

## The Pluralistic Approach to the Nature of Feelings

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This article contains an initial statement of the pluralistic approach together with some justification for its adoption by psychologists. Two alternative conceptions of the nature of feelings, William James's and Edmund Husserl's, are discussed with the pluralistic approach in mind. Psychologists who would practice the pluralistic approach with respect to the nature of feelings must develop a plural conception of the nature of feelings. A plural conception differs from a singular conception by simultaneously including more than a single account of the relevant phenomena. Rather than wreaking destruction on alternative conceptions, the pluralistic approach is such as welcomes, encourages, and even commissions the formulation of alternative accounts of the phenomena of concern. Rightly or wrongly, the pluralist psychologist feels closest to an ideal explanatory framework at those points in his or her plural conception where the alternative accounts are mutually contradictory.

Most of the modern "classical" psychologists, however, were more anxious to simplify their findings so they could be systematized than they were to examine them patiently and empirically. . . . Before we had any clear image of the phenomenon we call "mind" we committed ourselves to a model, the system of physical laws, whereby the material was automatically cut down to what the model could represent, and the very subject matter of psychology—the psychical phase of vital functions [i.e., feeling]—was eliminated altogether, leaving only its overt record, behavior. (Langer, 1967, p. 59)

When and how do feelings occur? What are their conditions and causes? These are crucial questions for any scientific account of feelings. But they are not the main concern of the present article. Instead, I consider what feelings are in themselves, what feelings really are. Clearly this is a more controversial question than the above ones. Some psychologists will say questions about what psychological occurrences really are should not be raised by scientists.

Should I begin by stating what I mean by the term *feelings*? Should I lay out what my subject matter, for the present article, includes and does not include? Should I give to the reader, at once, my "definition" of feelings, or some answer to the question of what feelings are, before I begin to discuss the nature of feelings?

Among Gibson's (1979) goals in his final book was to reveal the nature of visual perception (contrary to Dodwell's, 1975, proscription; see later). That this was Gibson's goal is evidenced repeatedly. See, for example, his numerous attacks on the alternative "sensation-based" theories of visual perception, in favor of his own "information-based" theory. Nevertheless, Gibson's "redefinition of perception" (to accord with his developing ecological approach) occurs in the last chapter of the book's third part (Chapter 14, pp. 239–240). Should he have told us quite early what visual perception is, in his introduction or first chapter?

I still stand by my statement (of a dozen years ago) about the question of what consciousness really is:

Our question is a thoroughly theoretical one that demands the ultimate—what consciousness really is, once all that pertains to finding out is said and done. To answer it in a fully satisfactory way, without proviso, requires nothing less than an ideal explanatory framework, which of course is not at hand. Somewhere the story is told of Wolfgang Köhler's reply when he was asked for his definition of perception. He said, "If I could give you an answer, my life's work would be over." Köhler might have been speaking for generations of perception psychologists yet to come. In science, what perception, or consciousness, is cannot be stipulated; it must be found out, and finding out may be a very long process. (Natsoulas, 1978a, pp. 907–908).

Earlier, Langer (1967) had expressed a similar view:

The precise definition of the matter and scope of a science is more likely to become accessible in the course of intimate study, as more and more becomes known about it, than to be its first step. Physics did not begin with a clear concept of "matter"—that concept is still changing rapidly with advance of knowledge—but with the working notions of space, time and mass, in terms of which the observed facts of the material world could be formulated. What we need for a science of mind is not so much a definitive concept of mind, as a conceptual frame in which to lodge our observations of mental phenomena. The field of inquiry should then define itself in various ways, by stages. (p. 17).

Psychologists find useful, for their scientific purposes, the formulation and utilization of "working definitions," or provisional distinguishing characterizations, for the particular phenomena that are of focal concern to them. For example, when a psychologist is investigating the stream of visual perceptual experience for its properties, the psychologist tries to say, as I did recently (Natsoulas, 1989c), what this stream is as distinct from other processes or activities with which it may be confused conceptually, such as the living observer's activity of visual perceiving or the stream of visual reflective experience (cf. Gibson's, 1979, pp. 3 and 255–256, comments on retinal photographic vision, and on visual nonperceptual awareness).

Such provisional distinguishing characterizations of theoretically focal phenomena are no less theoretical, of course, than the eagerly anticipated ultimate characterizations that will be part of an "ideal explanatory framework." And the contemporary psychologist always has to make choices from alternative

characterizations of the same phenomena. These choices are provided by alternative accounts of the phenomena from different theoretical orientations. In the present article, I argue that the latter situation, the existence of theoretical choices, is a desirable situation for the good of psychological science.

I wish that Gibson still could (and other perception psychologists would) theoretically describe what I referred to in a previous article as “visual perceptual experience” (Natsoulas, 1989c). Would Gibson have simply directed me to the subsection of his book entitled “A Redefinition of Perception” (Gibson, 1979, pp. 239–240)? Or would he have explicitly, in the light of the ecological approach, “corrected” or added to my provisional characterization of visual perceptual experience? Based on our different working definitions of visual perceptual experience, I could study and learn more about that which we were commonly addressing. It would be helpful in the same way if Cutting (1986) were to expand on the last chapter of his own book.

Sometimes, psychological colleagues express impatience and dissatisfaction because there are so many theoretical choices to make in our field. These psychologists manifest genuine frustration and I tend to react sympathetically. However, my own attitude toward this “problem” is quite different from theirs. I have always valued highly the pluralistic character of theoretical psychology. I view what these psychologists complain about as evidence of psychology’s vigor and potential cognitive adaptability to our complex subject matter. In this sense, my position is more biological than theirs, since they prefer sameness to diversity.

It is to psychology’s long-term advantage that psychologists have not succeeded in getting everyone in our field to march to the same conceptual, theoretical, and epistemological drummer. Imagine (with horror) a unified science of psychology! (Cf. Jarvie’s, 1987, discussion of how differently the scientific establishment received the respective contributions to the philosophy of science of T.S. Kuhn and K.R. Popper.) I also believe that psychologists will try but never succeed in unifying their field—which would be to our science’s serious disadvantage, as have been the many attempts and successes by psychologists to control and censor what their colleagues may say in print.

Even when an ideal explanatory framework is finally at hand, a brilliant dissident will startle the world with an alternative ideal explanatory framework. And the dissident will conclude his or her revivifying presentation with a statement like Gibson’s (1979) last words of his final book: “These terms and concepts are subject to revision as the ecological approach to perception becomes clear. May they never shackle thought as the old terms and concepts have” (p. 31)!

With regard to the nature of feelings, it is not clear, at the present time, which conceptual strategy will be the most useful. At this time, a popular approach would be for a psychologist (a) to choose among the available theories pertaining to feelings or to devise another theory of feelings, (b) to adopt from the theory of

choice its provisional distinguishing characterization of feelings as his or her working definition (cf. Natsoulas, 1978a, p. 908), (c) to pursue the question of what feelings are beyond what the theory of choice holds so far, and (d) to revise, based on findings, his or her working definition of feelings as well as the theory itself (cf. Gibson, 1979, pp. 270–271, on what a picture is). Eventually, this epistemic procedure will lead, many psychologists believe, to an ideal explanatory framework; though achieving this ultimate goal will require that the same kind of procedure be applied to many other questions about psychological functioning, questions analogous to what feelings are and questions about conditions and causes.

However, this is but one possible scientific approach to the nature of feelings that a psychologist might try. Another strategy a psychologist might adopt for investigating the nature of feelings is less stipulative and more dialectical than the one I just described. I introduce next “the pluralistic approach.”<sup>1</sup>

In the present article, I provide an initial statement of this approach, followed by some justification (and then further justification) for its adoption, though not to the exclusion of other approaches. And in the final main sections, I consider two alternative conceptions of the nature of feelings from the literature, with the pluralistic approach in mind.

The latter two discussions are about William James and Edmund Husserl on the nature of feelings, and are my first attempt to emphasize and develop the distinctive and antithetical dimensions of their accounts, relative to other conceptions of the nature of feelings. How are James’s conception and Husserl’s conception essentially different from alternative conceptions? As I shall explain before coming to James and Husserl, addressing the latter question is a crucial part of acquiring a “plural” conception of the nature of feelings, though one could proceed instead with other theorists of the nature of feelings. In future articles, I hope to provide improved statements of the pluralistic approach, further justifications for recommending it, and more applications of the approach to conceptions of the nature of feelings available in the literature.

### Initial Statement of Pluralistic Approach

Psychologists who would practice the pluralistic approach with respect to the nature of feelings must develop a “plural” conception of the nature of feelings, though not necessarily the same such conception (nor must they all have as ultimate goal an ideal explanatory framework of singular, or plural, conceptual dimension). As far as I know, there is nothing about the individual human mind that requires a singularity of conceptual structure as regards a particular subject matter. In other words, the pluralist psychologist shall not commit himself or

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<sup>1</sup>As will be evident, the pluralistic approach has been strongly influenced by the work of Feyerabend (e.g., 1981a, 1981b); however, many differences also will be noticed.

herself methodologically to the doctrine that every thing is the thing that it is and not anything else, that is, the doctrine that holds an entity or event must be either this or something else and not both. Of course, the pluralist psychologist may accept this doctrine, but his or her mind need not operate in accordance with it when he or she is investigating, for example, the nature of feelings.

Thinking about the nature of feelings (which is essential to any investigation of feelings), the psychologists who possess a "plural" conception of their subject matter would move naturally and freely from conception to alternative conception, and so on, and back again. Often, a pluralist psychologist would succeed in keeping at the same time in the forefront of his or her mind, for example, mutually contradictory characterizations of the same feelings. There would co-occur in the pluralist psychologist's conscious thought, in his or her stream of consciousness, alternative conceptions in disagreement with each other about the nature of feelings. I mean that such co-occurrences would transpire not only when the pluralist psychologist was thinking about different conceptions of the nature of feelings but also when he or she was thinking of the nature of feelings per se. In time, pluralist psychologists may come to experience difficulty and strain when attempting to consider feelings from only a single theoretical perspective, while putting out of mind the other conceptions that make up their particular "plural" conception. Some will come to propose and argue that the nature of feelings includes the latter's amenability to construal by their particular "plural" conception.

The elimination or destruction of alternative conceptions, so that only one or a few of them are left standing, is not of strong interest to the pluralistic approach. Actually, it is not a part of the approach at all, though there may turn out to be scientific value in attempting a kind of mixture of the eliminative and pluralistic approaches at certain points in the development of knowledge concerning, for example, the nature of feelings. The pluralistic approach judges that, at the present stage of scientific knowledge concerning feelings, it is better to have more than fewer conceptions of them, and to consider these conceptions together and, whenever possible, put them to use together. Rather than wreaking destruction on alternative conceptions, the pluralistic approach is such as it welcomes, encourages, and even commissions the formulation of new conceptions of the same phenomena. As you add further conceptions of the nature of feelings to the ones that are already in your possession, your plural conception tends to expand and becomes enriched.

A dry spell of new conceptions in a particular area of psychology would cause alarm, rather than complacency, among the pluralist psychologists in that area. The Society of Pluralist Psychologists would likely sponsor contests for new conceptions of, for example, the nature of feelings, on the conviction that, provided that they are different from each other, there cannot be too many such conceptions, although there can be too few of them. If a plural conception of the nature of feelings is our immediate goal, a new conception can be entertained

and utilized without replacing an old conception however much they disagree.

Therefore, when psychologists in large numbers are heaping attention on a particular alternative conception of a certain kind of phenomenon, the situation is neither a crisis in the making nor a sign necessarily that the long awaited simplification of their intellectual life has finally arrived. Psychologists hunger for an ideal explanatory framework, and will sense its presence or imminence when it actually is nowhere in sight; for they have not yet adopted the pluralistic approach to their subject matter, an approach which is more intellectually nourishing than the game of destroying alternative hypotheses. Also, for the good of the science, psychologists need to loosen their identification with particular conceptions of their subject matter (see later); the pluralistic approach is especially helpful in this regard.

Although the pluralistic approach is relatively irenic, as compared to most other epistemic approaches, the pluralistic approach does emphasize conflict and disagreement between the alternative conceptions that constitute a particular plural conception. The approach attends especially to points where alternative conceptions are not compatible with each other. Although convergence between alternative conceptions does not lack interest, the pluralistic approach is especially sensitive to, for example, where two conceptions contradict each other with regard to the nature of feelings. For the pluralist psychologist, points of incompatibility are the "holes through which the world shines through to us" (cf. McKenna, 1982, p. 45, who uses the phrase for something else). The pluralist psychologist's pulse quickens upon discovering or learning of a more revealing difference in how two conceptions construe what feelings are. Rightly or wrongly, it is then that the pluralist psychologist feels himself or herself to be closest to an ideal explanatory framework, not when he or she notices that, after all, two or more conceptions declare the same truths about, for example, the nature of feelings.

