

**A BEHAVIORIST ACCOUNT OF EMOTIONS AND FEELINGS:  
MAKING SENSE OF JAMES D. LAIRD'S *FEELINGS: THE  
PERCEPTION OF SELF***

Eric P. Charles  
*The Pennsylvania State University, Altoona*

Michael D. Bybee  
*St. John's College, Santa Fe*

Nicholas S. Thompson  
*Clark University*

**ABSTRACT:** In *Feelings: The Perception of Self*, Laird deftly synthesizes decades of research supporting the self-perception theory of emotion and feeling, providing an account of these phenomenon that is compatible with radical behaviorism. Beginning with William James, Laird builds a system in which “emotions” are ways of acting in situations and “feelings” are responses to those environment–behavior pairings. However, Laird sometimes hesitates to present the strong conclusions that flow from his evidence and his premises. The evidence leads forcefully to the conclusion that behaviors cause feelings and that feelings are simply another form of behaving. This puts Laird’s work squarely in the behaviorist lineages that grow out of James’s work and includes the efforts of Holt, F. Allport, Tolman, Gibson, Skinner, and the emerging Radical Embodied Cognitive Science. *Key words:* radical behaviorism, emotion, feeling, self-perception, embodied cognition

Laird’s *Feelings: The Perception of the Self* is an important book for readers of *Behavior and Philosophy*. It presents the results of experiments on many phenomena that humanists often claim are beyond the reach of science: self-awareness, emotion, motivation, and feelings more generally. Laird places his

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**AUTHORS’ NOTE:** The authors were members of the Seminar on Self Perception, a weekly gathering of post-graduate scholars that met on-line and in-person during the Spring of 2011. The gathering was organized by Thompson under the auspices of the incipient City University of Santa Fe. Named authors were seminar members who helped draft the paper, but everyone took a hand in developing our thinking, even if only by disagreeing. Non-author members particularly active in our discussions included Jim Gattiker, Sean Moody, and Frank Wimberly. We were also assisted by comments from readers not in the seminar, most notably by Caleb Thompson of St. Johns College, Santa Fe, and by Patrick Derr and Lee Rudolph of Clark University. The article also benefited from Dr. Thompson’s long association with Dr. Laird while they were colleagues at Clark.

Please address correspondence to Eric P. Charles, 3000 Ivyside Park, Altoona, PA 16602; Email: epc2@psu.edu

lifetime of research on the social psychology of self-perception within a framework incorporating elements of Gilbert Ryle's philosophical behaviorism and W. T. Power's control system theory.

Three major conclusions make this book obligatory reading for anyone who wants to talk rationally about human behavior. The first is that behavior—including “emotional” behavior—is caused not by inner mental states but by circumstances, including prior behaviors. The second is that each person's understanding of his own ongoing behavior is fallible, having been pieced together from evidence in the same way that we piece together evidence about events in our surroundings. Far from being simply and directly known, knowledge of the self is a sophisticated perceptual achievement. The third is that there is an important divide in human personality between those whose behaviors are regulated solely by facts about the world and those that are also regulated by physiological and behavioral facts about themselves.

To support these conclusions, Laird synthesizes dozens of experiments on the relationship between feelings and feeling-associated behaviors.<sup>1</sup> These experiments all share a rough similarity. The researchers first pick some feeling–response pairing for which common sense dictates that the feeling would be the cause of the response. They then come up with some experimental pretext unrelated to feelings to get the subjects to perform the response. If happiness is supposed to cause smiling, then they covertly manipulate participants' faces into a smiling position (e.g., by instructing participants to generate desired readings on facial electrodes) and see if participants' moods are lifted as a result. If love is supposed to cause staring into somebody's eyes, then they create a ploy to get participants to stare into a stranger's eyes (e.g., by asking them to count eye-blinks) and measure attraction afterwards. If sadness is supposed to cause slumped posture, then they manipulate participants into a slumped posture (e.g., by adjusting the relative height of the chair and table at which participants are sitting) and ask the subjects to report their mood. If political attitudes are supposed to determine what one says about an issue, then they manipulate what participants say (e.g., by having them make counter-attitudinal speeches) and then re-test their attitudes. The variety of such experiments, and the consistency of the results, is impressive.

Each of these lines of research raises complex methodological and theoretical issues. Readers who have methodological and theoretical qualms might be reassured that Laird is a passionate experimenter. Moreover, his book is full of replications with clever control conditions designed to address such concerns. He is not focused on creating a single perfect experiment but on creating systematic lines of carefully varied studies, with each study eliminating a class of potential confounds. For example, many pages of the book are devoted to the problem of

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<sup>1</sup> To Laird, a “behavior” or a “response” is any pattern of action in relation to circumstances, at every level of organization. As Laird would have it, pressing a key, typing a word, typing a sentence, and drafting a manuscript are all behaviors, in this sense. So too are scratching one's ear when bitten by a bug, pressing a lever when a buzzer sounds, checking a box on a form, etc. Even a physiological response such as an increase in heart rate can be a “behavior” to Laird if it occurs in relation to some environmental event.

