

The Self and Responding to the Own's Behavior. Implications of Coherence and Hierarchical Framing*

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ABSTRACT

The analysis of human behavior is a difficult endeavour, because of its variability, its *generativity*, and because of the *influence of private events in our own acting*. *Behavior Analysis* provided the first experimental bases to study these difficulties from a functional philosophy of behavior and, in 70', unexpected research findings opened the door towards an excellent avenue for the analysis of complex human behavior. Then, *Relational Frame Theory* began to be rooted and *language, as a relational behavior, as framing*, was experimentally approached. Several relational behaviors were identified, among others, deictic and *hierarchical framing*. As well *coherence* emerged as a historically established function of the behavior of framing. This presentation is focused on coherence and hierarchical framing as the key points of *self's behavior* and *responding to the one's own behavior*. Its implications extend to a wide range of fields where a contextual human behavior approach is helpful.

Key words: self, coherence, hierarchical framing, behavior analysis, relational frame theory, contextual psychology.

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I will invite you to travel through some problems in the difficult task of the experimental analysis of behavior to focus, then, in self-behaviors. Those behaviors that we are so familiar with.

The self is a myriad of behaviors related to the experience of oneself, including being aware of it and of oneself being aware, and of one's reaction to it. We think about many things, and we realize that we think. We realize the flow of thoughts just by suddenly stopping doing something, by suddenly being in silence... If someone asks us where we are, what we are doing, who we are... Something comes to mind.

If we move slowly, we might notice our movements in scene... And we tell stories about ourselves. We notice us as unique perspectives from which we notice our thoughts, our rules, our emotions... As when I notice I am the one who notices them and notices ME doing my chosen actions.

The self is a narrative. And it is ME noticing the narrative. And ME responding to my noticing, to my doing, to my own behavior. The self-behaviors reflect our interactions with the verbal community.

These behaviors are familiar. At the end of the day, we all do it one way or another. However, the history of analyzing human behavior shows a different picture. As the water, the heart, the sky are familiar, so it is our behavior, but familiar does not mean that the processes are understood to the point of influencing on them. Why?

The analysis of human behavior has been a very difficult endeavour. This is because of its VARIABILITY. And into this variability, the conditions responsible for behavioral

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novelty or GENERATIVITY and RESPONDING TO THE OWN'S BEHAVIOR. Albert Einstein noticed that the behavior was very difficult to be understood... He identified psychology as a very difficult task. And it seems to be indeed.

However, behavior cannot be more complex than the rest of elements in the universe. Our body and our behavior are parts of the universe. Each of us, our behavior, the self-behavior, is a unique universe in interaction with the other elements of the universe.

The big universe... Perhaps it might be working as a type of non-arbitrary hierarchical interactions... And it is formed by parts that, although seem to be independent, work into the main characteristics of the whole universe.

Our behavior might be more of the same. Our behavior is an interaction, and the types of interactions are translated as scientific laws. And behavior, as one of the things occurring in the universe, cannot be more complex than other interactions or units in the universe. Thus, this applies to the interactions forming self-behaviors.

Natural sciences have advanced effectively. Many discoveries have been done because of a major or dominant source. See the example of Pierre and Marie Curie: when looking at some materials, they found a dominant element that changed their view, and things that were not adjusted became adjusted to the point of allowing successful manipulation for different purposes. Natural sciences have a minimal number of proposals, of technical terms, in establishing general principles that are effective as producing effective laws... That allows us to fly from one continent to another, to have air conditioning... Conversely, Psychology has multiplied the models and treatments.

Psychology has walked, and it is walking, a long way to understand what Einstein found so difficult. In solving diversity and variability in behavior, psychology took a chance, implicitly or explicitly, for a conceptualization of behavior that put attention on the formal or physical properties of behavior, as well as giving causality to private events with regard to actions; a non-contextual, not functional approach. The result of this conceptualization was the development of many models, of multiple categories, including those about suffering or psychopathology, and multiple treatments or therapies...

The bottom point of looking for an understanding of behavior based on formal or physical properties means that variability is not well understood to the point of effective action. Instead, it seems to be as a never-ending-story that might be refractory to the effective analysis of behavior. Sometimes the solution is part of the problem, and behavior becomes a more difficult problem than it should really be as something occurring in the universe.

Even being a minority, Behavior Analysts moved on a different track. Á la Darwin's way of thinking, looking for general principles to give account of variability.