The following are dimensions of the proper scientific attitude according to the pluralistic approach: (a) do not want particularly to assimilate to each other different conceptions of, for example, the nature of feelings; (b) do not want to treat the differences between conceptions as secondary or unimportant; and (c) want to resist easy conciliation among different conceptions. To bring out the possible nature of feelings, the pluralist psychologist maintains and exacerbates the tensions between different accounts, rather than quickly resolving these tensions. Applying this "method," the psychologist refuses to forget or let go of the alternatives. Thus, he or she allows their distinctive insights to persist in thought, as well as the cognitive "contrast effects" that they yield in relation to each other.

I have not said that resolution between alternative conceptions is undesirable, only that easy and premature resolutions should be avoided. It is a scientific virtue not to engage in self-deceptive resolutions whose function it is to reduce tension and simplify one's intellectual life. As Gibson urged, psychologists

should “stand in awe” of their subject matter (quoted by Reed, 1988, p. 1).

### Some Justification of Pluralistic Approach

Some justification for the pluralistic approach to the nature of feelings can be found in the great distance psychology still has to cover to reach a relevant ideal explanatory framework. At present, it would seem premature to want to eliminate alternative accounts rather than to improve them. Later on, when we are much closer to the goal, perhaps it will be time to try for a singular conception of the particular phenomena. The following exchange between two cognitive psychologists gives to the reader the right impression, I believe, regarding how long a trip that will be. Both of these psychologists are scientific leaders within their respective subfields of cognitive psychology.

Consciousness is the constitutive problem of psychology. That is to say, I am as dissatisfied with a psychology that ignores consciousness as I would be with a biology that ignored life or a physics that ignored matter and energy. . . . Pylyshyn hints that a broader view of computation might make it possible to subsume the mystery of conscious experience into a computational theory. (Miller, 1980, p. 146)

Our informal notion of mental content is being refined in such a way that certain aspects are being assimilated to a computational theory (e.g., noticing that one has a pain is a perfectly serviceable cognitive state), while others (e.g., the raw pain itself) may simply end up as one of life's infinite mysteries (Pylyshyn, 1980, p. 166).

The second author is suggesting that an aspect of human psychological functioning (i.e., the feeling of pain), even an aspect that human beings are constantly “noticing,” may simply be omitted as subject matter from the ideal explanatory framework. Why does he make this particular prophetic suggestion? Because the feeling of pain does not receive any mention at all within his computational theory of the human mind. If the second author were to convert to the pluralistic approach (which need not exclude his present conception!), he certainly would not be so scientifically pessimistic about feelings. Why does he not develop for himself a plural conception of the nature of feelings that includes both his computational conception of mind and a conception of the mind along the lines, say, of Melzack's (e.g., 1989) thinking about the brain and pain? Nothing requires him to rest with a singular conception, not even incompatibilities between the alternative accounts constituting a plural conception.

Five years before the above exchange (and four years before Gibson, 1979, “set new theoretical standards by which future research in visual perception is to be judged.” Restle, 1980, p. 291), there appeared in the psychological literature a proscriptive statement which, while not about the nature of feelings, addressed the nature of another phenomenon included under the psychology of consciousness. A prominent experimental psychologist of visual perception boldly stated,

The nature of visual perception is such as to preclude the sorts of major development in theory which characterize other branches of science, unless it be considered a breakthrough to recognize this very fact. . . . No profoundly new insights will revolutionize our understanding of perception. . . . [There will occur no] radical change in understanding the nature of perception per se. (Dodwell, 1975, pp. 67–68; Natsoulas, 1981, pp. 171–173, for comment)

I take such epistemological pessimism to demonstrate the primitive level of our scientific understanding of the respective psychological phenomena. The psychologist tries to foresee future developments in our science, so that he or she can proffer guidance to his or her colleagues and students, but the psychologist is unable to imagine what lies ahead. The psychologist thereupon attributes the darkness of his or her vision either to the intrinsic character of the phenomena or to the whole human species' limited knowledge capabilities. Commitment to singular conceptions of their subject matter may lead psychologists to lose confidence in and respect for human imagination. Pluralist psychology will help them to regain the proper awe that human cognitive capabilities, including science, deserve.

When treating of psychological questions, not only psychologists arrive at the premature opinion that human beings cannot achieve an adequate answer. For example, the philosopher McGinn (1989) has just thrown in the towel for the whole human species, including the yet unborn, with regard to our ever solving the mind-body problem: "What I want to suggest is that the nature of the psychophysical connection has a full and non-mysterious explanation in a certain science, but that this science is inaccessible to us as a matter of principle" (pp. 361–362).

According to McGinn, brains are responsible for our states of consciousness; consciousness has its "*de facto* causal basis" in the brain and is a property of the brain. Yet human beings both lack and cannot possibly acquire the concepts necessary to describe the causal connection which makes the brain responsible for our states of consciousness. Our predicament does not result from the nature of the relation between the mental and the physical; this relation is of a kind for which adequate concepts could theoretically be formed; but human beings are a kind of creature innately incapable of this concept formation. We are all permanently disadvantaged by a genetic deficiency for which we can never compensate no matter how enlightened otherwise we may become.

To make his thesis about the mind-body problem more plausible, McGinn (1989) therefore used contrasts as follows among different species of animals: "What is closed to the mind of a rat may be open to the mind of a monkey, and what is open to us may be closed to the monkey" (p. 350).

Evaluation of McGinn's thesis requires exploring how, though we know so little about the brain, McGinn knows enough about our knowing about the brain to draw his permanently agnostic conclusion. I cannot evaluate his thesis here, except to say (again; see Natsoulas, 1981, p. 172) that it is almost a tradition



in psychology to announce that some questions other psychologists have been asking just cannot be asked or answered. Of course, psychology does not exist in a vacuum, this maneuver belongs to the wider scientific culture of which psychology is a part. (I can recall hearing Edward Teller speak on campus here some years ago and his telling a graduate student that he could not ask a certain theoretical question, and that the disallowing of this question was a great advance for physics.)

McGinn's article suggests to me that before long someone will offer advice to psychologists—based on knowledge of their cognitive abilities—as to which problems psychology can hope to solve and which problems the science cannot solve. And psychologists will take this advice and use it to decide which psychologists' scientific careers are to be advanced and which discouraged.

This "principled" epistemic approach is eliminative in the extreme, for it proposes to destroy in advance all conceptions pertaining to certain subject matters (i.e., the permanent mysteries). In contrast, the pluralistic approach (a) values the many alternative conceptions and (b) claims to grasp the relevant phenomena better through incompatibilities between alternative conceptions of them than through their consistencies. Would a pluralist psychologist ever take the view that we should stop trying to formulate new accounts pertaining to the psychophysical connection, and that we should stop studying and mutually relating the old accounts, on the grounds that to continue to do so is pointless because we will never achieve, in this regard, an ideal explanatory framework? The possession of a plural conception of a phenomenon is not a trivial matter, nor is the future progress of science already known.

All of the above considerations, and especially the exchange between those two scientific leaders of cognitive psychology, suggest to me that we should adopt no current account of the nature of feelings except for the purpose of a dialectical process wherein alternative understandings of what feelings are receive equal weight or, at least, are not neglected. As stated, the pluralistic approach assigns low methodological priority to the elimination of alternative conceptions, and high methodological priority to the development of alternative conceptions and to their interanimation. Thus, in time, there may come to hand the conceptual means whereby we can achieve a comprehensive grasp of the respective phenomena.

### **Further Justification of Pluralistic Approach**

The pluralistic approach views with grave suspicion any effort to shut down thought and discussion of basic questions or alternative answers to them—whether the proposed shutdown is justified by scientific prophecy, deep knowledge, the brightest and the best philosophy of science, or any other way. (The people may choose not to support extravagant requirements to keep certain parts of science going, but that is another matter; after all, scientists are asking them to

work, and live more poorly, for the sake of science.) In the face of efforts to shut down thought and discussion, the proper scientific posture is both staunch resistance and sustained inquiry as regards where such proposals are "coming from."

We must expose all attempts to discourage thought and discussion within our science, including the publication manual of the American Psychological Association. Bazerman (1987) has begun the latter task with a study of the successive editions of this manual, and he has concluded as follows:

Within this rhetorical world, the chaos of intellectual differences is eliminated. Individuals accumulate bits, follow rules, check each other out, and add their bits to an encyclopedia of the behavior of subjects without subjectivity. There is not much room for thinking or venturing here, but much for behaving and adhering to prescriptions. Thus we get to the ever-expanding *Publication Manual*. (p. 141)

In explaining how psychologists behave toward each other, particularly behavior that has the effect of shutting down thought or discussion, there comes a time to bracket the usual benefit of the doubt (cf. Samelson, 1985, p. 44).

In a review of Joynson (1989), Hudson (1989) again stated, as follows, a verdict that he had passed in the early seventies (Hudson, 1972) on the state of contemporary psychology: "The discipline is not a society of good men and true which harbours the occasional malefactor, but one in which the wilful promotion of one view of reality at the expense of all others is the norm" (p. 1202; also quoted by Joynson, 1989, from Hudson's earlier statement with strong favor). Hudson thereupon qualified his earlier statement but his revision portrays the state of psychological science as even worse. His revision describes progress in the science *as depending on such "wilful promotion!"* According to Hudson (1989), the situation, as he had described it earlier, continues to exist because "those with the psychic energy to drive our disciplines [the human sciences] on to previously untrodden ground" are so disturbed by the contradictions between their visions and what everyday science can do that they must indulge "in rash and inconsistent prejudices and loyalties, a willingness to finagle and feud, unexplained lapses of judgment, personal quirks and apparently pointless acts of public and private delinquencies" (p. 1202).

More pessimism here, and again deriving, I believe, from an inability to imagine the future, in this case the possibility of an improved science. Hudson (1989) writes of "the fabric of everyday science" as though this fabric cannot be woven in a different pattern. It is as it is, he seems to say, and we must live with it, including the "wilful promotion" that spreads out from the "prime movers" to so many colleagues. Neither psychology nor human beings are fated to be as Hudson has described. It is more human to dwell in contradictions than to explode in face of them. Those in our science who are especially prone to "visions," as Hudson described them, could turn out to be just the ones especially well able to contemplate alternative conceptions, alternative realities,

the present in contrast to what might have been or might yet be.

These "prime movers" need, and their followers need, an everyday methodology that is not "imaginatively inert" (Hudson, 1989, p. 1202), a methodology that thrives on disparities, differences, and disagreements. There may well be more fruitful ways for psychologists to proceed with their scientific activities than the "wilful promotion" of a singular conception at the expense of other singular conceptions. By pursuing a less aggressive, less eliminative science, which cherishes variety and savors contradictions, those psychological scientists who tend to "wilful promotion" can help themselves achieve a more human attitude to their colleagues and field of science.

Science is a human activity and proceeds in human history. There is no ideal science to which our practice must conform. Science is a battleground only insofar as scientists decide to make it so. Those who claim to speak for an ideal science are, actually, the least scientific among us; it does not matter how often they use the phrase "good science." They are the least scientific because they use a fiction to coerce the thought, behavior, and lives of their colleagues and students. Their scientific activities fit the mold of authoritarian religious leaders.

Psychologists are culture makers and they can remake the science that they have made. What I wrote to describe Freire's (1970, 1973) "education for a critical consciousness" applies as well to psychologists vis-à-vis their science:

Freire's educational procedure of adult literacy training is at the same time a procedure for making people "conscious." It begins with getting them to infer that they are culture makers, or agents of social change, who can, together with their fellows, remake the society that man has made. Before they achieve this insight, people are said to be "preconscious" in that they do not differentiate culture from nature and consider broad social arrangements to be as immutable as the facts of nature are. (Natsoulas, 1981, p. 170)

The pluralistic approach may be exactly what psychology needs at the present time in order to begin to replace the wilful tendencies that have proliferated in our discipline. This approach can help us, as some colleagues would say, to work a virus out of the system. However, the approach has to be applied widely and again and again over a long period of time to do the latter job. With regard to the nature of feelings, as an example, I should treat Skinner's (e.g., 1987; see Natsoulas, 1988b, 1988c) theoretical discussions of feelings not as being "clearly the wrong view to take," but as casting its own special light and shadows on the phenomena of interest and therefore tending to reveal what other conceptions of feelings, outside the radical behaviorist framework, do not reveal. I should give special attention to those parts of Skinner's account where his conception of feelings differs from other conceptions of the same phenomena; for example, where he insists on identifying feelings with receptor stimulation or with certain kinds of motor activity, while others are interpreting feelings cognitively, experientially, or physiologically. Where Skinner's view of feelings differs most sharply from other views, what might this difference tell us regarding the kind

of happening feelings are? What are the implications and suggestions for the nature of feelings of exactly this disagreement?