## BEHAVIORIST PSYCHOLOGY OF “FEELINGS”

observer bias and highlight several procedures designed to show that Laird’s results are not due to such effects.

Although a major strength of Laird’s book is its display of experimental prowess, it is not the goal of this review to criticize methodology or to challenge the interpretation of individual studies. Instead, we wish to focus on the overall message of the book. Such restraint still leaves much to discuss, as Laird’s interpretation of his findings is at least as interesting as the findings themselves.

Laird incorporates his findings into a neo-Jamesian metaphysics of feeling and emotions, but, in our opinion, he does not go far enough. Laird sometimes writes as if he fears he will offend his readers if he carries his thinking out to its logical conclusions. However genial and reader-friendly his *writing* is, we believe that his *thinking* is inescapably disruptive to the way most people talk about mental phenomena. For Laird, mental terms—including emotion-terms and feeling-terms—refer to relationships between the actor’s behavior and the circumstances in which that behavior occurs, and *nothing* more. His conciliatory writing style disguises these harsher implications, and we want to draw them out and make them plain. In particular, we worry that Laird’s convoluted arguments about cause and effect will lead some readers to suppose that something other than the physical organism and its circumstances are required to understand his findings.<sup>2</sup>

Now, given that we have only his writing to go on, where do we stand to say that we represent Laird’s thinking better than he does? By Laird’s own account! When he argues that mental events are inherently public, he allows that observers may, on some occasions, be better situated to understand what is going on in another’s mind than is the mind-owner.

As patterns or patterns of patterns of action in context, emotions and other psychological states are all observable. The necessary observations are not easy, but the difficulty arises because the patterns are complex and abstract, not because the events observed are occurring in some inner, intrinsically private space. (Laird, 2007, p. 219)

Of course, Laird would correctly insist that our alternative interpretation must prove its value by being more coherent and inclusive than his own. Thus, it will be our job to show how resolving ambiguities in the text and following through on their implications point toward a more coherent and powerful understanding of the mind. But first, we must lay out Laird’s argument.

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<sup>2</sup> To the extent that we are concerned with what emotions and feelings “*really are*,” some readers may find parts of our discussion unnecessarily metaphysical. Such readers may be pleased to know that one can reach conclusions similar to ours out of concerns about *tacting*. Skinner (1957) divided the basic building blocks of verbal behavior into two types, tacts and mands. In essence, to “tact” something is to give a response to a stimulus because members of the verbal community have reinforced your doing so. Thus, readers who are suspicious of talk about what emotions and feelings “*really are*” are free to view this article as an attempt to identify the environmental conditions to which a typical member of the verbal community is responding when using emotion and feeling terms.

### Laird's Argument

To understand Laird's account of feelings and emotions, we first need to understand Laird's debt to William James. The book begins with the oft-quoted passage from James:

Common sense says we lose our fortune, are sorry and weep; we meet a bear, are frightened and run; we are insulted by a rival, are angry and strike. The hypothesis here to be defended says that this order of sequence is incorrect. . . and the more rational statement is that we feel sorry because we cry, angry because we strike, afraid because we tremble. . . (James, 1890, p. 449)

If we spell out the implications of the James passage, it seems to assert that:

1. There is a category of events, actions, or experiences called emotional feelings, and related to these feelings in some causal way, a category of behaviors. These behaviors include overt and "voluntary" emotional behaviors such as laughing, running, and striking out, overt and "involuntary" behaviors such as blushing and crying, and behaviors both covert and involuntary such as heart rate increases and sweating.
2. It is generally believed that instances in the first category, the feeling category, *cause* instances in the second category, the behavior category.
3. If so, the causal relation requires *at least* that instances of the first category precede instances of the second (i.e., that feelings come before behaviors).
4. But they do not. Contrary to the popular view, the emotional behaviors precede the feelings.
5. Therefore, emotional feelings do not cause emotional behaviors.

Even spelled out to this extent, James's argument has some ambiguity. How large is the category of behaviors that emotional feelings do *not* cause? Does it include all behaviors? If so, feelings are epiphenomenal. We doubt that James intended this interpretation, if only because he devotes an entire chapter of the same book to arguing *against* epiphenomenalism and arguing *for* a commonsense view of mental causation. Moreover, a close reading of the quoted passage reveals that for each feeling he cites, James identifies a particular behavior as a non-effect: fleeing for fearing, attacking for anger, crying for sadness. Thus, in context, James appears to argue that feelings *are* capable of causing some behavior, just not those behaviors that the common man would insist they cause.

Laird supports James by relentlessly undermining the commonsense view that feelings precede the behaviors identified with them. He describes dozens of experiments, from his own laboratory and elsewhere, in which participants reported feeling an emotion *after* having performed the critical behavior. For instance, his subjects. . .

