

## What Feeling Is the “Feeling of Knowing?”

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Having a word on the tip of our tongue is a mundane and slightly annoying experience. And yet, as Brown’s article helps us see, the theoretical implications of a TOT experience range very widely. The study of TOTs may also turn out to be useful for larger methodological reasons. Here, too, Brown recognizes that the investigation of TOTs offers an especially good example of convergent cognitive analysis, a way to combine phenomenology (e.g., James’s treatment of the fringe) with more objective methods of scientific investigation such as experimental psychology and computer modeling. For what it is worth, I am in complete agreement with Brown’s *general* approach to the TOT experience. And we also agree on various specific points, though in some cases Brown does not see this.

Unfortunately, Brown at times attributes to me views that I simply do not hold; for example, that I take the feeling of knowing to be necessarily veridical or that the feeling of knowing demands a search of *all* relevant nonconscious information. I want to keep my comments directed toward issues that are of larger importance for the study of consciousness and the fringe and not fuss about our misunderstandings unless they have wider cognitive implications. For this reason I focus on Brown’s discussion in his “Current Research” section and the phenomenology most relevant to it.

I believe the chief difficulty with Brown’s article is that it does not address James’s treatment of the feeling of knowing as it operates in a TOT state. This oversight undercuts a good deal of Brown’s specific analysis and helps contribute to his misunderstanding of my own proposals regarding the role of the fringe in retrieval, monitoring, and control and why, as a matter of phenomenology, the feeling of knowing rightly understood is simply another term for the experience of rightness (Mangan, 1991, 1993a, 1993b).<sup>1</sup>

At the end of his section on current research, Brown concludes: “It is clear from

Commentary on Steven Ravett Brown (2000). Tip-of-the-tongue phenomena: An introductory phenomenological analysis. *Consciousness and Cognition*, 9(4), 516–537.

<sup>1</sup> “I propose strengthening James’ work on the fringe with a functional analysis: Fringe experiences (1) work to radically condense context information in consciousness, (2) are vague because a more explicit representation of context information would overwhelm consciousness’ articulation (processing) resources, (3) help mediate retrieval functions in consciousness, and (4) contain a subset of monitoring and control experiences. . . . Crucial to monitoring and control is the feeling of “rightness.” Rightness functions as a summary index of cognitive integration, representing, in the fringe, the degree of positive fit between a given conscious content and its parallel, unconsciously encoded context. Rightness appears analogous to the connectionist metric of global network integration variously known as goodness-of-fit, harmony, or minimum energy” Mangan (1993a).

the above [i.e., his review] that FOK and TOT states are not simple, either causally or phenomenologically. No single feeling, of rightness, of familiarity, and so forth, is sufficient to describe them, nor has any hypothesis so far been sufficient to account for them.” Nevertheless I can find nothing in Brown’s argument to explain *why* the research he cites is supposed to conflict with the notion that the feeling knowing is a “single feeling.” Nor can I find any argument showing why James’s treatment of TOTs, or my own extension of it, is in conflict with the empirical evidence Brown presents—once Brown’s mistaken view of my position is corrected. In fact neither James nor I treat the TOT state as “either causally or phenomenologically” simple. Far from it.

I suspect the chief reason for the confusion here is that Brown tends to confound the phenomenology of the *entire* TOT state with the particular feeling that is the feeling of knowing. For James, the feeling of knowing is just one experience operating in the much larger field of activity that constitutes full TOT phenomenology. To see this clearly, we need to understand James’ treatment of the feeling of knowing at work in the fringe during ordinary cognition. Once this is established it is much easier to consider the operation of feeling of knowing during the special case of a TOT state.

On James’ account of the fringe, its general contents are feelings of “relation . . . [and] tendency, often so vague that we are unable to name them at all” (James, p. 254). Though in some cases they can be named because we already have names for the relations they indicate. “We ought to say a feeling of *and*, a feeling of *if*, a feeling of *but*, and a feeling of *by* quite as much as we say . . . a feeling of *cold*” (James, p. 245–256). Most fringe experiences are “fleeting” and come and go quickly. Functionally, this is because fringe experiences indicate relational information; as particular relational configurations shift from moment to moment, so, too, do the fringe feelings that indicate them.

A given fringe normally consists of a bundle of simultaneously felt vague nonsensory experiences that, loosely speaking, “surround” a given sensory content. This sensory content James sometimes calls the “nucleus” of the experience. Fringe feelings are very, very context sensitive, and they work (among other things) to *distinguish* one experience from another, giving each its own distinctive subjective sense of felt meaning. So even identical sensory contents—e.g., the word “man” occurring in two different sentences—will have markedly different fringes in different contexts. For instance, in the example Brown uses early on in his article the fringe of relations around the word “man” have a very different feel in the sentence “What a wonderful man Jones is!” than in the sentence “What a wonderful thing Man is!” The sensory content, the nucleus of the experience (“man”), is the same in both cases, but the full phenomenological character is quite different. As a matter of phenomenology, this difference resides in the feel imparted by the fringe in the two cases.