However, I do not pretend to have seen the truth, to have found a method that makes it possible for us to speed toward an ideal explanatory framework for the nature of feelings. Another cognitive psychologist wrote about his own method with greater subjective certainty than I feel about the pluralistic approach. There is a level of methodological confidence here that mine does not reach:

Explanations generated by a recently evolved featherless biped cannot but be models of the world, convenient fictions that help our limited understanding. . . . The tendency to take folk theories too seriously. . . implies a degree of pretentiousness about the status of this sometimes pitiful little animal that I cannot share. It also hinders the development of the kind of game playing that I find so attractive in science—the erection and destruction of hypotheses with a claim to better and better approximations of reality, but never a claim to ultimate truth. (Mandler, 1975, pp. 8–9).

This calls for two comments: (a) The scientific procedure that this author describes was recently invented by that same “recently evolved featherless biped” and “sometimes pitiful little animal.” (b) Concerning prescriptions for good scientific behavior, I wrote as follows in a previous article:

The development of a theory of science is a theoretical and empirical enterprise equally as much as the effort to solve the problem of the nature of conscious experience. And everyone will surely agree that we are still very far from an adequate empirical theory of science. The fact that we engage in scientific practice does not mean that we have an adequate theory of science, any more than a musical virtuoso has an adequate theory of his or her performances. We simply do not know enough yet about how science works, as it were, to prescribe what to do to maximize progress. (Natsoulas, 1981, p. 134)

Indeed, I have not derived the pluralistic approach of the present article from any science of science; that is, from any science in a position to guide psychologists with regard to how they should proceed if they are to achieve their epistemic goals. I proffer the present approach to the nature of feelings as being one of a large number that psychologists should adopt. The scientific activity of psychologists is *too much the same*, I believe, given that science is a historical and biological process. The natural process of selecting those conceptual adaptations to our complex subject matter that will carry us to the truth of the matter will require a greater diversity of epistemic approaches than psychologists have been allowing themselves.

No doubt, a colleague will take issue with me regarding the advisability of the pluralistic approach. He or she will argue that a “stronger” approach is required than the pluralistic one because the nature of feelings is such, or the nature of psychological functioning is such, or the nature of science is such, or the nature of nature is such, that feelings, psychological functioning or nature will only stand revealed to those who engage in more single-minded cognitive confrontations with the particular subject matter. Presumably, the colleague would know that

this is the case on the basis of the many successes that the human activity of science has already achieved. Let me not doubt that the kind of scientific method the colleague advocates (for me, as well, to use) *was in fact responsible* for many of the successes that science can claim. In that case, what follows regarding approaches that psychologists have not yet tried? After all, the colleague will agree that there has been, so far, limited progress in the science of psychology using the very method that he or she advocates. The colleague's argument must rest in large part on generalizations from other sciences. Nevertheless, I grant the pluralistic approach *may have* certain disadvantages relative to the eliminative approach. May have. Reasons to believe so should be stated and discussed.

### William James's Conception of the Nature of Feelings

This famous chapter [on the stream of thought] should be re-read often, for it suggests many things that it cannot explicitly name. (J.J. Gibson, quoted by Reed, 1988, p. 261)

#### *Use of the Words Feeling and Thought*

Let me begin a discussion of what, according to James (1890), feelings are in themselves with some comment on his use of the word *feeling*. Early in his great book, James informs us that he will use the word *feeling* interchangeably with the word *thought* (Vol. 1, p. 186). He warns us that his use of *feeling* for thoughts and *thought* for feelings may startle us. Nevertheless, "according to the convenience of the context," either word will designate a "state of consciousness." The latter is an integral pulse of consciousness, the basic durational component of the stream of consciousness, the minimal temporal segment of the stream of consciousness that qualifies as an instance of its owner's being conscious of something (or conscious as of something; see later). However, at a number of points, James (1890) distinguishes subcategories of states of consciousness by means of the words *feeling* and *thought*. Which is only to be expected: any psychologist who discusses the conscious mental life generally and intensively for more than a thousand pages will need both words in their usual, narrow sense. The following are two examples of James's not using *feeling* and *thought* as synonyms of each other: (a) James (1890) used the word *feeling* to distinguish between two different kinds of being conscious of a past occurrence:

[Peter] may have a *knowledge*, and a correct one too, of what Paul's last drowsy states of mind were as he sank into sleep, but it is an entirely different sort of knowledge from that which he has of his own last states. He *remembers* his own states, whilst he only *conceives* Paul's. Remembrance is like direct feeling; its object is suffused with a warmth and intimacy to which no object of mere conception ever attains. (Vol. 1, pp. 238–239; cf. Natsoulas, 1985–1986, pp. 28–29)

Any instance of remembrance is an integral pulse of consciousness and is like an instance of feeling something. In contrast, Peter's present mental reference to

Paul's last drowsy state of consciousness, before Paul fell asleep the evening before, is like an instance of mere thought. (b) "The words feeling and thought give voice to the antithesis. Through feelings we become acquainted with things, but only by our own thoughts do we know them" (James, 1890, Vol. 1, p. 222). Here James was explaining his distinction between "knowledge of acquaintance" and "knowledge-about." Feelings are states of consciousness that in themselves give to their possessor a direct encounter with what he or she apprehends in having a feeling. What does James mean by a direct encounter? The answer is part of James's conception of the nature of feelings and I shall come to the answer in this section.

### *Major Theoretical Claim*

James's decision to make wider use than usual of the words *feeling* and *thought* was not merely stipulative (cf. Myers, 1986, p. 242). James thereby implied a major theoretical claim regarding the nature of thoughts and feelings in their usual, narrow sense: all states of consciousness (therefore, all integral components of the mental life) are best understood to exemplify simultaneously both (a) properties that are said by other theorists to be distinctively possessed by feelings and (b) properties that are said by other theorists to be distinctively possessed by thoughts. In his chapter "Conception," James (1890) made this theoretical claim fully explicit by quoting as follows from a recently published article (James, 1884):

All mental facts without exception may be taken [to have] their structural aspect, as being subjective, and their functional aspect, as being cognitions. In the former aspect, the highest as well as the lowest [mental fact] is a feeling, a peculiarly tinged segment of the stream. This tingeing is its sensitive body. The *wie ihm zu Muthe ist*, the way it feels whilst passing. In the latter aspect, the lowest mental fact as well as the highest may grasp some bit of truth as its content, even though that truth were as relationless a matter as a bare unlocalised and undated quality of pain. From the cognitive point of view, all mental facts are intellections. From the subjective point of view all are feelings. (Vol. 1, p. 478)

### *All States of Consciousness Are Feelings*

All durational basic components of the stream of consciousness, all pulses of consciousness, whatever other heading they may qualify under, are feelings. Any state of consciousness, any mental occurrence, just by its occurring, feels in some way. Langer's (1967) following statement captures well, I believe, the relation to which James (1890, Vol. 1, p. 478) adverted between any state of consciousness and its "tinge" of feeling. However, James (1890) did not identify the stream of consciousness with any physical process of the brain or anything else, and so the identification must be subtracted from the following statement if it is to match James's view:

What is felt is a process, perhaps a large complex of processes, within the organism. Some vital activities of great complexity and high intensity, usually (perhaps always) involving nervous tissue, are felt, being felt is a phase of the process itself. . . . The phase of being felt is strictly intraorganic wherever any activities of life attain it. It is an appearance which organic functions have only for the organism in which they occur, if they have it at all. . . . The "psychical phase" . . . is the phase of being felt. . . . The thesis I hope to substantiate here is that the entire psychological field—including human conception, responsible action, rationality, knowledge—is a vast and branching development of feeling. (pp. 21–23)

In Langer's terms, James (1890, Vol. 1, p. 478) was saying (a) that every particular instance of a state of consciousness is "felt" and (b) that its being felt is a "phase" of the particular instance. A state of consciousness's phase of being felt is not an appendage (Natsoulas, 1984a) of the state; this property belongs to the state of consciousness itself, intrinsically to each of its occurrences.

### *Substantial Agreement*

Therefore, a recent general statement by Smith (1986) stands, I believe, in substantial agreement with James's view that all states of consciousness possess a dimension of feeling. Smith (1986) stated,

Even pure thoughts have qualia, so long as they are conscious thinkings: compare what it is like to think, consciously, that President Reagan is obsessed with Nicaragua, to think that Fidel Castro is obsessed with Angola, or to think that the Dodgers are baseball's best. Every conscious mental state has a certain phenomenal quality, a quality distinctive of that type of experience. (p. 152; cf. Husserl, 1900/1970, pp. 738–739)

And Sigmund Freud, too, held this position expressed by Smith, as I have shown (Natsoulas, 1984a, 1989b). There is substantial agreement here but not complete agreement between James and Smith and Freud. The "tinge" of feeling, the sensitive body, of every instance of any state of consciousness is equivalent to what Smith and Freud treat of as the qualitative character of a mental occurrence. However, Smith and Freud differ from James with regard to those mental occurrences that are not states of consciousness. Whereas they held that such mental occurrences are nonqualitative, James allowed no exceptions. According to James, all mental occurrences without exception are states of consciousness and, therefore, they are all feelings in their "structural aspect."

### *All Feelings Are Thoughts*

I consider next the second part of James's theoretical claim. Any state of consciousness that another theorist judges to be a mere feeling, James would say that this identical particular mental occurrence qualifies as a thought as well. In his brief remarks about the difficulty of choosing a suitable word or phrase to designate those occurrences called "states of consciousness" (the latter phrase

being itself, as are *mental state* and *conscious modification*, too awkward and lacking a cognate verb), James (1890) stated, "Thought' would be by far the best word to use. . . . It immediately suggests the omnipresence of cognition (or reference to an object other than the mental state itself), which we shall soon see to be the mental life's essence" (Vol. 1, p. 186). All mental occurrences have this essence; all are cognitive. However narrowly the word *feeling* is used to designate a class of mental occurrences, reference to an object other than the feeling itself is part of the essence of every feeling, according to James. Thus, I take James to be claiming that, whenever any instance of any kind of feeling occurs, the instance is not simply felt in Langer's (1967, pp. 21–23) sense; in addition, the owner of the feeling thereby and therein feels something else, something other than the feeling or any aspect, part, or property of the feeling. Consistently with this, Myers (1986) quotes from James's notes of 1884 as follows: "Thought with something given in it, that is the primordial datum. . . . The faintest sensation has it, and need not wait for the mind to come and apply any 'category' to it" (p. 242).

### *Feelings Without Something Felt*

In James's (1890) account, there are two distinct "things:" (a) the sensation, feeling, thought, and (b) something, that this state of consciousness feels or apprehends; though there is, as well, a significant class of exceptions: a mental occurrence may be no different intrinsically than other mental occurrences yet differ from them by not being an apprehension of anything. A mental occurrence may not have an object; it may, so to speak, aim and discharge yet have no target; because the world does not cooperate with it, does not make it possible for the mental occurrence to realize its potential self-transcendent function (James, 1885/1978, p. 186). In such cases, does the possessor of the mental occurrence apprehend the mental occurrence itself, since the possessor is not apprehending something else in having that mental occurrence? This construal would be a mistake (cf. Natsoulas, 1988–1989, p. 331); rather, the individual has a thought "as of" something else. The individual has a thought that is like any other thought except that the present thought does not transcend itself for want of a suitable object; and like every other thought, it does not turn around on itself as object. Thus, in James's sense of what is felt, a feeling never, so to speak, feels itself. When I "have a feeling," a feeling takes place in my stream of consciousness but I do not feel the feeling. There is a *what* that I do feel when I have a feeling, but the *what* of this feeling is distinct from the feeling by which I feel it, however vaguely I may apprehend the *what* in having the feeling. Necessary to add, I may only seem to feel what I feel because the *what* that I seem to feel does not exist. Someone may detect an apparent contradiction in James's view here. To dispell this apparent contradiction, distinguish two properties of any state of consciousness. (a) Any state of consciousness is itself an instance of feeling. This



property of being a feeling is the qualitative intrinsic nature of the state of consciousness, which James (1890, Vol. 1, p. 478) called the state's "sensitive body." (b) By its sheer occurrence, not by anything it or any concomitant of it produces, any state of consciousness makes its owner aware of something else or aware as of something else.

