

Pain and behavior after 25 years

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Although I have not followed pain research since the article was published, my general approach to the study of pain, based on teleological behaviorism, would be the same now as it was then. What is that approach as I now see it? First, I would distinguish between everyday use of the word, “pain” and scientific use of that word. In everyday life, the notion that pain is private serves a useful purpose – it mobilizes others to aid the person in pain, to deal with an emergency without first enquiring about cause or consequence. If I say I am in pain, I am indeed in pain and you must help me. However, for scientific purposes, including treatment development, I consider pain to be overt behavior. For example, I believe that, over the long run, the degree of a person’s pain may be better judged by a close observer than by the person himself. A man goes to a physician and, without deliberately lying, claims that his pain is mild. His wife may contradict him. “What are you talking about? It kept you up all night last night,” she may say. Who is right in such a case? The teleological behaviorist says, she is more likely to be right.¹

Following Skinner’s classic dichotomy, like all overt behavior, pain has respondent and operant components. That is, pain may be correlated with antecedent or consequent events. Where pain is correlated with antecedent events, where an external stimulus or a bodily cause (such as a burst appendix) can be found, the pain is defined as respondent. You would treat that pain by removing its stimulus or medically treating its cause. You might administer pain-relieving drugs. But, where a normal cause of pain is removed and pain persists over long periods, and the pain is found to be correlated with some antecedent event such as social attention, relief from work, or access to pain medications, then that pain may be said to have operant components. Just as the respondent components of pain are

appropriately treated by manipulating its correlated antecedents, so operant pain should be treated by manipulating its correlated consequences. But, as I said above, I have not been following pain research since the publication of *Pain And Behavior*. And, I feel, that inattention on my part needs some explanation and excuse. Let me therefore discuss how I came to write the article in the first place.

In the mid-eighties there were people associated with the Stony Brook Psychology Department who were interested in the study of pain and pain behavior, but I was not one of them. At that time I was trying to develop a consistent behavioral theory of mind – which I later called, Teleological Behaviorism. I had found, in the past, that writing an article in *Behavioral And Brain Sciences* (BBS) was a good way to test a theoretical conception; the commentary published with the article would draw criticism from a wide variety of viewpoints. It was also fun to have the last word in the author’s response to the comments. So I prepared and submitted an article titled: “Molar Behaviorism And Mental Terms.” In the article I argued that all mental events, including sensations, perceptions, cognitions, hopes, fears, emotions, and even imaginations, were best understood as interactions of the whole organism with the environment – that is, overt behavior.

The philosophical move that I introduced in the article was to take the common idea of the “depth” of a mental event and translate it into an abstract interaction between a whole person and the world. The *deeper* a thought was in the ordinary conception, the *more abstract* (more extended, more molar) the interaction between the person and the world in the teleological-behavioral conception. I had been reading the philosopher, J.R. Kantor, and found his ideas congenial to my way of thinking (I eventually dedicated the article, *Pain And Behavior*, to his memory.)

The manuscript of “Molar Behaviorism And Mental Terms” was sent off to reviewers

¹ Except, a teleological behaviorist would say that her language is (quite naturally) imprecise. Being up all night is not the cause of pain but a part of the pain itself.

and eventually rejected by BBS (but with encouragement to revise). The rejection letter said that I did not deal with the most fundamental objection to a behavioral view of the mind – the “fact” that pain was “obviously” an internal event. You might yell and scream, the reviews said, but that was “just” pain behavior. Pain itself was self-evidently internal. The reviewers were perfectly correct as regards my failure to adequately discuss pain. I had not dealt with pain as such. I had assumed that pain was a sensation like any other and that, like other sensations, was basically a discrimination extended over time. The difference between two people, one deaf and one normal, both of whom are sitting still in a room in which a Mozart quartet is playing on the phonograph, is that, for the normal person, there exists a non-zero correlation between behavior and sounds while for the deaf person no such correlation exists. This was essentially the standard behavioral view of sensation except, I argued, the *context* of a given act of discrimination (the correlation over time between behavior and stimulus) and not just a specific act was essential for sensation. I had assumed that pains could be behaviorally defined in the same way as other sensations. I intended to revise “Molar Behaviorism And Mental Terms” by adding a section on pain. In order to do so, I began reading the literature on the physiology and psychology of pain.

