Introduction to the Special Issue on Conceptual Developments in Relational Frame Theory: Background, Content, and the Challenge Going Forward

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In 2015, Relational Frame Theory (RFT; Hayes, Barnes-Holmes, & Roche, 2001) reached approximately 30 years of age. We make that claim in the sense that, "The first detailed presentation of the RFT idea was in an invited address. . . at the Association for Behavior Analysis meeting in Columbus, Ohio in 1985 entitled Verbal behavior, equivalence classes, and rules: New definitions, data, and directions" (Hayes, 2001, viii). Thirty years is a long time in science and it constitutes quite a professional investment by those who have spent most of their careers working on the theory itself. In this context, there may be a tendency among those most closely connected with the theory to show some reticence in seeking to develop or extend the account, much less alter or transform it in some fundamental way. Such resistance is easy to understand as a natural human reaction to protect something in which an individual or group has invested so much time and energy. And of course, science is quite sensibly a relatively conservative activity, which typically avoids rapid large-scale change unless there is strong and compelling empirical evidence to support an alternative perspective or view.

While recognizing the importance of conservatism in the scientific enterprise, both basic and applied, we would argue that after more than 30 years it may be time to reflect upon the extent to which RFT has developed conceptually and is continuing to do so, especially since the first full book-length treatment of the theory (Hayes, et al., 2001), which is itself approaching 20 years of age. In so doing, we would hope to build on the strengths of the theory and the advances it has allowed behavioral psychology to make in creating a modern, functional-analytic approach to human language and cognition (see Barnes-Holmes, Barnes-Holmes, Hussey, & Luciano, 2016; Dymond & Roche, 2012; Hughes & Barnes-Holmes, 2016a; 2016b). We believe that in focusing on current and future conceptual development, both the basic science and its application may benefit (see Barnes-Holmes, Hussey, McEnteggart, & Barnes-Holmes, 2016). Indeed, as we hope will become clear, a large part of

the motivation behind focusing upon ongoing conceptual development for RFT is to facilitate and enhance the reticulating model of basic and applied science, and practice, that lies at the heart of the contextual behavioral science tradition (Hayes, Barnes-Holmes, & Wilson, 2012; Zettle, Hayes, Barnes-Holmes, & Biglan, 2016). We should add, however, that in calling for a greater focus on conceptual development in RFT, we are not advocating for an intellectual "free-for-all" or "anything goes" approach. Indeed, quite the contrary – as we will make clear toward the end of this introduction, we believe that it is vitally important that RFT remains a monistic, functional-analytic abstractive theory of human language and cognition with its roots remaining firmly planted in the Skinnerian tradition from which it originally grew.

Background to the Current Special Issue

The basis for the current special issue of the *Journal of Contextual Behavioral Science* (JCBS) on conceptual developments in RFT may be traced back to two events. The first of these was a "mini-conference" on RFT at Uppsala University, Sweden, and the other was the launching of JCBS. Toward the end of that conference, the four editors discussed the idea of asking those participants who had presented work at the meeting, and which appeared to constitute a conceptual development in RFT, to consider writing an article for the recently launched JCBS. The first editor of JCBS, Joseph Ciarrochi, was contacted shortly thereafter and he agreed to the idea of a special issue. Of course, that was some years ago now, and what might have been considered a conceptual development at that time may seem somewhat dated today. Producing a special issue on conceptual developments in RFT has thus proven to be something of a moving target. Consequently, some of the authors of the articles that appear in the current volume did not attend the meeting in Sweden, but in the interim years they produced some work that appeared to constitute a conceptual development in the theory itself or that could have substantive conceptual implications. Although trying to hit a moving target can be difficult and frustrating, the editors of the current special issue are encouraged by the

fact that even as we write this introductory article we are aware of conceptual developments that are unfolding, but are not presented here. This, we believe, is a healthy sign for RFT because it means that the theory remains a work in progress and as such could continue to be a source of inspiration for basic and applied researchers, and for practitioners, for many years to come.

The Articles

The first three articles offer examples of conceptual development in RFT itself. The first of these, by Hayes and colleagues, considers how RFT could be developed to connect more directly with the six interlocking features of modern evolution science: variation, selection, retention, context, dimension, and level. The second article, by D. Barnes-Holmes and colleagues, offers a multi-level multi-dimensional framework for analyzing the dynamics of arbitrarily applicable relational responding. And the third article, by McLoughlin and Stewart, provides an experimental analysis of relating relational networks in a manner that has received limited attention in previously published studies.

The next two articles consider potentially important implications for the ongoing conceptual development of RFT. The first of these, by DeHouwer and Hughes, focuses on a recent functional-analytic definition of learning as the impact of regularities in the environment on behavior, and considers how this definition may be useful in conceptualizing learning from the perspective of RFT. The second paper, by Vahey and colleagues, considers how research in cognitive neuroscience on habits and fear could potentially influence future RFT research in terms of making novel predictions.

The following two papers focus on different areas of application that have implications for the ongoing conceptual development of RFT itself. The first of these, by Dixon and colleagues, presents research that highlights the relevance of RFT to an area that is not frequently associated with the theory, that of challenging behaviors in children with autism.

The second paper, by Y. Barnes-Holmes and colleagues, presents two clinical case studies, the discussion of which highlights the ongoing effort to connect RFT concepts to the therapy environment.

The final paper, by De Schryver and colleagues, is technical in nature and offers an alternative scoring algorithm for the Implicit Relational Assessment Procedure (IRAP). The IRAP was derived directly from RFT, but the scoring algorithm typically employed with the procedure (the D-score) is closely linked to "mainstream" psychometric assumptions. The alternative measure is probabilistic and semi-parametric, and thus may fit better with ongoing development of the IRAP as a measure of relational framing itself.