### *Contrast to Franz Brentano*

Before I pursue the latter property, let me comment on James's concept of the "feltness" of a feeling or state of consciousness. Relevant to my next point is James's (1890) explicit rejection of the "self-intimational" kind of conception of the individual's direct (reflective) awareness of his or her states of consciousness. James rejected the view that all it takes for its owner to "perceive" one of his or her feelings is for this feeling to occur, for the owner's stream of consciousness to be occupied by the feeling. In a recent article, I discussed the hypothesis that some feelings of pain are self-intimating in the latter sense (while other feelings of pain are not; Natsoulas, 1989a, pp. 81–88). However, James's (1890) view was the same across all instances of feeling and all instances of any state of consciousness, as can be seen from his following statement:

No one has emphasized more sharply than Brentano himself the difference between the immediate *feltness* of a feeling, and its perception by a subsequent reflective act. . . . No subjective state, whilst present, is its own object; its object is always something else. There are, it is true, cases in which we appear to be naming our present feeling, and so to be experiencing and observing the same inner fact at a single stroke, as when we say "I feel tired," "I am angry," etc. But these are illusory, and a little attention unmasks the illusion. (Vol. 1, pp. 189–190)

Therefore, the feltness of a feeling does not in itself make its owner aware of the feeling, though the feltness of a feeling is an intrinsic property of the feeling, which the feeling exemplifies in itself (i.e., not in relation to something else) every time that it occurs. In previous articles, I discussed the above reference of James's to Franz Brentano's thought (Natsoulas, 1988–1989, p. 334) and I discussed Brentano's (1911/1973) understanding of all states of consciousness as including an apprehension of itself as part of each one of their occurrences (Natsoulas, 1989a, pp. 103–114). Clearly, Brentano's is a different conception of how such apprehension takes place than James's.

### *The Feltness of a Feeling*

According to James, we "feel" a feeling or other state of consciousness at the very instant when it occurs in our stream of consciousness but only in the sense that we live it, in the sense that we have or "are" (Bergmann, 1960) our state of consciousness or feeling, in the sense that we undergo the experience which is

the feeling or state of consciousness. The feltness of a feeling or state of consciousness is simply this mental occurrence's being a feeling—its being the kind of occurrence that, by its sheer occurrence, makes its owner feel something else. Thus are joined together the two properties of any state of consciousness that, under (a) and (b), I mentioned two paragraphs ago. *Because* a state of consciousness is a feeling, that is, *because* it possesses the property of feltness, it can make its owner aware of something. I take this to be James's (1890) point when he states, "Feelings are the germ and starting point of cognition, thoughts the developed tree" (p. 222). And elsewhere: "When our knowledge about things has reached its never so complicated perfection, must there not needs abide alongside of it and inextricably mixed in with it some *acquaintance* with *what* things all this knowledge is about" (James, 1885/1978, p. 185; Myers, 1986, p. 275, hears at this point "a distinctly Hegelian ring").

### *Having Toothache*

Consider the case of my having, at this moment, toothache. I qualify as now having toothache because (a) I am undergoing a certain kind of feeling and (b) this feeling is due to a certain process taking place in my body outside the brain. (Something further to consider, but not here: is the latter requirement necessary? Do I also have toothache if, somehow, my feeling is the same but all parts of my mouth are functioning perfectly well? Is there not such a thing as referred toothache, when there is nothing wrong with the teeth? Might not the brain itself, under very unusual conditions, produce the feeling of toothache in the absence of the usual, or any other causally responsible, bodily process outside the brain? Would I then also qualify as having toothache?) By definition, my now having toothache cannot consist of just a single state of consciousness, that is, a single instance of my feeling pain in my tooth. Having toothache lasts a while and consists of many states of consciousness, a temporal section of the stream of some duration, and all of the component states of consciousness need not be instances of feeling toothache. For a small duration of the part of my stream of consciousness that constitutes my having toothache, I may even get distracted from my toothache, though my toothache goes on throughout the time filled by the part of my stream of consciousness that constitutes my having toothache. As will be obvious later, the latter statement is entirely consistent with James's conception of the nature of feelings. However, not all other conceptions would agree with my statement, particularly the part that implies my toothache may go on though I do not feel it. See my discussion of the aching of Malcolm's legs in a previous article (Natsoulas, 1989a, pp. 84–88).

### *Kinds of Awareness*

The feelings that constitute my having toothache are, according to James, thoughts in themselves. During my having toothache, the particular integral

pulses of consciousness that are instances of feeling are also instances of thought. They qualify individually, all of them, as thoughts. However, their being thoughts as well as feelings does not make each individual feeling anything less than integral, unified, single. It is not the case that any instance of any state of consciousness consists of more than one mental act or occurrence. In previous articles, I interpreted James's (1890) view of feelings as thoughts to mean that feelings (and all other states of consciousness) are awarenesses (Natsoulas, 1985–1986, 1986–1987, 1987–1988, 1988–1989). This does not mean that feelings are in any sort of combination with awarenesses. What Gibson (1979) stated about perceiving according to Gibson's ecological approach, I can state about feeling according to James's approach: feeling is "awareness-of instead of just awareness. . . . This is close to the act psychology of the nineteenth century" (p. 239). Of course, feelings are a distinct class of awareness. Feelings are a special kind of awareness of something (or awareness as of something; let this qualification be understood henceforth), notwithstanding James's holding that all states of consciousness, not only feelings, possess a qualitative intrinsic nature (i.e., all are felt). Thus, whatever it turns out to be, theoretically, that I am aware of when I have toothache, I also can be aware of it otherwise, not by having toothache or pain (James, 1890, Vol. 2, p. 7). You, too, can have awareness of my toothache, though you cannot have my toothache or anyone else's except your own. You become aware of my toothache, have thoughts about my toothache, when I or someone else tells you about it or when you infer my toothache's occurrence from my actions or reactions or from certain advanced psychological recordings.

### *Feelings<sub>o</sub> and Feelings<sub>s</sub>*

Evidently, according to James's (1890) account, to have toothache is to feel toothache (although the feeling need not occur at every moment when one has toothache). Therefore, toothache per se must be distinguished from the feeling of it. We must not confuse toothache with feeling toothache or with having toothache, which includes feeling toothache. Unambiguously, James (1890) stated, "There are realities and there are 'states of mind,' and the latter know the former; and it is just as wonderful for a state of mind to be a 'sensation' and know a simple pain as for it to be a thought and know a system of related things" (Vol. 2, pp. 5–7). If we call the sensation that knows a pain a "feeling<sub>s</sub>" because it is a state of consciousness, and if we call the pain that this sensation knows "feeling<sub>o</sub>" because it is the object of a state of consciousness, then it is feelings<sub>s</sub> that I have been discussing in the present article so far and not feelings<sub>o</sub>. As will be seen, feelings<sub>o</sub> are not components of the stream of consciousness. Nevertheless, feelings<sub>o</sub> are private to their possessor; that is, no one else can feel your feelings<sub>o</sub>, since they occur in your body (cf. Fleming, 1975, p. 534). Skinner's (1972) following statement comes close to indicating what feelings<sub>o</sub> are in the case of having toothache: "My aching tooth is mine in a very real sense because none of

you can possibly get nerves into it" (p. 255).

### *B.F. Skinner*

When I have toothache, there is a certain special feeling<sub>o</sub> in my mouth and, also, a particular kind of feeling<sub>s</sub> in my stream of consciousness; the occurrence of a feeling<sub>s</sub> makes me aware of a feeling<sub>o</sub> in a special way. The latter sentence would seem to express well James's understanding of the feeling part of my having toothache. This understanding has some resemblance to a radical behaviorist conception of pain (see Natsoulas, 1988b, pp. 34–35). A large difference between the two views is that James conceived of feeling pain as a state of consciousness whereas, according to Skinner (e.g., 1976), "We can take feelings to be simply responding to stimuli" (p. 34). Referring to a different radical behaviorist conception of pain than his own (i.e., Rachlin, 1984), Skinner (1984) stated, "[Rachlin] evidently uses the term 'toothache' for all the behavior elicited or evoked by a carious tooth, where I am using it to mean only the stimulation arising from such a tooth" (p. 577). For Skinner, toothache consists of stimulation and feeling toothache is responding to that stimulation. Therefore, Skinner would say that James has erroneously placed feeling<sub>s</sub> in the individual's stream of consciousness when they are, actually, behaviors in the literal sense.

### *Pluralistic Approach*

Given the partial sameness of James's and Skinner's conceptions, one may be tempted quickly to conciliate their differences. Adopting the pluralistic approach, one would hold such conciliation to a very high standard. A methodological assumption of the pluralistic approach is that, at this point in the history of the science of psychology, conciliation between different conceptions is not as desirable as helping each conception to develop distinctively. Of course, this does not mean refusing to compare different conceptions for their similarities and differences, or playing down their similarities in order to play up their differences. The pluralistic approach opposes the wilful promotion of any approach or conception, including the pluralistic approach itself. This is a major reason that psychology in its present condition needs the pluralistic approach. The pluralist psychologist will have his or her preferences but will not be a partisan. Natural places to look in order to compare Skinner's and James's conceptions of feeling pain are where Skinner (e.g., 1957, p. 371; cf. Segal, 1977) locates incipient behaviors in the brain itself and where James considers the relation of feeling<sub>s</sub> to "will." James (1890) stated,

The *impulsive quality* of mental states is an attribute behind which we cannot go. Some states of mind have more of it than others, some have it in this direction and some in that. Feelings of pleasure and pain have it, and perceptions and imaginations of fact have it, but neither have it exclusively or peculiarly. It is of the essence of all consciousness (or of

the neural process which underlies it) to instigate movement of some sort. (Vol. 2, p. 551, cf. Smith, 1976, p. 101)

This is clearly a direction in which the pluralist psychology of the nature of feelings will have to move, namely, toward deeper comparisons between alternative conceptions, such as Skinner's and James's. However, only so much can be done at one time. Let me return to the main themes of this section, which I have not yet fully developed.

### *Pains and Odors*

When James (1890) was discussing the relation between brain processes and pleasure and pain, he characterized pleasure and pain as due to brain processes (Vol. 2, pp. 583–584). That is, he characterized pleasure and pain as though they were feelings<sub>s</sub> rather than kinds of feelings<sub>o</sub>, which some feelings<sub>s</sub> make their owner feel by their occurrence. Instead, James might have said that pleasure and pain are the objects of the respective states of consciousness by which their owner feels them; and, also, that pleasure and pain cause their owner to feel them. That is, pleasure and pain cause feelings of pleasure and pain. The owner feels pleasure and pain not due simply to the occurrence of pleasure and pain but due to their effects on the stream of consciousness (feelings<sub>s</sub>). The latter three sentences are entirely consistent with my presentation of James's view in this article, as is the following sentence from James (1890): "Every one who has a wound or hurt anywhere, a sore tooth, e.g., will ever and anon press it just to bring out the pain. If we are near a new sort of stink, we must sniff it again just to verify once more how bad it is" (Vol. 2, p. 554). Thus, James was conceiving of aches and pains as analogous to an odor present in the air (cf. Fleming, 1975, p. 529). Here is Gibson's (1966) definition of an odor:

The application of the term "odor" to an unusual volatile substance in the air is like the application of the term "sound" to a vibratory disturbance of the air; it seems to have a subjective reference. But, again, there is no need for confusion if we remember that a diffusion [odor] field, like a vibration field, is only potentially stimulating. (p. 18)

Depending on states or properties of the particular living observer, a diffusion field in the air may or may not produce an experience of that odor. This does not make the odor a subjective entity or process. A diffusion field will be called an odor when smelling it results in an olfactory experience. See below the discussion of pain as a "physical phenomenon" (Brentano, 1911/1973).

### *Externalization of Feelings<sub>o</sub>*

Given James's view of the feeling<sub>s</sub> of feelings<sub>o</sub>, it is not surprising that words like *pain* slide back and forth between the periphery and the center. Myers

(1986) interpreted this part of James's conception of the nature of feelings as reflecting his general understanding of sensations; contrary to Platonists and Kantians, sensations make us aware of objective rather than subjective matters. Also, I suggest, James's externalization of aches and pains relative to the stream of consciousness is probably tied up, as well, with his rejection of the hypothesis that all or some states of consciousness make their possessor aware of them by their sheer occurrence (see Natsoulas, 1988a, pp. 172–175). Therefore, since we feel our aches and pains, they cannot be themselves the feelings by which we feel them. Aches and pains must be "realities outside consciousness." They are like the blueness of the sky, which we visually "feel," so to speak. That is, we can apprehend this property of the sky in the visual manner, which involves a certain kind of qualitative experience (Natsoulas, 1984b). Analogously, we apprehend certain processes in our bodies outside the brain (e.g., toothache) when we have another kind of qualitative experience (e.g., feel toothache). Because neither the blueness nor the toothache is simply noted but rather experienced, some theorists will import them into the respective experience, with the result that experiencing blue and experiencing toothache have themselves and not "realities outside consciousness" as their objects.