This much Brown sees very clearly, and it is important background for understanding a TOT. But so far as I can tell, Brown’s discussion never moves on to consider the experience that James himself would identify as the feeling of knowing. According to James, this experience and its negative twin constitute the most salient of *all* fringe experiences. “The most important feeling in these fringes . . . is the mere feeling of harmony or discord, of a right or a wrong direction in the thought” (James, p. 262).

James identified two opposite and equally fundamental evaluative experiences in the fringe. One is the positive feeling that underlies our primitive sense of *yes, correct, right, coherent, unified* and the other underlies our primitive sense of *no, incorrect, wrong, incoherent, disunified*. In today's terminology, we would say that these experiences serve as monitoring and control signals, and one or the other is almost always present in consciousness to some degree. These fringe feelings are not fleeting, and they occupy huge stretches of consciousness.

James was not one to use a single technical term if 10 evocative words or phrases came to his mind. I have tried to use the single word "rightness" to name the fundamental experience of positive evaluation in the fringe, but James used a host of different terms and phrases to indicate this experience and often with the intention of emphasizing the dynamic, forward-moving character of conscious activity.

In this vein, consider another of James's synonyms for the feeling I have called rightness—"dynamic meaning." With this term, too, James aims to capture the connotation of right flow or right direction in the stream of consciousness. Dynamic meaning is present whenever we feel that something is meaningful, that it is cognitively adequate, that we *know* it.

The 'meaning' of a word taken dynamically in a sentence may be quite different from its meaning when taken statically or without context. The dynamic meaning is usually reduced to *the bare fringe we have described of felt suitability or unfitnes* to the context or conclusion. The static meaning, when the word is concrete, as 'table,' 'Boston,' consists of sensory imagery awakened. (James, 1950, p. 265; my italics)

In a sense "dynamic meaning" is just one more evocative synonym with "felt suitability," "right direction," "coherence," and so on. But the connotation of the word "meaning" brings us directly to the issue of what is going on when we feel that we *know* something, that something *makes sense*, is *meaningful*. In effect, James's answer is that normally there is an overlay in the fringe of (1) the feeling of rightness, which occurs in *all* cases where we feel we know something, and (2) a tremendously variable bundle of other fringe experiences which differ from case to case and help give each meaningful experience its own individual phenomenological character.

This distinction implies that at times we can feel that we know something, but not have direct access to more specific forms of experience in order to flesh this knowledge out. Intermediate cases involve partial access to fringe or sensory experiences that would then give us a vague sense of the knowledge in question, but not a precise sense. And of course this is precisely what we find in "feeling of knowing" experiments and in naturally occurring TOTs.

James is very clear that the feeling of rightness can err. As long as the fringe signals right direction, the most preposterous nonsense will feel cognitively adequate. "Subjectively, any collocation of words may make sense—even the wildest words in a dream—if only one does not doubt their belonging together" (James, p. 246):

Relation, then, to our topic of interest is constantly felt in the fringe, and particularly the relation of harmony and discord, of furtherance or hindrance of the topic. When the sense of furtherance is there, we are 'all right;' with the sense of hindrance we are dissatisfied and perplexed, and cast about us for other thoughts. Now *any* [James's italics] thought the quality of whose fringe

lets us feel ourselves 'all right' is an acceptable member of our thinking, whatever kind of thought it may otherwise be. (James, 1950, p. 259)

At this point it should be clear that rightness is not only an excellent candidate for the feeling of knowing, but that Brown is quite right to say that I use rightness to indicate a single, "simple" experience. The next step is to how this simple experience operates in a TOT.

Crucial to James' analysis of TOT experience is his general view of the dynamics of consciousness. For James, the flow of consciousness involves a constant alternation between vague fringe experiences and clear sensory experiences. Periodically the fringe aspects becomes relatively pronounced, but this is followed almost immediately by definite sensory contents which then dominate consciousness until fringe experience again moves, relatively, to the fore. James called the phase when fringe experience was relatively dominant the "transitive" phase of consciousness; it serves as the transitional period between one clear sensory experience and the next.

One function of transitive experience is to vaguely suggest some of the overall features and character of the substantive experience to come. Here is a example of the process James has in mind. He asks us to consider the transition from the transitive fringe contents in which we first form an intention to the definite sensory contents which we then, a moment later, flesh out:

How much of [an intention] consists of definite sensorial images, either of words or of things? Hardly anything! Linger, and the words and the things come to mind; the anticipatory intention, the deviation is no more. But as the words that replace it arrive, it welcomes them successively *and calls them right if they agree with it, and wrong if they do not.* (James, p. 253. my italics)

Note the operation of rightness and wrongness in the phase in which substantive experiences have entered consciousness. *Precisely the same evaluative substrate operates in a TOT.* The difference is that the normal oscillation from transitive to substantive experience takes place much more slowly (assuming the word does finally arrive). James does not say this directly, but a TOT is roughly speaking just a case where the transitive phase of experience has become unusually drawn out or prolonged. In a TOT we continue to experience the *preliminary* nonsensory sketch of the word to come, but its actual sensory content and full fringe do not immediately materialize as we expect.