. . . report being happier after their faces have been covertly manipulated into smiles and sad after their faces have been covertly manipulated into frowns;

## BEHAVIORIST PSYCHOLOGY OF “FEELINGS”

- . . .report low self-esteem after they have been made to stand in a slumped posture, and high self-esteem after they have been made to stand up tall;
- . . .report feeling they deserve a bad outcome after they had “lost” an apparently random coin toss that they agreed would determine the outcome;
- . . .report being romantically attracted to strangers into whose eyes they were required to stare.

If you believe that a cause cannot follow its effects, then the repeated demonstration that behavior precedes feelings convincingly supports James’s assertion that emotional feelings cannot cause the behaviors that are usually attributed to them.

### **Laird’s Misgivings about Causality**

But does Laird follow William James further? In the oft-quoted passage above, James goes beyond merely claiming that key behaviors are not caused by feelings; he asserts that those very behaviors *cause* feelings. Does Laird join him in that further conclusion? At first, it appears that he does. Experimental control is often considered adequate to evidence a causal relationship between independent and dependent variables, and Laird values demonstrations of experimental control. Further, Laird’s research is explicitly designed to show that performance of a feeling-associated behavior is both “necessary” and “sufficient” to explain a change in emotional state. Sufficiency is demonstrated by showing that whenever a feeling-associated behavior is induced in the appropriate circumstances, subjects report the appropriate feeling. Necessity is demonstrated by showing that if, in a typically feeling-inducing situation, the subject is experimentally prevented from responding, or if their responses are explained away in some fashion, then the subject does not experience the typical change in feelings. Why is Laird so concerned with necessity and sufficiency? Presumably because necessity and sufficiency are often taken as evidence of causality.

But despite this marshaling of evidence, Laird never quite takes the final step with James: Laird never says explicitly that behaviors cause their associated feelings. We think that Laird’s judgment here was impaired by two unwarranted concerns: a fear of being taken for a vulgar reductionist and a concern for the ontological distinctness of his most important concepts.

### ***Fears of Vulgar Reductionism***

Laird begins by defining materialism as the belief that everything real in the world consists of matter and its relations (Laird, 2007, p. 207). Following Ryle, he then makes a stunningly effective critique of vulgar reductionism. In its place he offers a hierarchical materialism in which each level of organization consists of relations among lower levels. He then lodges “feelings” somewhere in the middle of this hierarchy: feelings are a type of relation between material things and therefore are part of our real, material world. Having made this powerful case for a

materialist account of feelings, he then mysteriously backs off. He adopts a highly constrained model of causality, taking interactions amongst billiard balls as the archetype of cause and effect. On this basis, he rejects the relevance of causality for psychology. He further refuses to label his approach a type of materialism or acknowledge that he himself is a materialist. His reason is that he fears being misunderstood by people who identify materialism solely with the vulgar, reductive mechanism he has rejected.

This is absurd! It is an author's responsibility to make his beliefs clear, not to back off from his beliefs when careless readers might misunderstand. And even were that not the case, the physics of billiard balls is no sanctuary from controversy concerning causality. Any brief overview of philosophy reveals that causality is a cesspit of confusion wherever it is applied. Physics in no way privileges billiard balls as participants in causal relations. It can treat billiard balls as chaotic collections of molecules, atoms, or subatomic particles, or it can just as well treat them as a small part of a larger, dynamic system. The illusion of non-probabilistic determinism that classical mechanics fosters is sustained only by the liberal use of contrary-to-fact stipulations and *ceteris paribus* clauses. Thus, the physics of billiard balls provides no gold standard of causality against which more vernacular uses of the term can be found wanting.

In short, Laird is entitled to understand a cause as any event that increases the relative frequency of a future event.<sup>3</sup> He should be eager to embrace materialism, and he should not shy away from claiming that behaviors, emotions, and feelings are all real elements of the material world, capable of being causes and capable of being caused.

### ***The Problem of Ontological Distinctness***

William James not only believed that feelings can be caused. He clearly also believed that feelings are caused by behaviors. Another reason that Laird is reluctant to go along with James seems to arise from the requirement that cause and effect be ontologically independent; that is, something cannot cause itself. Laird is concerned that feelings cannot be caused by their associated behaviors if feelings are, in part, constituted of those behaviors. This is a legitimate concern, but more confusion quickly sets in. To distinguish between a causal and constitutive relationship Laird provides an example:

... a load of lumber that was delivered to my house. The lumber caused a dented, dead patch of grass on my lawn, but it did not cause the room that was added to

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<sup>3</sup> Some might argue that in falling back on a more vernacular understanding of causality we have paid too great a price in rigor. However, as our Seminar colleague Frank Wimberly pointed out, the vernacular understanding of casualty is potentially rigorous. Research investigating what aspects of the world lay people are sensitive to when assigning causality suggests people are sensitive to particular types of probabilistic relationships (Cheng, Novick, Liljeholm, & Ford, 2007) and that certain types of experiments are better than others at revealing such relationships (Glymour & Wimberly, 2007).