I soon discovered that, in a way, pain was more complicated than other sensations. Whereas other sensations (colors, sounds) serve mostly as signals for biologically important events, pain stimuli are both signals (of bodily damage) and biologically important events at the same time. Moreover, the aversiveness of pain is highly malleable and could vary from no response in the presence of highly intense pain stimuli to strong, even violent, response in the absence of any pain stimulus at all. As I kept reading and writing, the pain section began to grow and to dominate the rest of the manuscript. It eventually became evident that I would have to postpone “Molar Behaviorism And Mental Terms” and develop a behavioral theory of pain.

Philip Teitelbaum (1977) had published an article in Staddon and Honig’s *Handbook of Operant Behavior* in which he argued that instrumental (operant) responding evolves over an organism’s lifetime from a few basic reflexes. His prime example was eating

behavior in mammals. At birth, when the brain is undeveloped, eating is reflexive (sucking when stimulated by contact with a mother’s breast). As the brain develops, eating becomes less rigid and more malleable. When the brain is injured, behavior often regresses to its initial state and, as the brain recovers the more complex operant behavior recovers with it. It seemed to me (and still seems) that pain was another example of this progression – from a primitive reflex (a newborn infant’s cry when slapped on the bottom) to a full-fledged instrumental response controlled by its consequences. But, unlike eating, as the brain develops, the reflex remains alongside the more complex instrumental response. But, I maintained, whether reflex or operant response, the pain itself was in the behavior (over time) and not inside the behaving organism. Inside the organism were pain mechanisms, and study of pain mechanisms was interesting and important, I claimed but, in order to understand the mechanisms underlying pain, you first have to understand pain itself – as overt operant and respondent (reflexive) behavior over time.

I then put aside my original article (later weaving it into a book: *Behavior And Mind: The Roots of Modern Psychology*, Harvard University Press, 1994) and submitted the pain article to BBS. The reviews were positive, although skeptical, and the article was published along with commentary by psychologists, philosophers, physiologists, and my response to the comments. Several commentators saw value in my approach or found it interesting but none of them wholly agreed with me. Many disagreed, some quite violently. This is a very common response to behavioristic ideas, as any behaviorist will understand.

In the years since the publication of “Pain And Behavior,” even as applied behavioral analysis has flourished, behaviorism as a philosophical approach to the mind has languished. Psychology in American universities has become more and more neuro-cognitive. The invention and development of MRI technology has accelerated this process. In the area of pain management, behavioral techniques, so promising in the mid-eighties, have come into disfavor. Instead, vast resources have been expended on pain medications. A quick search on Google turns up the following consequence of this development (from *Prevention Alert*, v. 6, no. 4, March 7th, 2003):

“Over the past decade-and-a-half, the number of teen and young adult (ages 12 to 25) new abusers of prescription painkillers such as oxycodone (Oxycontin) or hydrocodone (Vicodin) has grown fivefold (from 400,000 in the mid-eighties to 2 million in 2000).” I do not imagine that in the years since 2003 this increase has decelerated.

Looking at this development, a behaviorist might ask: What are these drugs actually doing? A natural extension of Teitelbaum’s theory would say that they create temporary lesions in areas of the higher brain, reversing evolved operant pain responding but leaving pain reflexes alone. People taking these drugs often say that they still feel the pain but it “doesn’t bother” them. There is nothing wrong with this except that the effect habituates creating a negative addiction. Although I have not followed pain research since the publication of *Pain And Behavior*, I have followed addiction research. I know that the best current treatment of addiction is behavioral treatment. Not cognitive-behavioral, not neuro-behavioral, not spiritual-behavioral but behavioral

treatment as such. So we are led back once again to a behavioral approach to pain.

Referências

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