Different topographical, formally defined, reactions occur in the presence of different stimuli and have same contingencies. So, classes of behavior, as operants, appeared as the unit of analysis. *Radical Behaviorism*, a functionally rooted philosophy, opened the door to the experimental analyses of variability. Behavior analysis put attention in the interactions between the conditions under which a certain response occurs... The Antecedent-Behavior-Consequences (ABC) functional model, the focus on the function of behavior. This line of scientific inquiry provided general laws of present and historical interactions. It was possible to look face-to-face at variability.

And *things became easier* because different behaviors could be surrounded by functional commonalities, and same topographical behaviors could be functionally different. *Bottom point is that variability was reduced when looking at the functional processes.* Generalized inductive laws about direct conditioning were isolated to give

account of variability. The main example is the principle of reinforcement and with it, the conditions given rise to the establishment of appetitive, aversive functions, and approaching or avoidant functions.

Darwin was present. Order was observed into very different behaviors, into variability. It was a great step forward in understanding behavior. However, the scientific journey towards a functional analysis of variability had only begun. We were happy during the journey and, as in any trip, there were crux points as well as obstacles to overcome.

In other words, *two problems around variability were on stage, ready to play with them.*

A first problem was behavioral *novelty* or *generativity*, or how we learn to derive, to produce new rules, to understand them. As when a new thought shows up, when we analogize or metaphorize, when we feel something in novel situations, when we relate something that was not related before... A second problem was the *impact of one behavior on another*, as when rules connecting thoughts/emotions/actions influence other actions. For instance, Peter says "I would like to go but I can't go, I feel anxious" and he follows it, his behavior is under this unique avoidance function and then his line, his horizon in life is absent. Although he feels coherence into this part of his verbal system, he is also isolated and more anxious. So, one behavior becomes functionally the cause for another behavior. It seems that this coherence is somehow incoherent with respect to another perhaps more dominant coherence. How this happens?

If variability, in the form of generativity, has been a relevant problem to be understood, the impact of thoughts and rules on other behavior has been at the core of philosophy and psychology in one way or another, and unsolved (Descartes, Ryle, Russell, Wittgenstein...). As said before, it is easy to identify problems but it is difficult to find solutions. Why?

Solutions to unsolved problems require creative behavior and this happens when the conditions are given for it. *It is the so-called insight.* We will be back to the insight later.

For Behavior Analysis, *novelty and the impact of rules on behavior have had a central place.* The root analysis of Skinner made the case: Skinner went into the conceptual analysis of private events in 1945, later on the formation of self-concept, novelty, problem-solving and on the distinction of what he categorized as Rule-governed behavior and Contingency shaped.

More precisely, in the 80's, behavior analysts went fully into the experimental analysis of complex behavior with non-human animals. As experiments with pigeons on *lying, self-concept, listener-speaker communication, problem solving as interconnection of repertoires...* Was a great learning experiences. At least to me, they gave me a different perspective to look at these complex behaviors. However, we were not in the track of doing human analogs of such novel and complex behaviors. Something was lacking in my Bostonian pigeons... Even though they looked as if they were solving the problem in an insightful way, they were not; pigeons were not relating the presence of a problem in the here and now to actions and consequences there and then. Conversely, very small children did, they generated rules and altered the function of the contingencies... So, what?

There were years of creative scientific activity, at the conceptual-basic-applied levels. And we were clearly *approaching the rules, the self-rules* and the impact of other behaviors... As the studies on *say-do correspondence training* by Donald Baer and

Todd Risley. As those on sensitivity and unsensitivity to contingencies by Fergus Lowe, Charles Catania, Steven Hayes... As the conceptual paper by Steven Hayes in 1984, establishing the critical points for the abstraction of the self. And the rich derivation about the formation of problematic selves by Bob Kohlenberg and Mavis Tsai in 1991.

Good times for behavioral science. But the door was still not clearly opened for the analysis of generativity and, mainly, the conditions under which *self-rules develop* and multiply, as well as *the conditions for responding to this very self behavior were still somehow a black hole*.

As said, it is VERY EASY to detect that something is not working. It is VERY DIFFICULT to generate the conditions for a different perspective that open doors to influence in the phenomena. Insight behavior is needed.

Creativity in science is hand in hand with changing perspective, with freedom to break your own rules, that is, to move around the own's coherence, in the service of effective knowledge. Only rarely in the context of science, insight behavior is present, and when it does, a *surprising or non-expected scenario shows up. It seems to be a coherent behavior* that frames the incoherent of not understanding the problem. And when this happens, you are in the edge... A good place to start.

Let's see one of the great discoveries in behavior analysis that was detected without looking for it.