## BEHAVIORIST PSYCHOLOGY OF “FEELINGS”

my house. The lumber was instead the material from which, assembled in a particular configuration, the house was constructed. Similarly, feelings are constructed out of the experiences of acting in particular ways in particular circumstances. (p.11)

Laird argues that the lumber cannot be the cause of the house because the house is constituted of the lumber. But, although he is correct that lumber cannot be considered a house-cause in this context, he is wrong about the reason it cannot.

**Events or things as causes?** A key feature of Laird’s house-building example of constituency is that lumber and houses are things. Can a *thing* be a cause of another *thing*? No, not within the framework that Laird has laid out for himself. Why? Because he has established, as a starting premise, that temporal succession is a necessary condition for a cause–effect relation; only *events* can be causes and effects. Why? Because only events have the possibility of preceding one another. If we clarify the above passage to refer to events—“lumber being delivered,” “grass dying,” and “a room being built”—then the two causal claims seem equally reasonable. It makes as much sense to say that “lumber being delivered” was a cause of “a room being built” as it does to say “lumber being delivered” was a cause of the “grass dying.” We should not be troubled by the fact that many other events must be presumed to connect lumber-delivery to house completion and to grass killing. We can cheerfully concede that the house would not have been completed if the workmen did not assemble it, nor would the grass have died if spring had not come and the ground thawed. For an event to be a cause of another event, it does not have to be its only cause. Thus, while Laird’s concerns about the relation between constituency and causality are valid, those concerns must be worked through in the context of chains of events.

**Are feeling events ontologically distinct from behavioral events?** Once the confusion sewn by the lumber example is clarified, the concern about ontological independence can be understood as a fear that behavioral *events* are not ontologically distinct from feeling *events*. Laird’s concern could be rephrased that “Neither can my fear cause my running, nor my running my fear, because they are, in whole or in part, *the same event*.” This worry must be taken seriously. Thompson and collaborators (e.g., Charles, 2011a, 2011b; Derr & Thompson, 1992; Thompson & Derr, 1993), writing in an ethological context, have also argued that animal mental states are not ontologically distinct from their associated behaviors:

[M]ental states do not explain behavior; they describe it. The term hunger does not explain eating; it refers to the higher order pattern of behavior design of which eating is a part. To say that an organism has a hunger for an object is not to speak of the cause of its eating but to make the claim that the animal’s behavior is designed around consuming that particular object. If we say that foxes are hungry for rabbits, we are describing a fact about the behavior of foxes over time, viz., that the fox’s behavior is organized around the search for rabbits, that foxes are sensitive to aspects of their environment that suggest the presence of rabbits, that foxes catch and eat rabbits, and that foxes return to the places where rabbits have been found to search for them again. All this is suggested by

the idea that foxes have a hunger for rabbits. An analogous design in the behavior of rabbits is suggested by the statement that rabbits have a fear of foxes. It suggests that rabbits avoid places in their environment where foxes are to be found, that they flee when foxes approach, and that they relax and go about other matters in their lives only when foxes are absent.

Now because “rabbit hunger” and “fox fear” are design properties of fox and rabbit behavior respectively, they are not available as explainers of that behavior. We cannot say that the fox chased the rabbit because it hungered for it or that the rabbit fled the fox because it feared it. (Thompson, 1994, p. 66)

The use of the term “behavioral design” should not be a distraction. For present purposes, it simply means a felicitous relation between a behavior and its context (Bateson, 2010; Thompson & Charles, 2011). Emotions and motivations are both examples of behavioral designs by this criterion. Thus, Thompson’s argument supports Laird’s concern about James’s formula: It is possible that William James’s bear-fear could neither cause nor be caused by his fearful behavior. Neither causal link is possible if, when we talk of being “afraid of the bear,” we are describing the relation between the-appearance-of-the-bear and the-start-of-fearful-behavior.<sup>4</sup>

### **Resolving the Paradox: Separating Emotions from Feelings**

At this point, Laird has gotten himself into a bind. He is worried that behaviors and emotions cannot be causally linked because they are not ontologically distinct, but like William James he does not think feelings are epiphenomenal. Despite his protestations, he clearly believes in causality, he has developed considerable experimental evidence that feeling-associated-behaviors cause feelings, and he believes that those feelings can in turn cause future behaviors. We wish to resolve this contradiction and thereby improve upon Laird’s conclusions. We can do so by invoking levels of organization, with higher levels consisting of causal relations between elements of the lower levels:

Level 1. The world is full of objects and events, including behavioral events. (Bears exist and are encountered, people run, etc.)