### *Brentano's Explanation*

Quite relevant here is my recent explication of a part of Brentano's (1911/1973, 1929/1981) psychology. In part, I stated as follows:

A sound or a color is a "physical phenomenon," whereas the presentation of it is a "mental phenomenon." The physical phenomena are sensible phenomena, which can be sensed by means of certain mental phenomena. The latter are presentations and not to be confused with the sensible phenomena themselves, such as color and sound, which they make "present to consciousness." . . . Brentano conceived of presentations under the general category of *thoughts*, and as presenting sensible phenomena. The kind of mental act that a presentation is involves both something's being presented and also the individual's *apprehending* that which is presented. (Natsoulas, 1989a, pp. 105–106)

Brentano's discussion seems to invite one to think of aches and pains as "physical phenomena," analogous to how he conceived of sounds and colors, rather than as mental phenomena, analogous to auditory and visual experiences. Feelings, as distinct from aches and pains themselves, would be mental phenomena wherein may be presented and apprehended aches, pains, and other "physical phenomena" (e.g., itches and tickles). However, Brentano (1911/1973, p. 83) himself did not treat of feelings of pleasure and pain as "physical phenomena," and he proposed an explanation for the error (in his view) of treating pain as though it were analogous to sound and color, that is, as though pain were a sensible physical phenomenon. Brentano's explanation was the following. When we feel pain, we sense at the same time, along with undergoing the pain feeling, a process proceeding in our body, which is a physical phenomenon of course.

(This may not be precisely accurate from Brentano's viewpoint but very adequate for present purposes; see footnote 2 on p. 79 of Brentano, 1911/1973). We consequently call this bodily process, which we sense, "pain" because of (a) its close relation to the pain feeling and (b) our failure to distinguish it from the pain feeling due to the latter's relative intensity (Brentano, 1911/1973, pp. 83–85). However, it would be presumptuous to suggest that James fell into error, that he did not deliberately treat of pain as he did, in terms of something objective and something subjective. (Cf. Skinner, 1969, p. 255: "The felt pain in a toothache is not simply the inflamed nerve [or the stimulation taking place therein], but neither is it a copy of the inflammation [or stimulation]. . . . In a sense a feeling seems to be both the thing felt and the act of feeling it.")

### *Absent Feeling<sub>o</sub>*

For James, an instance of feeling pain, or a feeling of a pain, is the relevant state of consciousness; this state of consciousness has an object, which is a pain; a pain is felt when one has, in one's stream of consciousness, a feeling of a pain; but a pain, in contrast to a feeling of a pain, possesses neither feltness nor intentionality. Add that a feeling of a pain has a nature that "is not a particle altered by having the self-transcendent function of cognition either added or taken away" (James, 1885/1978, p. 186). The latter statement does not say what it may first appear to say. It says that a feeling can be exactly the same in the absence of its object. With this part of James's account, Melzack (1989) would agree based on studies of paraplegics with high-level complete spinal breaks. He stated, "In spite of the absence of inputs from the body, virtually every quality of sensation and affect is experienced, from excruciating pain to orgasm" (p. 9). Whether or not its object exists, a feeling still possesses intentionality, though only if the object exists can the feeling's intentionality be "satisfied" (Searle, 1983). As I expressed this point in a previous article, "it would be as though one were aware of [or felt] a certain state of affairs beyond the feeling whether or not this state of affairs existed" (Natsoulas, 1988–1989, p. 331; cf. my distinction between intentionality and aboutness: Natsoulas, 1988d). If, in the absence of objective pain (feeling<sub>o</sub>), someone's feeling (feeling<sub>s</sub>) was exactly the same, we might not be as solicitous toward the person, but perhaps we should be since his or her suffering might be the same.

### *Encounter with Feelings<sub>o</sub>*

Although the ache or pain is external to one's feeling or awareness of it according to James's account, there is a difference between feeling the pain and "knowing" about it. Having awareness of a pain is not necessarily feeling it. And feeling it, despite the causal distance between the pain and the feeling of it, is somehow an apprehension of the pain that is more mentally close to the pain

than any other possible way of apprehending it. To bring out what the difference is between feeling pain and other awareness of it, James (1890) borrowed the word *encounter*. When we have, or feel, a pain, we “encounter” no less than the pain itself—which we do not in any other kind of having awareness of the pain. All other cases of awareness of pain are indirect “knowings” about it. For example, looking directly at someone’s decayed tooth in his or her mouth, and seeing the tooth’s decay, we could not see his or her toothache, objective though the toothache is, because toothache is a matter of a process that goes on at nerve endings. (Cf. Fleming, 1975, p. 533: “Identifying pain with the stimulation, with the vibration, as it were, of the nerves or pain receptors, may well be just as right and just as wrong as identifying sound with the sound waves in the air.”) How is the individual’s “encounter” with his or her pain accomplished? There are two main parts to this encounter: (a) the physical phenomenon pain outside the brain produces afferent nerve currents: “It is only when new currents are entering that [consciousness] has the sensation *tang*. And it is only then that consciousness directly *encounters* (to use a word of Mr. [F.H.] Bradley’s) a reality outside itself” (James, 1890, Vol. 2, p. 7). (b) However, it is not simply the producing of afferent currents by physical phenomena that makes for the encounter with realities such as the physical phenomenon pain. In the case of aches and pains, among other cases, the afferent currents produce necessary feelings: “Through feelings we become acquainted with things” (James, 1890, Vol. 1, p. 222). By our thoughts (in the usual, narrow sense), we can only know about things.

### *A Thought of Past Pain*

But any awareness of pain, whether it be a case of feeling pain or a case of merely thinking about pain, is also a kind of feeling. Recall James’s view as I explained it above, that is, in terms of all states of consciousness, all instances of them, exemplifying feeling as a “tinge,” or as a “phase” in Langer’s sense. Consistently with this view, James (1890, Vol. 2, p. 6) stated that whenever we think of a past pain as gone, the respective thoughts of the pain do not resemble the past feeling of this pain; in fact, the present thought about past pain may be pleasant. The latter may occur presumably because the present thought itself is a kind of feeling, though a different kind from the past feeling of pain. In addition to being about the past pain, the present thought is, perhaps, a feeling of something going on in the same part of the body where, earlier, the pain occurred. That part of the body is now functioning well, and produces afferent current that produces pleasant feeling. This is consistent with James’s view as I have interpreted it in the present article. In sum, our aches and pains are processes transpiring in our body outside the nervous system; these processes affect our brain activity that is responsible for our stream of consciousness; consequently, we feel those processes in a distinctive way, depending on their



effects on the respective brain activity. Note that, although our thought of a past pain is itself a feeling, it does not acquaint us again, or make us re-encounter the past pain. Therefore, actual encounter or acquaintance with pain must be due to objective pain that produces afferent currents to the brain.

#### *Further Characterization of Feeling<sub>s</sub>*

Another part of the total picture needs to be added, involving further characterization of the feeling of pain. In order for a feeling to be an encounter or acquaintance with a particular objective pain, must not the feeling possess certain intrinsic properties? Suppose that it happens that the blood contains a certain chemical substance that causes the same afferent currents from the objective pain to produce, rather and as it were, an unnatural feeling. As I mentioned in a recent article on the radical behaviorist conception of pain (Natsoulas, 1988b), those rare individuals among us who suffer from a congenital absence of all feelings of pain are not insensitive, according to scientific observations, to the kind of stimulation that in normal individuals produces feelings of pain. When such stimulation transpires in the bodies of the congenitally without pain, they have different feelings and sensations from the normal for that stimulation (Melzack and Wall, 1983; Sternbach, 1968, 1978). No doubt James would say that such people have not experienced acquaintance with pain. Not because of the absence of afferent currents produced by objective pain, rather because these afferent currents do not produce the necessary kind of feeling for an encounter with pain. What kind of feeling is that?

#### *Resemblance of Feelings<sub>o</sub> and Feelings<sub>s</sub>*

What kind of feeling do people lack who are congenitally anesthetic to pain? It does not suffice to answer that they lack feelings of pain, since objective pain produces in them certain feelings that are feelings of that stimulation. Such an answer leads to the question of what feelings of pain are, aside from being all that we have said about them so far, which does not differentiate them from the feelings that the congenitally without pain do have. James (1885/1978) stated, "If the . . . reality resemble the feeling's quality *q*, I say that the feeling may be held by us to be cognizant of that reality" (p. 181). The congenitally without pain do not feel pain because the feelings that objective pain produces in them do not "resemble" the objective pain. Therefore, they are unacquainted with those properties of the objective pain that distinguish this kind of stimulation from stimulation that is not objective pain. Normal people are acquainted with, do encounter those properties, and are therefore said to feel pain, because their feelings caused by objective pain "resemble" objective pain. In contrast to James's view, the following statement by Melzack (1989): "There are not external equivalents to stinging, smarting, tickling, and itch" (p. 9). At this point, Melzack

was arguing against the view that “qualities of inputs” belong to the inputs. The qualities are produced by brain processes and cannot already be present in the afferent currents. However, James (1885/1978) wrote of “resemblance” between the feeling and its object, which may or may not be what Melzack was opposing. It is not clear to me what this resemblance is supposed to consist of, this resemblance that is the basis for our acquaintance with our pains, as distinct from our simply knowing about them. How might something taking place at an extremity resemble a pulse of consciousness due to a central brain process?

*“Resonance”*

Is there “resonance” of some kind? I am reminded of Gibson’s (1979) ecological approach to visual perception. The ecological approach conceives of (a) the visual stimulus energy flux at the photoreceptors and (b) the activity of the visual perceptual system at various levels, as both exemplifying certain properties (e.g., informational invariants) that are “specific to” particular properties of the ecological environment itself (e.g., properties of places, objects, substances, and events). (Concerning the Gibsonian relation of “specification,” see Natsoulas, 1984b, pp. 232–236.) Both stimulus flux and visual activity (including, in my view, the stream of visual perceptual experience: see Natsoulas, 1989c) will exemplify some of the identical informational properties that “specify” environmental properties. As I have previously suggested (Natsoulas, 1984b), at a certain level of abstraction, it can also be said that the informational properties in visual stimulation and experience are the identical properties exemplified by the relevant part of the ecological environment itself. Gibson (1979) seemed to come close to this view when he wrote from time to time of invariants (and variants) as properties of the environment (and of pictures). In having visual perceptual experience of a part of the ecological environment, the living observer becomes transiently like that part of the environment; his or her visual system literally picks up properties exemplified by the light and by the environment itself. As James (1890) stated, there is a “harmony” between the feeling<sub>s</sub> and the reality whereby “the qualities of both parties match” (Vol. 2, p. 618). Compare with Russell (1948) on hearing a speech over the radio. Beginning with the speaker’s activity of delivering the speech, “there is a series of occurrences, some of one sort and some of another but all retaining the same structure, and it is because of the constancy of structure that the speaker is able to communicate with the hearer” (p. 468). This “constancy of structure” includes the auditory perceptual experience as well; hearing the speech is, at a certain level of abstraction, like the speaker’s activity of delivering the speech.

*Awareness Without Resemblance*

Thinking along these lines about the relation between a feeling of pain and the pain that is the object of the feeling, the theorist must differentiate between

being aware of one's own pain by feeling it and being aware of someone else's pain by some kind of observation and inference (assuming with James and Skinner that objective pain is a kind of process at nerve endings). Does my awareness of another's pain have some "resemblance" to his or her pain? Not according to James (1885/1978): "A percept knows whatever reality it directly or indirectly operates on and resembles; a conceptual feeling, or thought, knows a reality, whenever [the conceptual feeling] actually or potentially terminates in a percept that operates on or resembles that reality, or is otherwise connected with it or with its context" (pp. 193–194). My awareness of another's pain is a feeling, according to James's general view, but the feeling I have in having this awareness does not resemble the other person's pain in the way that would make it an encounter or acquaintance with that person's pain. Awareness of something does not require that the awareness have any of the properties of the object of the awareness. However, feeling something must resemble, in some ways, that which the feeling makes its possessor feel. Otherwise, if it did not so resemble, how could it be the acquaintance or encounter that James said that it was (cf. Natsoulas, 1984b, p. 233)? There still remains, of course, the major problem of determining what the actual resemblances are between, for example, the objective pain and the feeling of pain.