The Challenge Going Forward

In reflecting upon the eight papers contained in the current special issue, the sheer scope and ambition of RFT, as a "grand" theory of human language and cognition, become apparent. From linking the theory with modern evolution science (and neuroscience), with the treatment of challenging behaviors in children with autism, and with the impact of trauma on the "self" in psychotherapy, and even to a new algorithm for measuring the strength of relational framing -- the range of issues covered could indeed appear disorienting, at least to those not familiar with the theory. Consider also that RFT constitutes a monistic, functional-analytic abstractive account of human language and cognition, with its roots firmly planted in the Skinnerian tradition, which resides some distance from many of the explicit and implicit assumptions of mainstream psychological science. And, it is not difficult to appreciate the challenges that RFT faces as it continues to develop conceptually.

In one sense, the most significant challenge that the theory faces, conceptually, is the domain upon which it is targeted – human language and cognition. Why do we say that? Well, in our view, the evolution of human language and cognition gave rise to dualism. Indeed, in a sense they *are* dualism in that human language and cognition generate the ability to separate

our experience of the world into events that are increasingly abstract and disconnected from physical "reality." And one of the most abstract and disconnected separations that emerges is between mind and body. From an RFT perspective, human language is largely responsible for creating the human experience of a non-physical, incorporeal "space" called the human mind, which interacts with our physical bodies, and gives us purpose, reason, understanding, a sense of self, and so on. As a naturalistic and monistic theory, however, RFT eschews dualism, although it attempts to explain why dualism, as a verbal behavior, emerges with the evolution of human language (see Hayes, 1984). This, in our view, is a precarious, or perhaps more accurately, perilous position.

Most of mainstream psychological science embraces, either implicitly or explicitly, dualistic thinking, and as such is free to appeal to events, structures, and/or processes in the mental (non-physical) domain as explanations for observable behaviors. In contrast, RFT cannot adopt this strategy, but seeks to explain human language and cognition, and thus dualistic thinking itself, without appealing to dualistic concepts. As such, RFT is like a small space ship that is attempting to study a massive black hole while remaining just beyond its event horizon, thereby not succumbing to its immense gravitational forces and disappearing inside dualism itself. To be clear, from an RFT perspective there is nothing intrinsically wrong with dualism, *per se*, but it is so common in psychological science it is difficult to see what the theory could offer, above and beyond what mainstream psychology already provides, if RFT itself surrendered to the gravity well of dualism.[1]

[1] We recognize that dualism, both inside and outside of science, comes in many forms and varieties, a discussion of which is beyond the scope of this brief introduction. In any case, such a discussion would not be directly relevant to the concern we are raising here. The "threat" of dualism for RFT is not based on a dogmatic rejection of an appeal to mental events (i.e., a non-physical reality), but on the extent to which a focus on ill-defined mediating processes (whether or not they are seen as occurring inside a mental domain) gradually serves to undermine the scientific goals of RFT itself (see Hayes & Brownstein, 1986). These goals, prediction-and-influence with precision, scope and depth, have been articulated many times elsewhere, and in a sense help to define RFT as a functional-contextual theory (Hayes, et al., 2001). The problem with postulating mediating processes, particularly if they remain ill-defined within the experimental analysis of the behavior of the individual, is that they gradually become the primary focus of scientific research. As a result, proving or disproving the explanatory power of those processes comes to dominate the field of inquiry, and the scientific

In moving forward conceptually, therefore, the ongoing attraction to dualism should not be underestimated. In urging caution here, we recognize of course that RFT is not a space ship, it is not even an "it." Rather, it is a label for a complex cluster of scientific behaviors that have emerged from the Skinnerian tradition in psychological science. And herein lies the danger. Relatively junior RFT researchers experience enormous social pressure to yield to the contingencies of reinforcement that emanate from the economics of modern academic life, such as the pressure to publish in so called "high-impact" mainstream journals because doing so will, it is argued, increase the likelihood of success in obtaining: funding, academic posts, tenure, and internal promotion. More senior RFT researchers may be less susceptible to these pernicious social contingencies, but RFT itself predicts that verbal organisms are frequently influenced by rather abstract consequences that are contacted verbally rather than directly. Thus, for example, the senior RFT researcher may be attracted increasingly to the "mainstream" (and ipso facto, dualistic thinking) because it seems to promise that a greater or more prominent personal legacy will be left behind by a life-time's work in psychology.

In moving forward with RFT as a monistic, functional-analytic abstractive account of human language and cognition, it is important, in our view, that all new conceptual developments are scrutinized carefully to determine the extent to which they may run the risk of the theory spinning uncontrollably into the black hole of dualistic thinking. The short-term benefits of doing so may be high for the individual researcher, but disastrous if the over-arching value of the group of scientists we call RFT researchers is to continue to build a genuinely non-dualistic theory of human language and cognition. In this context, therefore, we invite the reader to consider the potential impact each of the articles contained in the current special issue may have on the "space ship" of RFT. Will the new conceptual

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goals of prediction-and-influence, with regard to the behavior of the individual, are likely to get shuffled off center stage (see Sidman, 1960). It is in this sense that RFT cannot afford to get sucked into the black hole of dualism (broadly defined) because in doing so the very scientific goals that define the theory itself would likely be destroyed.

developments expressed in each of the articles contribute meaningfully to the ongoing analysis of human language and cognition from a functional, naturalistic, and monistic perspective, or will they push the RFT ship perilously close towards the event horizon of the black hole of dualism?

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