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<sup>4</sup> In his last chapter Laird inveighs against mechanism then claims that after we reject a “simple causal account” of human behavior our best alternative is the “cybernetic, interactive, and essentially non-causal model of control systems” (e.g., the home heating system with its thermostat). He further claims that such systems are capable of processing information and making decisions. While we are also fans of Power’s control system analogy, this use of it is misguided. First, the notion of “information processing” seems to re-haunt the machine with the Cartesian ghost. Second, the last time we looked, the “cybernetic and interactive” heating systems in our houses *were* machines, and their behavior resulted from causal linkages as mechanical as any you could desire.



## BEHAVIORIST PSYCHOLOGY OF “FEELINGS”

Level 2. The circumstances conventionally associated with feelings cause the behaviors conventionally associated with those feelings, and that causal relationship constitutes an emotion. (The sight of a bear can cause me to flee; that *the bear caused me to flee* is my bear-fear.)

Level 3. Feelings are responses to that causality in our behavior; when I respond to that causal relation in some way, I can be said to have “felt” it. (When stopping to catch my breath, my backward glances—to see if the bear is following me—are in response to the causal relationship between the bear and my fleeing, which is itself my fear.)

Level 1 (repeat). Feelings, as a type of event, are part of the environmental context that can cause subsequent behaviors. (Because I am avoiding the woods next time I jog through the field.)

Circumstances cause us to behave, some of these causal relationships are emotions, responses to those causalities are feelings, and such responses have causal power over how we respond to subsequent events. That last step may seem like a slide back towards the common sense view, but it is not. We are not claiming that a dualistic, subjective feeling causes our current actions, but rather that the behavioral events that constitute feelings become part of the “environment” that serves as the context for future behaviors (as represented graphically in Figure 1).

Note that this understanding of the events formally separates emotions from feelings, and claims that there must be an emotion before that emotion can be felt.

By clearly separating emotions from feelings, this way of talking seems both to grant to Laird his notion of constituency and to rescue him from epiphenomenalism. An emotion or motivation is just that a behavior is caused by some event. A feeling *of* an emotion or motivation is just any response to that causal relation. Thus, my response to the fact that circumstances-of-a-certain-type-*caused-me-to-behave-in-a-particular-way* is my feeling of a certain emotion or motivation. In this manner, both constituency and causality are used to produce a simple hierarchy: at the lowest level are my actions (running frantically) and my circumstances (bear); at the second level are my emotions, which are the causal relations between my circumstances and my actions (bear causes fleeing = bear fear); at the third level are my feelings, the perceptions of such a causal relation, which consist in me responding to the fact that I have been caused to do something fearful (pausing, looking back, and checking my pulse *because* of having been afraid).

Remember that Laird thinks that third-person and first-person experiences of emotions are essentially the same. Therefore, our understanding of Laird’s theory must work as well for the perception of another’s emotions as it does for the perception of one’s own emotions. Let it be the case that I am intently reading a murder mystery, and you come quietly into the room and place your hand on my shoulder. I am startled (i.e., I jump in my chair, take a sharp breath, and let out a cry). This unexpected reaction, in turn, startles you. Your eyes widen, your heart

speeds up, and you hastily pull back your hand. But then you relax and apologize, saying something like “I didn’t mean to sneak up on you.” Your initial response was to my quick movement and to my cry. Was I threatening you? Does my behavior indicate some peril in the room you have not seen? Quickly, however, you came to respond to the wider situation: I jumped *because* you touched me unexpectedly (see Heft, 2011). My startling when you touched me constituted my fear. My looking at you in a mixture of mirth and embarrassment constituted my feeling of that fear—it is my response to the causal relationship between your touch and my startle reaction. Your relaxation and your worried apology constitute *your* feeling of my fear. These are your responses to the fact that your touch caused me to jump. You and I both know that I was afraid (both feel my fear) in the same way by observing my behavior in relation to my circumstances.