It was in 1971 when Murray Sidman brought something new (not sure that he became conscious of the impact of this single experiment...), he opened the door to unknown conditions given rise to untrained behavior. Training a couple of relations as A same as B and B same as C, generates A same as C and viceversa. He named it the equivalence relations. The impact of this study did not appear until the mid/late 80's, more than a decade later.

The unexpected 1971 findings slept for a long while. By the 80's they awoke; there was an explosion of studies on equivalence, and explanations of the emergent relations... The river waters of the analysis of complex behavior that had been stuck began to flow. And the impact of this movement was a turning point in the 90's when the door was completely opened to relations others than equivalence and the transfer/transformation, later, of functions.

As the experimental preparations for distinction, opposition, comparisons relations by Dermot Barnes and Steve Hayes labs... As the relevant experiments begun by Mike Dougher in 1994, putting on stage the transfer of functions on the basis of the relations between stimuli. It was possible to understand the emergence of emotional and discriminative avoidance/approach functions without direct training. Just establishing A same as B and same as C, and giving B an aversive function, then C and A acquire the same aversive function. It was a BIG moment for those vibrating, loving learning and problem-solving. An effective horizon for the analysis of complex human behavior, for understanding derived relations and functions, has begun.

Finally, in 2001, thirty years after Sidman's study, Relational Frame Theory, RFT, an inductive theory for language, as relational behavior, as framing behavior, was presented: Language and language-related behavior were more ready than ever to be experimentally touched. The music sounded very good and the ball began. RFT defined a number of relational framings to identify natural language. The characteristics of framing were identified as derived relational responding and transformation of function. And coherence was part of the ball. Several framing behaviors, as relational operants, are learned. That is,

- Framing in: coordination (same as), distinction (different), opposition (opposite), comparison (more than, less than...), spatial (here, there...), temporal (now, then), conditional (if... then), deictic based on Person-Time-Place as I-here-now and Other-There-Then, hierarchical (belonging to, whole/parts...).
- Among them, *hierarchical framing is the contextual control by excellence*. Perhaps the most flexible and complex of all types of framings.
- And the *combination of Deictic-Hierarchical as I, here, now and I-now* with my thought, now, there, establishes the hierarchical framing with the deictic I as was exposed in Törneke, Luciano, Barnes-Holmes, and Bond (2016).

For the first time, it was possible to open the door to solving problems concerning the novelty/generativity of behavior as well as responding to the own's behaviors.

The emergence of derived content was critical to understand self-rules and rule-following as early stated by Barnes *et alia* (2000) and Hayes, Zettle, and Rosenfarb (1989). All types of framing are ingredients in forming the content about oneself. But *deictic and hierarchical responding are the ones at the core of the self-behaviors and at the impact of one behavior over another, that is, on responding to the own's behavior*. It was great... We were visiting new areas... And implications were huge.

Let's stop here for some minutes to go to *Coherence as a motivational context built while relating, while framing*. Coherence is the property, the echo, of relational responding and the content and function are necessarily different for each of us. We behave and feel coherence when we respond in agreement with our history of contingencies and derived relational responding. Established as a positive reinforcement through derived multiple exemplars, coherent responding acquires a reinforcing hierarchical overarching function supporting networks. For example, if we learn that happiness and the good life is not feeling anxiety, anxiety is contextualize as opposite to relevant life actions. Then, it becomes more aversive and avoidance rules to get rid of it are on the stage. And *following these rules establishes a coherent context that transforms the contingencies, for good and not so good*.

Conversely when something creak, when we derived that things are not consistent with our history, then we feel incoherence and some level of discomfort surfaces. From day to night we are interacting with the world around and we derive according to our history of relating, to our coherence including when we derive that something is not what we think should be. That is, when we derive and we discriminate that things are not working as our coherence is saying, then signs of discomfort, or dissonance emerge. And what happens? Typically, something is done to reduce that sign of discomfort, to recover or generate coherence somehow... And we do it in the way we have learned to be fluent, frequently thinking and thinking, in other words, relating and relating in a never-ending-story (comparing agents, places and times, looking for causality...). And sometimes this is not effective. A classical example is rumination.

Bottom point: *Our behavior, A-B-C is felt in one way or another according to the context of coherence established along with the personal history*. And the coherence might become hierarchical upon contingencies of our journey. There is no problem if the relations or rules learned are opened enough to adapt to unexpected results. But there is a problem if we have learned a relational system, a coherent repertoire that is rigid, closed, as when we believe that things have to be in a particular way but they are not that way, and we respond in the context of such coherence.