### *Conclusion*

Clearly, James's conception of the nature of feelings is different from (a) the alternative conceptions that construe aches and pains and the like as themselves being a kind of feeling (e.g., Brentano, 1911/1973), and from (b) the alternative conceptions that construe feelings as noncognitive, nonintentional occurrences, that is, as not possessing the property of intentionality and, therefore, as not capable of being about anything, not capable of making their possessor aware of anything, though their possessor may have awareness of them (e.g., Searle, 1982, p. 259: "If I have a pain, ache, tickle, or itch, such conscious states are not 'about' anything, in the way that our beliefs, fears, etc. must in some sense be about something"). In this connection, recall from an earlier section of the present article, Pylyshyn's (1980) distinction between "noticing that one has a pain" and "the raw pain itself." In his view, the pain itself is a feeling and is noncognitive, whereas the act of noticing is a purely cognitive state, not a feeling. (Had Pylyshyn conceived of the raw pain itself as a physical as opposed to a mental phenomenon, that is, as James and Skinner did, he would not have suggested that the raw pain itself might "end up as one of life's ultimate mysteries.") Computational theory, it seems, cannot give an account of the feeling dimension that, according to James, belongs to every thought. Computational theory is ready to admit that some mental occurrences cannot be included in the computational account of mind, because they lack a cognitive dimension. In contrast, James (1890) held that even the infant's first sensation or

feeling, and every other sensation and feeling, is an awareness of

*something there*, a mere *this* as yet (or something for which even the term *this* would perhaps be too discriminative, and the intellectual acknowledgement of which would be better expressed by the bare interjection "lo!"), the infant encounters an object in which (though it be given in a pure sensation) all the "categories of the understanding" are contained. *It has objectivity, unity, substantiality, causality, in the full sense in which any later object or system of objects has these things.* Here the young knower meets and greets his world; and the miracle of knowledge bursts forth, as Voltaire says, as much in the infant's lowest sensation as in the highest achievement of a Newton's brain. (Vol. 2, p. 8)

As Gibson (1979) stated for perceiving, sensations and feelings are "an experiencing of things rather than a having of experiences" (p. 239).

### Edmund Husserl's Conception of the Nature of Feelings

Instead of adopting the traditional tendency of simply describing the different "objects" and "causes" of feelings, Husserl made as his theme the inner structure of feelings themselves. (Smith, 1976, p. 84)

#### Aboutness

How can a state of consciousness be *about* something? According to James (1890), the answer to the mystery of the stream's self-transcendence is to be found in a state of consciousness's dimension of feeling, rather than in its conceptual dimension. (See above subsections entitled "Awareness without Resemblance" and "The Feltness of a Feeling.") Absent a state of consciousness's dimension of feeling, there would not exist that crucial resemblance between a mental occurrence and the respective aspect, part, or property of the individual's environment or body of which the mental occurrence is an awareness. After stating that this resemblance relation is necessary for aboutness to exist, James (1885/1978) acknowledged the evident exceptions and explained them: although all states of consciousness possess a feeling dimension, some of them do not resemble "in the slightest degree" the respective "what" of which they are an awareness; nevertheless, these nonresembling mental occurrences, too, are "truly cognitive" because they "terminate" in other mental occurrences that themselves do stand in the requisite resembling relation to the "what" of which they are an awareness. James (1885/1978) expressed this part of his conception of the stream of consciousness as follows: "I mean that [a conceptual thought] must ultimately be capable of leading up [to a percept, a sensation or sensorial idea]—by the way of practical experience, if the terminal feeling be a sensation; by the way of logical or habitual suggestion, if it be only an image of the mind" (p. 194). A state of consciousness is awareness of (or awareness as of) something else (other than itself, e.g., X) only if the state of consciousness literally resembles the actual or would-be X or if the state of consciousness leads to such a (perceptual

or imaginal) awareness. This was James's view; juxtaposition to Gibson (1979) on perceptual awareness is again helpful. Having stated that perceiving "involves awareness-of instead of just awareness" (p. 240) and that "perceiving is a stream, and William James's description of the stream of consciousness (1890, Ch. 9) applies to it" (p. 241), Gibson (1979) added, in his summary of "the theory of information pickup," the following: "The term *awareness* is used to imply a direct pickup of the information, not necessarily to imply consciousness" (p. 250); and on the same page: "The ability to perceive does not imply, necessarily, the having of an idea of what can be perceived" (p. 250). As in James, we seem to have here that a perceptual experience's being about something depends on the experience's resembling, in some respects, that of which the experience would make its possessor aware; aboutness does not depend on a state of consciousness's bringing an aspect, part, or property of its object under a concept (cf. above subsection entitled "'Resonance'").

### *Distinction Between Mental Acts*

The distinction between a conceptual thought that does not and a state of consciousness that does literally resemble its actual or would-be object prominently appears, as well, in Husserl (e.g., 1900/1970). In his *Logical Investigations*, Husserl contrasted two large categories of mental acts, namely intuitive mental acts (intentions) and signitive mental acts (intentions). The following is how Husserl (1900/1970) distinguished these categories, in terms of a mental act's possessing or not possessing the property of "fulness:"

A signitive intention merely points to its object, an intuitive intention gives [its object] "presence," in the pregnant sense of the word, it imports something of the fulness of the object itself. However far an imaginative presentation may lag behind its object, [the imaginative presentation] has many features in common with [its object], more than that, it is like this object, depicts it, makes it really present to us. A signitive presentation, however, does not present analogically, it is "in reality" no "presentation," in [a signitive presentation] nothing of the object comes to life. . . . The "clearer" a presentation is, the higher its *pictorial level*, the richer it is in fulness. The ideal of *fulness* would, accordingly, be reached in a presentation which would embrace its object, entire and whole, in its phenomenological content (pp. 728–729; this statement should be compared with the subsection above entitled "Awareness Without Resemblance," particularly the comments on one individual's being aware of another individual's pain).

Despite the fact that a signitive mental act has no features in common with its object, a signitive mental act may stand to an object in the aboutness relation. A signitive mental act can successfully intend something in the environment or of the body, without the act's resembling in the least degree that which the act intends and without the act's leading to a suitable intuitive mental act which does resemble its object (cf. James, 1885/1978). All kinds of mental acts can be awarenesses of a particular blossoming tree in a particular garden. And this includes those mental acts that are no more than signitive, that are "empty" or

completely lacking in the property of “fulness” (Husserl, 1913/1983, p. 185). However: “only those contents can be intuitively representative of an object that resemble it or are like it” (Husserl, 1900/1970, p. 741). And this is a literal likeness or resemblance since the “contents” to which Husserl is here adverting are really inherent constituents of the stream of consciousness, not abstract or ideal entities.

### *Feelings, Have “Fulness”*

The state of consciousness that I called “feelings<sub>s</sub>,” in the above main section on James’s conception of the nature of feelings, would clearly qualify as intuitive mental acts. Feelings<sub>s</sub> possess the property of “fulness” in positive degree; James explicitly described them as resembling their respective object. The above quotation from Husserl (1900/1970, pp. 728–729) begins to explain what property the property of “fulness” is. I shall consider this property, what “fulness” is and its intrinsic basis in intuitive mental acts, after I bring out what mental acts accomplish due to their having the property of “fulness” that signitive mental acts do not accomplish for want of any “fulness” at all. At the same time, the following is a discussion of the nature of feelings<sub>s</sub>; whatever I state about Husserl’s account of intuitive mental acts applies to his understanding of the subcategory of them that are feelings<sub>s</sub>. For example, we learn from the above quotation (Husserl, 1900/1970, pp. 728–729) that feelings<sub>s</sub> are considered to be like their respective object, to share features with it, and thereby to make their possessor aware of the presence of their object. Also, Levinas (1930/1973, pp. 67–69) stated, in effect, that when a feeling<sub>s</sub> occurs in my stream of consciousness, I “relate directly” to the feeling<sub>s</sub>’s object. At those instants, my stream of consciousness does not merely “aim at” but in fact “reaches” its object. I more than think the object; I “possess” the object of the feelings<sub>s</sub> in a certain way. The feeling<sub>s</sub> “gives me something of the object itself,” and something of the object “comes to life.” The occurrence of a feeling<sub>s</sub> in my stream of consciousness gives me, as do other intuitive mental acts, a “direct contact with things.” Without such mental acts, I would lack all “contact with reality.” I have taken these brief quotations from Levinas’s (1930/1973) book on Husserl. The original statements refer to the distinctive character of intuitive mental acts and so they must apply to all instances of feeling<sub>s</sub> that have an object here and now and external to the stream.

### *Feeling-Sensations and Feeling-Acts*

Also applicable to feelings<sub>s</sub> is what Husserl (1913/1983) wrote concerning

the “intuitive” mode, which is such that the “meant object as meant” is intently intuited; and an especially preeminent case here is one in which the mode of intuition is

precisely the *originarily presentive* mode. In the perception of the landscape the sense is fulfilled perceptually; in the mode of "itself in person" there is consciousness of the perceived object with its colors, forms, and other determinations (in so far as they "are included in the perception"). Similar pre-eminent cases are found in every act-sphere. (p. 327)

This includes, of course, the sphere of feeling-acts. By means of feeling-acts, the individual grasps their objects "themselves in person." But what are the objects of feeling-acts according to Husserl? We need to address this question, not assume that the objects are feelings<sub>o</sub> as in James; perhaps feeling-acts do not make their owner aware of feelings<sub>o</sub>. With reference to "feeling-sensations," such as sensations of pain and pleasure, Husserl (1900/1970, p. 574) referred to Brentano's (1911/1973) distinction between "physical phenomena" and "mental phenomena" (mentioned in above subsection entitled "Brentano's Explanation"). Corresponding to Brentano's distinction, Husserl distinguished respectively feeling-sensations and feeling-acts. However, for Husserl, feeling-sensations literally are bodily contents of feeling-acts – not merely objects of the latter and external to them as in Brentano. Husserl (1900/1970, p. 575) seems to say that in some cases feeling-sensations are both contents and objects of feeling-acts. Some feeling-acts are, it would seem, reflective feeling-acts, since they do not transcend themselves in their aboutness (cf. the "reflective cases of pain" in Natsoulas, 1989a, pp. 81–88). But only some feeling-acts lack an object external to them. I shall return to feeling-sensations and feeling-acts later in the present article. As Smith (1976) stated,

In our view Husserl's most significant and profound discovery in the realm of feelings lies in section 15B of the Fifth *Logical Investigation*. In this section Husserl makes a distinction between the *sensations of feeling* and the *acts of feeling*, a distinction that would be described in *Ideas I* in terms of "hyletic data" and "noetic acts." (pp. 94–95)

Now I must pursue further (a) what intuitive mental acts accomplish and also (b) the nature of their property of "fulness." Since feelings<sub>s</sub> (or feeling-acts) are among the intuitive mental acts, the following is implicitly a discussion of feelings<sub>s</sub> as well.

### *Presence Is Not Inclusion*

Let me emphasize that none of the language used to say what intuitive mental acts distinctively accomplish (e.g., above statements by Levinas, 1930/1973, pp. 67–69) should be understood as implying that, when intuitive mental acts are directed beyond the stream of consciousness, they somehow succeed in, as it were, incorporating the very object of the mental act within the awareness of it. (Cf. some critics of Gibson's perception theory who caricature the theory as implying a mystical union with the objects of perceptual experience; according to them, to perceive an object directly means that no causal process intervenes

between the object and perceptual experience of it or that the perceiver somehow gets transported to the object's location in the environment, even when perceiving the object from a distance. Using such caricatures, alternative accounts of phenomena can be eliminated from the intellectual life of scientific psychology without going to the trouble of learning what the alternative accounts actually say.) The object of a mental act may be "reached," "possessed," and "present in person" though external to the mental act. As Husserl so often stated, the objects of these outwardly directed mental acts "transcend" the acts that are awarenesses of them. Bodily presence to the stream of consciousness does not mean bodily inclusion in the stream of consciousness. As De Boer (1966/1978) stated, "The representative and the represented object [do not] coincide here, for the representative content is immanent and the object transcendent" (pp. 145–146). Likeness between an intuitive mental act and its external object cannot amount to identity. Only in the case of "internal perception" (i.e., direct, reflective awareness; Natsoulas, 1988a), wherein the individual has awareness of present components of the stream of consciousness itself, does "the intuited object itself really and truly dwell in" the awareness of it (Husserl, 1900/1970, p. 866).