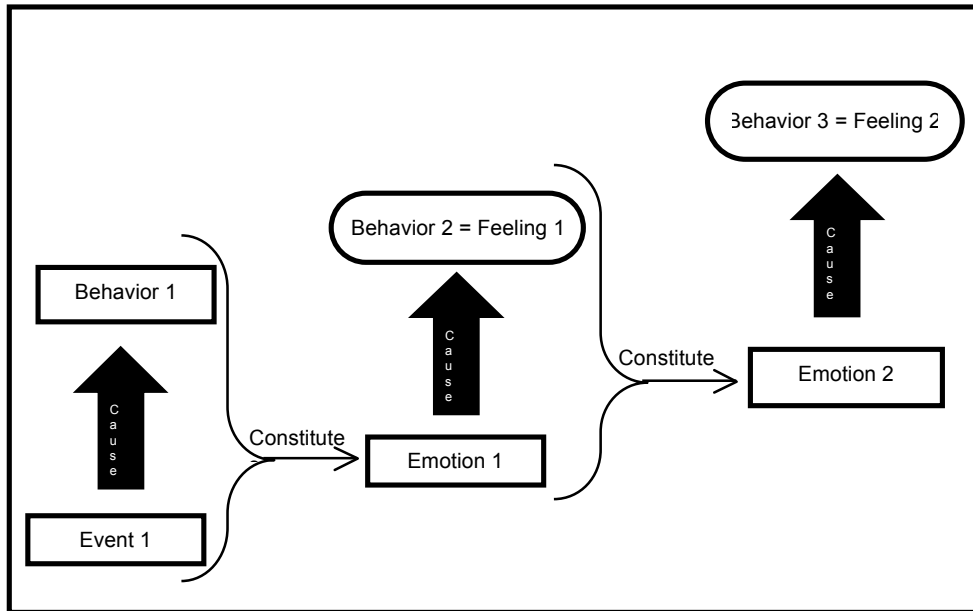


Figure 1. That “Event 1 caused Behavior 1” constitutes Emotion 1. To have a second behavior caused by that relationship is to “feel” that emotion, with the oval indicating that the behavior is a feeling. For example, there are many reasons to gag, but to have a rotting carcass cause you to gag *is to be disgusted*. To further behave in relation to that disgust *is to feel* disgusted. Thus, as William James and Laird would argue, the feeling of disgust is not the cause of the gagging; however, the feeling of disgust can, in turn, cause a third behavior (such as the verbal response “That is disgusting”). Note that Emotion 1 is not an additional metaphysical entity; it is nothing above and beyond the causal relationship indicated.

***Is This Perception?***

Any attempt to interpret Laird’s argument must be consistent with Laird’s clearly and repeatedly stated belief that feelings are perceptions. The book is, after all, titled *Feelings: The Perception of Self*. But is responding to causal relations an

## BEHAVIORIST PSYCHOLOGY OF “FEELINGS”

example of perception? We think yes. In the world of experimental psychology that Laird inhabits, perception is synonymous with discriminative response; when something is responded to in any way—diverts the flow of the animal’s behavior in any way—it has been perceived. A researcher within this tradition seeks to discover the antecedent conditions necessary and/or sufficient for subjects to respond differently to two presentations. For example, early studies of color perception in animals simply trained animals to respond to a specifically colored light, then measured the animals’ responses to lights of different wavelengths but identical intensities. “Perceiving red” is thus nothing more than responding as a function of a particular wavelength; being red–green color blind is nothing more than responding to a variety of wavelengths in the same manner, etc. On this understanding, “the self” has been perceived when a person has responded to some feature of his own behavior; that is, whenever a person’s past behavior is a part of the circumstances causally connected to current behavior.

The suggestion that feelings are responses to causal relations in our own behavior also raises the question of how we come to label that causality. As Skinner points out, contingencies put in place by the verbal community are an important part of why we learn to discriminate various circumstances. The process must be an extraordinarily complex one, because causality cannot be pointed to in any particular combination of events, but must be lodged in large networks of experiences over substantial spans of time. Further, if any response to an emotion is a feeling of that emotion, then verbal responses (including “facts”) certainly qualify, and it should be noted that most people learn a very large portion of their discriminative responses in a verbal context. This allows all the difficulties of generating well-controlled verbal behavior to help explain why people so often fail to identify their own emotions; how, for example, people can be afraid but not feel afraid. They do not “feel” their fear because they do not respond to the relevant circumstances.

### **Causes and Constituents in the Stream of Events: An Improved Example**

We now have an understanding of feelings as reactions to causal relations between circumstances and one’s own behavior, reactions that can play a role in determining subsequent behaviors. This understanding makes it possible to lodge feelings firmly in the causal stream of events while still recognizing that feeling-associated behaviors are constituents of emotions. Updating James’s classic bear anecdote demonstrates how constituency and causality might simultaneously play a role in our understanding of feelings:

Last week, the city was all stirred up because a bear was seen in the woods near the University. A bunch of Joe’s friends got to talking about it and teasing Joe about his habit of jogging in that very park every afternoon. They conceived of a prank to play on him, went down to the local costume shop, and rented a bear suit. When Joe was about ready to go for his run, they rushed down to the woods and prepared for his arrival. As Joe was jogging along, a large black object

moved by the side of the trail, and Joe's sedate jogging became panicky flight. As he was fleeing, he looked over his shoulder to see if a bear was following, but instead saw his roommate in a bear suit, with a bear head tucked under his arm. There was also a group of his friends standing nearby, laughing at him. Joe blushed horribly. He reached down and picked up a small rock and flung it toward his roommate.

The narrative describes a succession of emotions—fear, humiliation, and anger. Each emotion *is* a causal relation between Joe's circumstances and his behavior. In each case, Joe reacts to that relation. Those reactions, his feeling of the emotion, in turn becomes one of the circumstances that cause Joe's further behavior. This chain of events is represented from Joe's point of view in Figure 2, which can be narrated as follows: #1 {Black moving object in context of me-in-woods and bear stories} *is* Bear; #2 That {the bear caused me to run} *is* me-fear; #3 That { [man-in-bear-suit caused me-fear, caused friends-laughing] caused me-blushing} *is* me-humiliation; #4 That {me-humiliation caused me to throw a rock at my friend} *is* me-angry.