What the meaning of this is for the formation of the self-content, of how we react to our thoughts, emotions as relational responding to our own responding.? Deictic and,

again, *hierarchical responding* are critical to develop these very relevant and complex self-behaviors. As I said at the beginning, looking at each of us as a *unique universe in relation to others universes and in the whole Universe...*

On one hand, the own *thoughts and emotions are self-content or self-rules*. What I think and feel about ME, about OTHERS, about the world... Self-rules develop when becoming fluent in framing. As comparing to others, to myself before, later, when framing things in causality, etcetera. The content of the self-rules mirrors the cultural contingencies for each individual, the way our behavior has been treated and how we have learned to derive. The content of the self becomes a hierarchical network built by minor thoughts about ME (e.g., "I failed the exam, not good enough, my friends leave me alone, not good for them") and major or big abstracted thoughts about ME (as "I am a disaster, I am an invalid person, I am nothing to take care of"). Then when any content about ME shows up brings the function of the dominant self-rules. And they become coherent according to my behavioral history. The number and content of self-rules and the functions that are brought with them show variability; this is why a flexible or a rigid self-content might be developed.

On the other hand, if nothing else is promoted, we will respond under this unique function, the only self-rule present. That should be framing ME-my thoughts/emotions as the SAME thing. It should be responding in coordination. And this responding should be coherent. Fortunately, *a hierarchical context of ME is developed, of ME noticing the entry of a thought, of another one, of an emotion, of ME noticing that it is ME who is noticing...* And even more, *of ME moving, of ME doing, of ME reacting to any content and, again, noticing that it is ME who is choosing in a particular direction while noticing my thoughts, my emotions. That is, noticing my reaction under the control of the overarching motivative or augmental function connected to me along my life. It is ME as responding to the hierarchical functions established along my history as reinforcers built relationally, as my line, my guide in life and integrating whatever other own behavior be showing up right now in THERE (I-Here-Now and thoughts/emotions-Now-There).*

Hierarchical or overarching functions are again present as when someone has learned to love playing and being curious, and play when resolving problems, play when teaching, play when doing experiments, play when preparing meals, and play when being in the playground. Life becomes a playground. It is someone's line. *Any moment is an opportunity for responding to the own behavior in the context of hierarchical meaning function.*

To conclude, *two ways of responding, functionally speaking*, of framing the own's behavior were identified as by Luciano *et alia* (2004, 2009, 2012), Törneke *et alia* (2016). Perhaps, the primitive reaction is responding under the first motivation, the self-content that shows up. It is responding to the own behavior as the same as ME, in coordination, blinded to the overarching, augmental functions, as the line that matters to me at the end of the day. Fortunately, we learn to overcome the primitive reaction. We might behave as those ancestors who develop a perspective and make possible the overarching function. That is, when I notice one function and, at the same time, another function, and I frame both from the perspective I-here-now and my thoughts I-there, and I respond under the hierarchical function connected to such perspective. When I am behaving that way, I am doing according to the motivative functions that connect to me, deeply, from my heart, and I notice the consequences and I feel proud and perhaps I smile... This is because the overarching dominant function transforms the function of

other elements in the lower level of my universe. Then, the reaction of my whole universe is under the control of the coherent hierarchical function integrating all the rest of the functions, those even contradictory thoughts/emotion, as the echoes of my history. And I feel *the coherence connected to ME, the transformation of functions when responding by framing any content hierarchically under the control of overarching functions.*

A context of hierarchical perspective is needed to integrate the own's behavior and to allow overarching function be present. Otherwise we feel chaos, incoherence, and we will do whatever to recover coherence as deriving new rules that might establish, for instance, a madness context although coherent.

That way, behavior, whatever behavior is an instance of responding under the functions of the historical coherence, as a unique individual experience, as a universe who is behaving integrating the own functions as echoes of the personal history. It is the coherence felt when responding from such hierarchical perspective when my historical contingencies are put together and guide my behavior.

Skinner is present again as when he wrote that *we are a locus where the history of contingencies conjoint.* However, what was not ready in Skinner's times, it is now. I see Behavioral Science as a BIG TREE in relation to others fields of knowledge (see Figure 1).