#### *Dimensions of "Fulness"*

Here are additional elements of Husserl's understanding of the relation between an intuitive mental act and its external object. (a) The "fulness" of a mental act can be more or less extensive. A mental act may share a larger or smaller number of features with its object. The object's "presence in person" is more "complete" the larger the number of the object's features shared with it by the respective mental act. Husserl (1900/1970, p. 734) refers to "the extent or richness of the fulness" as one of the dimensions of the degree of "fulness" of an intuitive mental act. (b) At the same point, Husserl added a second dimension, that is, "the liveliness of this fulness." He meant the degree of resemblance between the relevant features of the mental act and the corresponding properties of the act's object. That is, features may be shared between act and object more or less analogically. The greater the closeness of all the individual resemblances, the greater the vividness or clarity of the mental act. There can be vague or more precise resemblances. (c) In addition to "completeness" and "liveliness," Husserl (1900/1970, p. 735) includes as a dimension of the degree of "fulness" of a mental act the "reality-level" of the "fulness," which is the number of features of the object that are resembled by the mental act most closely, as in perceptual experience, as opposed to imaginal experience. Whereas "completeness" is the extent of the "fulness," how many features of the object are apprehended in an intuitive way by the act, the "reality" of the "fulness" refers to the number of features of the mental act that resemble the object in the most lively (clear, vivid) way.



*Rich vs. Economic Perceiving*

Pertinent here are Gibson's (1966) comments on what he called "economic" or "schematic" perceiving. In particular, I want to call attention to the stream of perceptual experience involved in such perceiving (see my distinction between visual perceptual experience and visual perceiving: Natsoulas, 1989c). But first, Gibson seems to have been exercising somewhat implicitly a concept of "fulness." A number of times, he wrote of the fullness and richness of perceiving and the development of perceiving in this regard throughout a lifetime. For example: "perceiving gets wider and finer and longer and richer and fuller as the observer explores the environment" (Gibson, 1979, p. 255). The novice and the connoisseur (e.g., wine taster) differ from each other perceptually under the same conditions not simply in knowledge of a certain aspect of the world but also in the fullness of their perceiving it. The connoisseur of wines "has learned to taste and smell more of the qualities of wine, that is, he discriminates more of the variables of chemical stimulation" (Gibson and Gibson, 1955). Gibson (1966) also wrote of a kind of sketchy or impoverished perceiving that is of the perceiver's own doing though Gibson (1966) likened it to the "retinal photographic vision" (Gibson, 1979, p. 3) that is forced on observers in psychological experiments with tachistoscopic presentations. In the latter case, the experimenter drastically limits the available stimulus information whereas in schematic perceiving under everyday conditions the observer himself or herself picks up a drastically limited amount of the available stimulus information.

*"Fulness" of Economic Perceiving*

However, economic or schematic perceiving cannot be conceived of as consisting of signitive mental acts as opposed to intuitive mental acts. Even in this limited kind of perceiving, the perceptual experience involved has some degree of "fulness;" that is, there is resemblance between the perceptual experience and the part of the environment or body that the experience makes its owner aware of. Gibson (1966) stated that, when the living observer engages in economical or schematic perceiving,

only the information required to identify a thing economically tends to be picked up [to thus become a transitory feature of the perceptual activity itself] from a complex of stimulus information. All the other available information that would be required to specify its unique and complete identity in the whole universe of things is not attended to. (p. 286)

After things are discriminated and their properties abstracted their number is reduced to a few categories of interest and the subcategories or cross-categories are neglected. . . . The percept of the object becomes a mere caricature or schema of what it would be if the perceiver took the time to scan the optical structure of the object. . . . The object may in fact be unique or special, that is, an exceptional one that is not in one of the observer's categories of interest. (p. 309)

The schematic perceptual experience possesses a small extent of “fulness,” for the experience shares a small number of features with its object (cf. above subsection entitled “Resonance”). In contrast, when the living observer “takes the time” to engage in perceiving of a more aesthetic, consummatory sort, the object is experienced both more completely and more clearly, according to Gibson (1966, p. 271; 1979, p. 219).

### *Signitive Mental Acts Are About*

What do intuitive mental acts distinctively accomplish? Levinas (1930/1973) gave this example: “I think about a roof covered with red tiles, without seeing it, without even imagining it; I look up and see this roof exactly as I was thinking of it. This is a realization of my original thought. The roof, as I was thinking it, is directly in front of my eyes—is present *in person*” (p. 74). Levinas’s first thought was a signitive mental act, though it was directed on the identical roof as the subsequent intuitive mental act that constituted seeing the roof. Because a signitive mental act lacks any degree of “fulness,” it does not follow that it cannot be an awareness of the identical object that an intuitive mental act makes its possessor aware of. Intentionality and aboutness do not depend on resemblances between the mental act and its object. Some psychologists would see the difference between intuitive and signitive mental acts as one of directness of apprehension. The two kinds of mental acts in Levinas’s example would be held to relate to the roof as though the roof is either (a) present to one’s consciousness in person or (b) indirectly apprehended through direct awareness of something else. When Levinas thought about the roof, did he actually think of something else or become aware of something else (e.g., a representation and then, somehow from there, did he move on to the roof? Was he not aware of the roof to just the same degree and as directly as it was the roof itself that he next saw? Gibson (1978, 1979) went so far as to hold that the apprehension of hidden surfaces (i.e., surfaces that have gone out of sight and can come back into sight) is an apprehension accomplished by means of the visual system alone. As a result of having at an earlier time picked up from the environment stimulus information specific to the identical surface, one can again have visual awareness of it prior to again picking up stimulus information specifying it:

When the vistas have been put in order by exploratory locomotion, the invariant structure of the house, the town, the whole habitat will be apprehended. The hidden and the unhidden become one environment. One can then perceive the ground below the clutter out to the horizon, and at the same time perceive the clutter. One is oriented to the environment. (Gibson, 1979, p. 198)

Because Gibson’s anticipatory awareness of Levinas’s roof is an apprehension by means of the visual system and this awareness resembles the roof (according to Gibson’s conception of information pickup), Husserl would not consider it as

a case of purely thinking about the roof, rather as imagining the roof in anticipatory fashion. But signitive mental acts, too, can accomplish aboutness.

### *Distinction Between Mental Acts?*

One does not need to imagine the roof (become aware of it by means of a perceptual system) to have awareness of the roof prior to seeing it again. One can have awareness of the roof, awareness that is of the roof to the same degree, by means of a purely signitive awareness of it (as Levinas suggested). Husserl would hold that, despite the absence of resemblance between act and object, it was the roof itself that Levinas apprehended before looking up at it. Although "the signitive intention merely points to its object" (Husserl, 1900/1970, p. 728), it does "point" to it. What is the difference between mere pointing and the kind of apprehension of the object that is intuitive? This question leads to a series of deeper questions, including how the pointings to an object differ that signitive mental acts and intuitive mental acts accomplish. Husserl (1900/1970) admitted to having no answer to the latter question; the two kinds of pointing, signitive and intuitive, are recognizably different yet their differences "cannot be phenomenologically reduced" (p. 742). Attending to his acts, Husserl could not say how intuitive and signitive acts differ in their pointing though he could tell that the two kinds of acts do differ in this regard too. However, the difference in "fulness" is obvious between intuitive and signitive mental acts, the latter lacking the property entirely, not resembling their object in any way. Intuitive mental acts, in contrast, involve their object's presence in person due to the acts' property of "fulness." The question to which we must now turn is what "fulness" itself is or, better, since "fulness" is defined relationally, what the intrinsic basis of "fulness" is within the intuitive mental acts. How can a mental act resemble its external object? (Gibson, 1966, writes metaphorically of a perceptual system's resonating to invariants of the stimulus energy flux). Thus, we want to know how feelings<sub>s</sub>, among other states of consciousness, are constituted, what they literally consist of, that makes it possible for them to resemble objects transcending the state of consciousness and constituted of different "stuff" than are the feelings<sub>s</sub> themselves. We shall see that feelings<sub>s</sub> (and other states of consciousness) include in themselves bodily certain processes that make possible their objects' "presence in person" due to the feelings<sub>s</sub> and other states of consciousness resemblance to their objects.

### *Hyletic Processes*

Husserl (1913/1983) called these processes "hyletic Data," also "stuff-Data," and "sensuous stuffs." For examples Husserl gave "color-Data, touch-Data and tone-Data, and the like . . . sensuous pleasure, pain and tickle sensations, and so forth, and no doubt also sensuous moments belonging to the sphere of

'drives'” (p. 203). Such “concrete really immanent Data” are constituents of all intuitive mental acts. Thus, Husserl makes clear that hyletic processes, as I shall call them, are not external to the stream. (As might be supposed, e.g., one might identify them wrongly with the stimulus energy flux at the receptors or nerve endings). Since these hyletic processes seem to be among Brentano’s “physical phenomena” yet not external to the stream, Husserl (1913/1983) stated,

Sensuous moments were predicated of the organism and its sensuous activities. [See, e.g., feelings<sub>o</sub> in previous section of present article.] This old tendency has found its most recent expression in Brentano’s differentiation of “physical” and “psychical” phenomena. . . . [He] did not find the concept of stuff-moments – and this is because he did not take account of the differentiation between the “physical phenomena” as stuff-moments (sensation-Data) and “physical phenomena” as objective moments (physical color, physical shape, and the like) appearing in the noetic apprehension of the former. (p. 206)

As De Boer (1966/1978, p. 162) commented, there are two kinds of “physical phenomena,” one kind consists of aspects of experiences; the other consists of properties of things. For example, there are both color-Data and the colors that belong to objects (cf. Gibson’s, 1979, treatment of the chromatic colors of surfaces, p. 31, as distinct from the available-for-pickup-and-incorporation-into-the-activity-of-perceiving informational variables in the optic array of light that specify the chromatic colors of surfaces, p. 91).

### *Hyletic Processes Are Mental*

Nevertheless, critics have interpreted Husserl otherwise on this important point. They have accused him of “confusing hyletic data with qualities that belong to the objective world and are only intentionally in consciousness rather than really contained as components of mental processes” (Gallagher, 1986, p. 138, reviewing such criticisms). However, Husserl (1900/1970) did make clear that, for example, what I called feelings<sub>o</sub> (e.g., objective pain) are not examples of hyletic processes:

In the percept of toothache, e.g., a real experience is perceived, and yet our perception often deceives: the pain appears to bore a sound tooth. The possibility of an error is plain. The perceived object is not the pain as experienced, but the pain in a transcendent reference as connected with the tooth. (p. 866)

In the language of the above section on James, we can say consistently with this statement of Husserl’s that, when I have toothache, my feelings<sub>s</sub> of my tooth involve a normal and systematic perceptual error. The hyletic processes that, as part of my feelings<sub>s</sub>, make me experience pain, I take for processes in my tooth. Thus, according to Husserl, the feeling-act in which I apprehend my toothache is fundamentally a reflective act that makes me aware of itself or, at least, of the sensuous stuff of pain that partially constitutes the feeling-act. I shall return to

this point. I want to note now that Husserl did not locate hyletic pain-processes externally to the stream of consciousness. However, he did not characterize hyletic processes as themselves states of consciousness. They are partial constituents of the latter but perhaps never equivalent to them, never occur on their own as integral pulses of consciousness. (Husserl discusses hyletic processes strictly as constituents of states of consciousness, but he leaves open the possibility of their independent occurrence in the stream: "Whether everywhere and necessarily such sensuous mental processes in the stream of mental processes . . . have *intensive functions*, is not to be decided here": Husserl, 1913/1983, p. 204. That is, could they occur without being part of an apprehension? Husserl, 1900/1970, p. 310, seems to answer positively.)

### *Hyletic Processes Resemble*

There is a correspondence between the hyletic processes of intuitive mental acts and the properties of their respective objects. There must be this correspondence, in Husserl's account, given his concept of "fulness." The relation between properties of, as it were, the presenter and the presented must be very close since, indeed, external objects are so very often present to us with great clarity or vividness. Yet, Husserl (1913/1983) insisted that hyletic processes, which are mental,

are, of essential necessity, entirely different from color simpliciter, smoothness simpliciter, shape simpliciter, and, in short, from all kinds of moments belonging to *physical things*. . . . A mental process is possible only as a mental process, and not as something spatial. . . . How the different really inherent moments of the perception as cogitatio (in contrast to the moments of the cogitatum, which is transcendent to it) are to be separated from one another and characterized with respect to their sometimes very difficult differences, is a theme of extensive investigations. (pp. 88–89)

However, suppose that I am now visually perceiving a triangular tabletop from a variety of angles; the hyletic visual processes that constitute my stream of visual experience during this bout of perceiving the tabletop must have some similarity, for example, to the shape of the tabletop or, at least, to its continuous succession of different triangular projections to the visual stimulus energy flux at my visual photoreceptors.