Note that this account of feelings is ruthlessly behavioral. The final event could easily be written as follows:

My anger was in part caused by my humiliation, which was caused in part by my fear.

Nothing in the account refers to anything other than material events and relations amongst those events. The reader can make sure this account is rigorously behavioral by substituting each emotion term for the relation which it identifies.

{that a black moving object caused me to run} substitutes for "fear"

{ [man-in-bear-suit caused me-fear, caused friends-laughing] caused me-blushing} substitutes for "humiliation"

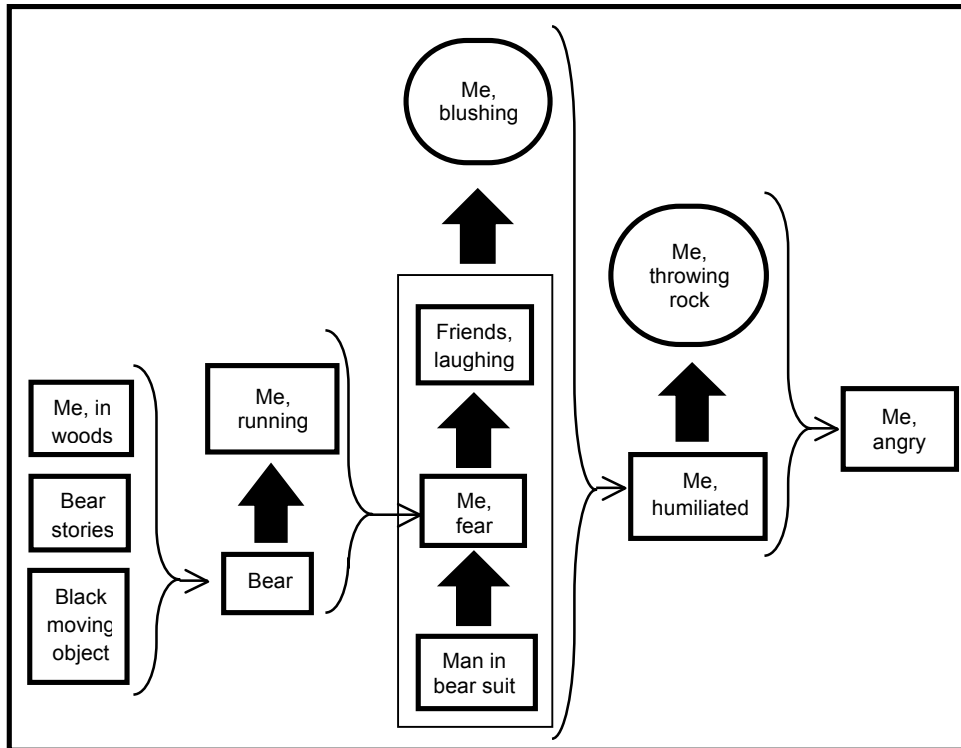
{that my humiliation caused my rock-throwing} substitutes for "anger."

These substitutions, with a little cleaning up, give:

Throwing the rock at my roommate was caused by my blushing having been caused by my friends laughing at my fleeing from my roommate in a bear suit having been caused by the black moving object in the woods that I jogged by.

This account is perhaps a bit ungainly, but it is coherent, intelligible, and makes no use of mental terms whatsoever.

## BEHAVIORIST PSYCHOLOGY OF “FEELINGS”



*Figure 2.* The diagram represents five stages of Joe’s response to the prank, as seen from Joe’s point of view. Each box represents an event in the world. The vertical arrows represent causality. The brackets – } – embrace the constituents of a meta-event. Feelings are in ovals. For example, Joe’s fear is constituted of the fact that the black moving object caused him to flee, and Joe’s humiliation is constituted of the fact that the larger situation caused him to blush. On this understanding, a feeling comes into being any time we respond to causal relations that involve our own emotional behavior.

Note that this account also manages to be materialist without being reductive. It makes no pretense to understand feelings in terms of physiological or simple behaviorist terms. It is therefore a material *emergent* account. In other words, instead of identifying feelings with events at a lower level of organization it identifies them with events at a higher level of organization. Note, finally, that it is a realistic account: Every response is a response to some feature of the world “out there.” No “mental representations” are used in the telling of this story, no so-called information “processed.”

### Conclusion

We highly recommend Laird’s book, if only because it will familiarize readers with an important experimental research literature that shows that people’s feelings are responses to relations between their circumstances and their behavior. Although this research supports what is commonly known as the James–Lang theory of emotions, it provides for a much more sophisticated version of James’s

theory than most psychologists are familiar with: Emotion terms point to causal relationships between circumstances and behavior, while feeling terms point to reactions to those emotions.