The Contextual Behavioral Science is tracking the isolation of such processes. *Coherence and hierarchical framing might be the key points to analyze self/one's behavior and responding to the one's own behavior.* They are key points for understanding common

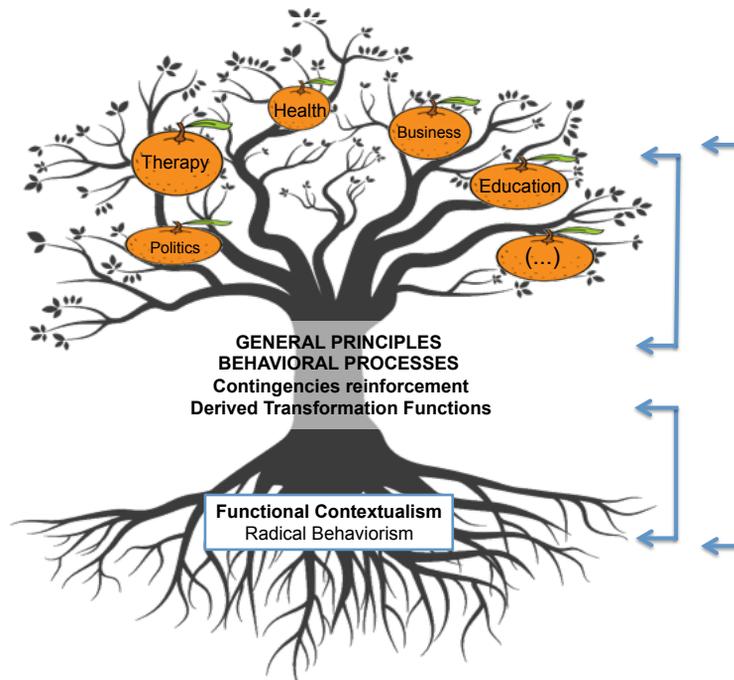


Figure 1. The CBS as a tree metaphor, the roots (philosophy), the trunk (the behavioral processes), and the branches (all type of applications). The arrows indicate the integration of all parts of the tree.

processes in different domains. As in therapy when we help the client to experience the higher function, the meaning line, to make possible he embraces the emotions and the thoughts that show up. Hierarchy framing is also needed to understand the dominant function in metaphors, or to understand the dominant impact of negative mood involved in different suffering examples.

Its implications extend along the Contextual Behavioral Science (CBS). *Understanding variability, generativity, and the interaction with the own behavior* are in the roots of the tree, in the trunk of the tree, and in the branches of the tree. In all domains where a functional conceptualization of behavior is needed. It is also in the connection to other sciences. At the end, are parts belonging all of them to a big whole... Which probably belongs to another big whole universe...

A couple of weeks ago, an economy journal ranked the jobs that might survive in the robotic era... The answer, they say: All those related to interacting with humans. It seems that the variability, the functional and contextual characteristics of behavior, that put it as one of the most difficult aims in science, renders rewards. The research and professional responsibility are huge and, for me, it seems to be a curious and playing journey.

Now, more than 70 years after the functional onset to giving account of variability of behavior, and more than 30 years from the explosion of the equivalence research and, more than 17 years from the publication of the RFT book, the RFT might be in a creative period, in a post-adolescence timing. In my view, *it is time to set back and see where we are*, the terms used, and be creative... To put research attention where the doors have still not been opened... And see what happens with child's eyes.

The waters are flowing again and my ending paragraph is dedicated to claiming for attention to processes as hierarchical framing and coherence to understand not only the self-behaviors and different therapies but scientific theories and the emergent of insight.

So, I claim for increasing the conditions for making possible insight, for *enhancing creative behavior*. Insight happens not frequently, it cannot be instructed. Insight is a creative behavior... A new behavior, an intuitive rule that is shaped upon the shoulders of previous ones albeit it generates a new context, a new perspective from where to look at unexplained phenomena.

And for insight to happen, a repertory seems to have to be ready: opening eyes, and ears as if being a child, and willing to play with your coherence as well as to play with the discomfort or isolation brought when you do not fly under the wings of the dominant science coherence, and being able to challenge your own rules in the service of something more important than a specific "being right" or perhaps publishing in first ranking journals. Not easy, *it is a complex formula: Playing as a child while playing as an adult*. We are talking about scientific values, about the scientists' coherence that sometimes flap in the face of the phenomena under experimental analysis...

The difficulties encountered by Albert Einstein deserve attention. A difficult, sometimes painful task, I know for sure, but a wonderful task in the service of isolating behavioral processes. A horizon of light through dark zones. But FULL LIFE involves CHALLENGES.

The analysis of complex behaviors is there. The piano is there. Good symphonies sound from time to time. Behavior analysis, the CBS, need more insightful symphonies. Let's play, dance, and see what happens. And, you know... With infant's eyes.

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