### *The Experiential Flux*

Gibson (1979) writes instead of the visual pickup, isolation, and extraction of stimulus information that specifies the actual triangular shape of the tabletop—that is, the pickup of "formless invariants of forms." However, this would account for an unchanging experience of the unchanging tabletop as one looks at it while moving around it. The pickup of the invariant specifying the tabletop's

actual shape does not account for the continuous change that occurs in one's visual experience of the tabletop. Nor does the pickup of additional invariants or variants. The visual experience itself is continuously changing. Corresponding to the visual stimulus energy flux, there exists, as part of the total visual activity of perceiving, an experiential flux or stream of visual experience. There is more to this flux than simply taking note of "facts" of the environment or of one's bodily relation to the tabletop. In addition, the visual experiential flux has "fulness" in Husserl's sense. And the experiential flux consists partly of sensuous or hyletic processes. As Gallagher (1986) expressed Husserl's view: "Hyletic data compose a constantly changing flux of sensed material. Although the object as it appears in consciousness . . . can in some cases remain unchanging and identical through time, the hyletic sub-structure is constantly changing" (p. 134). Gibson (1979) emphasized the changing perspective structure that normally characterizes ordinary, non-restrained visual perceiving of the environment, but he did not follow through with a comparable flux at the level of visual perceptual experience.

### *Pluralistic Approach*

Note well the inconsistency just brought out between the conceptions of visual perceptual experience of Husserl and Gibson, namely, the respective inclusion and exclusion of hyletic data in the stream of experience, as concrete processes inherent in and constituting the latter. Gibson has treated of the stream of perceptual experience as though it consisted merely of purely signitive apprehensions of the environment and body. In a previous article, I called Gibson's conception "an abstract, nonqualitative conception" (Natsoulas, 1984b). We may put it that Gibson's straightforward perceptual experiences of the world lack any kind of presentational content, notwithstanding the resemblance that he proposed between the perceptual experience and its object (see subsection above called "Resonance"). In previous articles I have been critical of Gibson's view in this regard (Natsoulas, 1978b, 1984b, 1989d), suggesting that his conception of perceiving needs to be improved by the addition of the kind of factor that Husserl included as the hyletic processes (and the appearances or givenesses of the object that these processes constitute when modified).

Now if I take a pluralistic approach to the subject matter that is shared among Gibson, Husserl, and others, I shall not want to change Gibson's conception in the direction of Husserl's, but rather to think of the particular phenomena in terms of both conceptions. In particular, I shall attend to exactly those points in Gibson's account of a phenomenon wherein it would seem necessary, from Husserl's perspective, that hyletic processes be introduced by way of explanation. I shall note carefully how Gibson's conception, as it stands or as I bring out its implications, manages to treat of the phenomenon with no implicit or explicit reference to the hyletic kind of processes. Perhaps I shall find that such processes are implicit in Gibson; that is, perhaps Gibson was only saying that such

processes play no role in perceiving while behaving as though they do. However, it will be more illuminating to discover that he manages just as well to treat of the phenomenon with no reference, as in Husserl, to such processes. Given that Husserl's account of the phenomenon is also cogent, we shall have two alternative accounts to develop further—which at this point in the science's history is a better condition for the science to be in than having only one, as I have argued in the first main section of the present article. (Cf. alternative accounts of waterfall illusion: Crane, 1988a, 1988b; Mellor, 1988).

### *Modified Hyletic Processes*

However incomplete, the above part of the present main section on Husserl is an introduction to the remainder of the article. From here on, I shall address only Husserl's feeling-acts. I begin with a question I raised above. What are the objects of this category of states of consciousness? Recall my mentioning that Husserl seemed to hold that the feeling-act by which I apprehend my toothache is fundamentally a reflective act. That is, I have reflective awareness of feeling-sensations, specifically pain-sensations (see above subsection entitled "Hyletic Processes Are Mental"). The latter statement requires expansion and qualification in order to portray accurately Husserl's understanding of the nature of feeling-acts. Pain-sensations, and all feeling-sensations, are hyletic processes. As hyletic processes, they function to make it possible for objects that lie externally to the stream to appear to us in some way. I have not yet explained that, according to Husserl, hyletic processes are modified, within the states of consciousness of which they are constituents, into modes of givenness or appearance of objects outside the stream. Hyletic processes "provide, as it were, the analogical building-stuff for the content of the object presented by their means" (Husserl, 1900/1970, p. 310). Absent the special modification of hyletic processes, the latter would be nonintentional and noncognitive, not any kind of apprehension of anything (Husserl, 1913/1983, p. 75). Modified hyletic processes, in contrast, are, for example, the visual perspectival appearings of a part of the environment.

### *Feeling-Sensations as Contents*

Therefore, hyletic processes themselves are rarely the object of the state of consciousness of which they are a constituent. Husserl (1900/1970) stated that hyletic processes

constitute the act, provide necessary *points d'appui* which render possible an intention, but are not themselves intended, not the objects presented in the act. I do not see colour-sensations but coloured things. I do not hear tone-sensations but the singer's song etc. etc. (p. 559)

I do not feel pain-sensations but an aching tooth. Husserl (1913/1987) stated,

“Having my eye on the centaur, I do not regard its modes of appearance, adumbrative Data, apprehensions; and seizing upon [the centaur’s] essence, I do not seize upon those modes of appearance, Data and apprehensions and their senses” (p. 185). Husserl is saying here that, although the modified hyletic processes and other processes are contents of his imaging a centaur, they are not the what of which Husserl is aware; that what is the centaur. (Cf. Gibson, 1979, p. 256: “The visual system visualizes. But this is not still an activity of the system, not an appearance in the theater of consciousness.” That is, we are aware of what we are visualizing, not of a content belonging to the visual activity.) So too, feeling-sensations are transformed constituents of feeling-acts whereby one has awareness of objects outside the stream with some of their properties. Thus, the hyletic processes of pleasure may be transformed ingredients of an apprehension of “the psycho-physical subject” as emotionally excited, or an apprehension of an environmental event “as if bathed in a rosy gleam” (p. 544). To this Husserl (1900/1970) added,

When the facts which provoke pleasure sink into the background, are no longer apperceived as emotionally coloured, and perhaps cease to be intentional objects at all, the pleasurable excitement may linger on for a while: it may itself be felt as agreeable. Instead of representing a pleasant property of the object, it is referred merely to the feeling-subject, or is itself presented and pleases. (pp. 574–575)

When the hyletic processes of pleasure are referred to the feeling-subject, it is not a case of having reflective awareness of these processes (transformed or untransformed). Rather, the awareness of the feeling-subject is itself constituted by the hyletic processes.

### *Smith on Feeling-Acts*

If feeling-acts make their possessor aware of an environmental event (or of the psychophysical subject), feeling-acts must be more than intuitive apprehensions of the particular external properties corresponding to the feeling-sensations that feeling-acts include. Somehow, feeling-acts must have the environmental events themselves (or the psychophysical subject) as their objects. Smith (1976) stated that the correct view for Husserl to hold (which he seems not to have held early on) is the following:

To be conscious of a “pleasantness” that is a property of an object is to be conscious of a *felt* property of an object, not a *presented* property. . . . Feeling-acts are nothing if they are not consciousnesses of felt properties. . . . These felt properties and the acts that intend them belong to the domain of *feelings*, and not to that of representations. . . . The acts that intentionally objectify the feeling-sensations into felt properties can only be the acts that intend these felt properties, and these acts must by definition be the feeling-acts. (p.



That is, feeling-acts accompany other states of consciousness that are awarenesses of, for example, the pleasant environmental event or one's own body. But it is feeling-acts that make us aware of the felt properties of these, not the other awarenesses of them that are not feeling-acts. In the case of having toothache, for example, many different states of consciousness occupy the stream during the duration of the toothache. Some of these make the individual aware of his face and mouth, but the ones that make him or her aware of the toothache *per se* are feeling-acts that have for their (modified) contents feeling-sensations of a certain kind.

### *The Objects of Feeling-Acts*

Smith's (1976) construal of the correct Husserlian position holds that the felt properties of an object are "objectifications" of hyletic processes, which belong, of course, to the stream of consciousness itself. Does this mean that the object (e.g., an environmental event taking place here and now) does not itself possess any felt property that the feeling-act ascribes to it? That is, is the event itself pleasant only insofar as it is felt to be so, by means of a distinct feeling-act directed on it? So too, the "emotional excitement in the psychophysical feeling-subject" (Husserl, 1900/1970, p. 575), is it pleasant in itself, or must it be felt as pleasant to be pleasant? Must pleasant feeling-sensations be objectified by a feeling-act in order for the emotional excitement to be pleasant? If pleasantness only can be strictly predicated of states of consciousness and not of their objects, then are there corresponding properties of objects that are felt as pleasant? Are the objects of feeling-acts objective? They do not seem to be objective in Husserl's view. Thus, he distinguished between the physical and mental sides of one's experience of a part of the body; that is, one has awareness of a part as possessing properties of two kinds. Experience of the body is, in this sense, "psychophysical." I experience my foot both as a material thing and as containing various sensations (Husserl, 1925/1977, p. 100). Correspondingly, there would seem to be two kinds of properties of the foot. One kind belongs to the foot *qua* material thing and does not belong to the awareness of the foot, except as object of the awareness. The other kind of property of the foot belongs to the awareness as really inherent content and so does not actually belong to the foot, except in this external relational way. Clearly, this is a different position from the one that Husserl (1900/1970) expressed as follows about appearances and the objects that appear to one through them:

One could certainly say that *apparent* things as such, the mere things of sense, are composed of a stuff analogous to that which as sensation is counted as content of consciousness. This does not affect the fact that the thing's apparent properties are not themselves sensations, but only appear as analogues of sensations. For they are not present, as sensations are, in consciousness, but are merely represented in it, as properties which *appear* in it, which are transcendentally referred to. (p. 861)

Husserl would say the same about my carious tooth. The tooth is distinct from any hyletic processes; however these are modified, they do not in some sense become the tooth in my mouth. Evidently, Husserl would say otherwise about my toothache, which is a felt property of my tooth. Although this property appears to belong to my tooth, the property is actually something else, something that consists of hyletic processes. Nevertheless, the frame of mind in which one has awarenesses of felt properties, in which one lives through feeling-acts, is not a reflective frame of mind. For example, I apprehend my tooth when I feel the hyletic ache as though it were in the tooth.

### *Conclusion*

However, recall that intuitive mental acts were held to differ from signitive mental acts with respect to resembling their objects. (See above section entitled "Distinction Between Mental Acts.") Feeling-acts are, of course, intuitive mental acts; and they must, therefore, possess "fulness" to some positive degree. What I have stated about feelings, qua intuitive mental acts applies as well to Husserl's feeling-acts (see above section entitled "Feelings, Have 'Fulness'"). As I explained this property above, an intuitive mental act, due to its "fulness," gives its object "present in person" to the act's possessor, which does not mean that its object is included in the intuitive mental act; only reflective mental acts give awareness of their own properties (see above section entitled "Presence Is Not Inclusion"). If a feeling-act, as Smith (1976) stated for Husserl, "objectifies" feeling-sensations and makes its possessor aware of felt properties, then there must be objective properties that are felt by means of feeling-acts (see above section entitled "Smith on Feeling-Acts"). Outwardly directed mental acts do not intend their own properties; they do not intend hyletic processes however these are modified (even when hyletic processes are, say, visual appearances of an external object; see above section entitled "Feeling-Sensations as Contents"). This is as far as I shall take for now my presentation of Husserl's treatment of feeling-acts. Husserl's conception of the stream of consciousness is much more complex than I have suggested in this article. Therefore, I need to come back to it in order to make his conception of the nature of feelings as fully explicit as I am able. I need to do the same with James's conception, and then to juxtapose the two conceptions with special attention to those places where they disagree about the nature of feelings. Only then will I have adequately illustrated the pluralistic approach. The discussions of James and Husserl in the present article may be viewed as introductory. I hope I have given sufficient indications of the directions for further study that the pluralistic approach recommends. The reader will have noticed my repeated use of Gibson's theory of perception for the purpose of drawing similarities and contrasts with James's and Husserl's conceptions. Understanding of the pluralistic approach will develop and improve. How alternative conceptions of the phenomena of interest can be made to interanimate

each other will become steadily more evident. The pluralistic approach urges the science of psychology to include the maximum of different conceptions of any phenomenon studied. Just as a wasteful society impoverishes the earth, so a wasteful science impoverishes the intellectual life of its participants.

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