A guide to making your science matter*. Washington DC: Island Press.
- Becirevic, A., Critchfield, T. S., & Reed, D. D. (2016). On the social acceptability of behavior-analytic terms: Crowdsourced comparisons of lay and technical language. *The Behavior Analyst*, 39(2), 305–317.
- Critchfield, T. S., Doepke, K. J., Epting, L. K., Becirevic, A., Reed, D. D., Fienup, D. M., ... Ecott, C. L. (2017). Normative emotional responses to behavior analysis jargon or how not to use words to win friends and influence people. *Behavior Analysis in Practice*, 10(2), 97–106.
- Deochand, N., & Fuqua, R. W. (2016). BACB certification trends: State of the states (1999 to 2014). *Behavior Analysis in Practice*, 9(3), 243–252.
- Doughty, A. H., Holloway, C., Shields, M. C., & Kennedy, L. E. (2012). Marketing behavior analysis requires (really) different talk: A critique of Kohn (2005) and a (nother) call to arms. *Behavior and Social Issues*, 21, 115–134.
- Foxx, R. M. (1996). Translating the covenant: the behavior analyst as ambassador and translator. *The Behavior Analyst*, 19(2), 147–161.
- Greenhalgh, T., Robert, G., Bate, P., Kyriakidou, O., Macfarlane, F., & Peacock, R. (2004). How to spread good ideas. A systematic review of the literature on diffusion, dissemination and sustainability of innovations in health service delivery and organisation. Retrieved from <https://owl.english.purdue.edu/owl/resource/560/10/>.
- Hart, B., & Risley, T. R. (1995). *Meaningful differences in the everyday experience of young American children*. Baltimore, MD: Paul H Brookes Publishing.
- Hayes, S. C. (1993). Analytic goals and the varieties of scientific contextualism. In S. C. Hayes, L. J. Hayes, H. W. Reese, & T. R. Sarbin (Eds.), *Varieties of scientific contextualism* (pp. 11–27). Reno, NV: Context Press.
- Herrnstein, R. J., Rachlin, H., & Laibson, D. I. (1997). *The matching law*. Cambridge, MA: Russell Sage Foundation.
- Hineline, P. N. (2018). Narrative: Why it's important and how it works. *Perspectives in Behavior Science*.
- Jarmolowicz, D. P., Kahng, S., Ingvarsson, E. T., Goysovich, R., Heggemeyer, R., & Gregory, M. K. (2008). Effects of conversational versus technical language on treatment preference and integrity. *Intellectual and Developmental Disabilities*, 46(3), 190–199.
- Kahneman, D. (2011). *Thinking, fast and slow*. NY, NY: Macmillan.
- Madden, G. J., & Bickel, W. K. (2010). *Impulsivity: The behavioral and neurological science of discounting*. Washington DC: American Psychological Association.
- Maurice, C. (1993). *Let me hear your voice: A family's triumph over autism*. Ballantine Books. NY, NY: Fawcett.
- McClure, T., & Spence, R. (2006). *Don't mess with Texas: The story behind the legend*. Austin, Tx. Idea City Press.
- Neuringer, A. (2003). Creativity and reinforced variability. In K. A. Lattal & M. Perone (Eds.), *Behavior theory and philosophy* (pp. 323–338). Springer US.
- Olson, R. (2015). *Houston, we have a narrative: Why science needs story*. Chicago, IL: University of Chicago Press.
- Rogers, E. M. (2003). *Diffusion of innovations*. New York: Free Press.
- Skinner, B. F. (1938). *The behavior of organisms*. New York: D. Appleton & Co.
- Skinner, B. F. (1948). *Walden two*. New York: Hackett.
- Skinner, B. F. (1957). *Verbal behavior*. New York: Appleton-Century-Crofts.
- Skinner, B. F. (1969). *Contingencies of reinforcement: A theoretical analysis*. New York: Appleton-Century-Crofts.
- Skinner, B. F. (1981, May). We happy few, but why so few. In meeting of the Association for Behavior Analysis, Milwaukee, WI.
- Stokes, T. F., & Baer, D. M. (1977). An implicit technology of generalization. *Journal of Applied Behavior Analysis*, 10(2), 349–367.

- Strain, P. S., Barton, E. E., & Dunlap, G. (2012). Lessons learned about the utility of social validity. *Education and Treatment of Children*, 35(2), 183–200.
- Suskind, D., & Suskind, B. (2015). *Thirty million words: How to build a child's brain*. NY, NY: Dutton Adult.
- Thaler, R. H. (2015). *Misbehaving: The making of behavioral economics*. NY, NY: WW Norton & Company.
- Weinberger, M. G., Campbell, L., & Brody, B. (1994). *Effective radio advertising*. Lanham, MD: Lexington Books.