As mentioned above, Laird drew inspiration from James's *The Principles of Psychology* (1890). William James often lamented how, in writing that book, he was forced to gloss over some of the deeper philosophical questions that concerned the science of psychology. His later work on radical empiricism was designed to fill that gap. James elaborated his ideas regarding emotions and feelings most explicitly in "The Place of Affectional Facts in a World of Pure Experience" (1905). There, he acknowledged that the greatest difficulties for a non-dualistic psychology arise from

. . .our 'affections'. . .our pleasures and pains, our loves and fears and angers. . . beauty, comicality, importance or preciousness of certain objects and situations [etc.] (p. 281)

James went on to say:

The central point of the pure-experience theory is that 'outer' and 'inner' are names for two groups into which we sort experience. . . .Any one 'content [of consciousness],' such as *hard*, let us say, can be assigned to either group. . . . [Illustrating] my central thesis that subjectivity and objectivity are affairs not of what an experience is aboriginally made of, but of its classification. (p. 282)

James intends this principle to apply equally to all our interactions with the world. He intends it to apply to our experiences of concrete objects, abstract object-properties (like "hard"), and even to those experiences commonly assumed to be purely subjective:

All our pains, moreover, are local, and we are always free to speak of them in objective as well as in subjective terms. We can say that we are aware of a painful place. . . .or we can say that we are inwardly in a 'state' of pain. . . .We discover beauty just as we discover the physical properties of things. (p. 283)

"Pain" and "beauty" as things we perceive? "Pain" and "beauty" as phenomena experimentally tractable through the same methods that bring success in understanding other perceptual phenomenon? Yes! By end of James's paper, "affectional facts" are fully externalized:

Take a mass of carrion, for example, and the 'disgustingness' which for us is part of the experience. The sun caresses it, and the zephyr woos it as if it were a bed of roses. So the disgustingness fails to *operate* within the realm of suns and breezes—it does not function as a physical quality. But the carrion 'turns our stomach' by what seems a direct operation—it does function physically, therefore, in that limited part of physics [constituted by our bodies]. (p. 287)

This formulation fills the lamented gap in the foundation of James's theory of emotions. Question: If behaviors are antecedents of feelings, then where do the

## BEHAVIORIST PSYCHOLOGY OF “FEELINGS”

behaviors come from? Answer: They are, like all behaviors, responses to events in the world. We readily accept that the hotness of fire is something *out there* in the world which I am responding to when I “feel hot.” James urges us to equally accept that the disgustingness of carrion is something *out there* in the world which I am responding to when I “feel disgusted.” In the same sense, my fear is something out there in the world which I am responding to when I “feel fear,” and so on for all the so-called affective states.

But why should we care that Laird’s efforts flesh out aspects of William James’s approach to psychology? James died over 100 years ago, and though his theory of emotion still draws some attention, few in contemporary psychology or philosophy would self-identify as “radical empiricists.” Why should anyone outside the narrow field of emotion research care about this contribution? Because it offers the possibility of re-integrating James’s theory of emotion with the other parts of James’s legacy: Radical behaviorism and ecological psychology.

Though it is little recognized, the pragmatism of Charles Sanders Peirce and the radical empiricism of William James continue to influence 21<sup>st</sup> century psychology in profound ways. Through Edwin Bissell Holt, Gilbert Ryle, and Ludwig Wittgenstein, this tradition affected several of the 20<sup>th</sup> century’s most influential psychologists, including B. F. Skinner and E. C. Tolman (Charles, 2011c; Smith, 1986) and James J. Gibson (Heft, 2001; Charles, 2009). Lineages of researchers descended from each of these thinkers remain active. Moreover, key ideas from those research programs are actively being synthesized within the more radical forms of the embodied cognition movement (e.g., Chemero, 2009, Barrett, 2011).

The major challenge faced by supporters of embodied cognition is the same as that faced by radical behaviorists for over 100 years: How can they deal with the psychological phenomena of emotion and feelings? For the most part, those behaviorists and embodied cognitivists have dealt with this great resistance by avoiding the problem. By putting aside the problem of emotion and feelings, psychologists in these traditions have made great strides in the research areas that posed less resistance. However, for many who are outside these specialties, the lack of ability to deal with emotion-related phenomena has often been a deal breaker. Sometimes rightly, sometimes wrongly, the lack of research has been interpreted as a denial of the importance of emotional phenomena or as a denial of their very existence. This has led many to discount the importance of behavior analysis, molar behaviorism, ecological psychology, and embodied cognitive work.

This is where the true importance of Laird’s work lies. Behavioral psychologists are often accused of being unable or unwilling to deal with emotions and feelings, and this is traditionally seen as a major deficit of their approach to doing psychology. Thus, there is great value in a non-reductive behaviorist interpretation of emotions and feelings, such as the one offered here, supported by the systematic evidence that Laird marshals. Any of a number of classic books in the behaviorist or ecological traditions—as well as any of the recent books about radical embodied cognition—could be complemented by Laird’s book to provide

an empirically grounded interpretation of the full range of traditional psychological phenomena.

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