Suppose we try to recall a forgotten name. The state of our consciousness is peculiar. There is a gap therein; but no mere gap. It is a gap that is intensely active. A sort of a wraith of a name is in it, beckoning us in a given direction, making us at moments tingle with the sense of closeness, and then letting us back without the longed for term. If wrong names are proposed to us, this singularly definite gap acts immediately to negate them. . . . And the gap of one word does not feel like the gap of another. (James, p. 251–252).

Once we bring James's larger analysis of the experience of rightness and the fringe to the analysis of TOT phenomenology, it is clear that the "gap" in the TOT is simply one more of James's terms for fringe experience, and, as such, the gap contains a host of idiosyncratic features which change from one case to another and also the right/wrong evaluative experiences which occur in virtually all cases of fringe experience. In a TOT, when a candidate word arrives, the word's adequacy or inadequacy is signaled by the fringe feelings of rightness or wrongness. Before the word

arrives, the feeling of rightness indicates that a given direction of search promises to yield the right word and that the right word is *about* to enter consciousness.

The experimental literature on the “feeling of knowing” in a TOT in effect studies rightness in its role of indicating the potential availability of the right word. In this paradigm, subjects show the capacity to indicate that a particular word or short phrase is available to them when they are given its context (e.g., “Who was the second man to stand on the moon?”), but cannot immediately retrieve the word itself into consciousness. Occasionally a word seeming about to enter consciousness will feel right in this potential form, but wrong when actually in consciousness explicitly. (This implies that the nonconscious evaluative mechanism which actually “compute” rightness at the preaccess stage is more limited than the processing that occurs once the word has become an explicit conscious content.)

I believe there are two misconceptions which obscure the fundamental role rightness plays in “feeling of knowing” experiments as they bear on the analysis of TOTs. The first is to confound rightness with the various idiosyncratic experiences which distinguish one TOT from another. One gap does not feel like another. This is certainly true. But the idiosyncratic features of fringe experience in the case of a TOT are manifestly secondary. Our phenomenology in such cases is not that of matching a set of individuating fringe experiences of the expected word to the set of individuating fringe experiences of the word that has just popped into consciousness. The second and more common mistake is to confound rightness with familiarity. Metcalf (1994), for example, as cited by Brown, takes the FOK state to be based “on a novelty/familiarity detector.” At least as FOK applies to a TOT, this is almost certainly mistaken.

Familiarity and rightness are completely distinct—both as a matter of their phenomenology and their cognitive function. We can feel that something is familiar and at the same time feel that it is quite wrong. The phrase “all men are created equal” is very familiar, but it will still feel instantly wrong if it is used to answer the question “What is seven plus five?” The principle of specific gravity was completely unfamiliar to Archimedes the moment before he stepped into his bath; nevertheless the idea felt wonderfully *right* when it first occurred to him. Functionally speaking, Walter Kintch noted long ago that, in recognition tasks, “obviously ‘appropriateness in a given context’ [rightness] as well as ‘perceived oldness’ [familiarity] may serve as the basic datum of a subject’s decision” (Kintch, 1970). It should be evident that in a TOT, the “basic datum of a subject’s decisions” is rightness and not familiarity. We are looking for the word that fits the precise context established by the sentence. The degree to which the word is felt to be familiar is, within a very wide range, irrelevant. And in James’s cognitive analysis of fringe experience in general or TOTs in particular, familiarity plays no role, so far as I know, while rightness and wrongness are fundamental.<sup>2</sup>

Unfortunately Brown does not address James’ treatment of rightness in TOT expe-

<sup>2</sup> See Mangan (1993a, pp. 102–104) for a discussion of the rightness vs familiarity issue as it bears on contemporary cognitive research. For an extensive treatment of James’ cognitive phenomenology, see Chapter 4 of Mangan (1991). This is briefly summarized, from slightly different points of view, in Mangan (1993a) and Mangan (in press).

rience, and this helps explain his misunderstanding of my own position, which is based directly on James's phenomenology.

Brown holds that my thesis is for some reason "contradicted" by Smith's (1994) findings that a strong feeling of knowing in a TOT was at times illusory and that there is evidence that TOTs can be elicited by "inferential mechanisms . . . rather than trace access . . ." From this Brown concludes that Smith's "study makes it clear that attempts, like Mangan's, to provide explanations for TOT states in terms of global operations of memory are almost certainly incorrect." Brown does not explain how he reaches this conclusion. Apparently he thinks I am committed to the view that global operations of memory must be error free, and/or that inferential processes cannot be part of the nonconscious mechanisms which actually determine if rightness is to be felt in a given circumstance (and, if so, at what intensity level). I certainly have never held either view. I am in complete agreement with the research Brown cites to the effect that the feeling of knowing in a TOT state can be based on nonconscious inference and that it can be in error. In fact, as I have already indicated, the capacity of the feeling of knowing to be in error (relative to objective criteria) is one of the most significant bits of evidence James uses to show that rightness is an experience in its own right—it can be dissociated from what is objectively correct.

Nor can I see how Smith's conclusions, or any other finding discussed in Brown's "current research" section, bears on the *phenomenological* point at issue. In this regard, it is important to keep in mind that a phenomenological claim (in this case, that the feeling of knowing is a "simple" experience in a TOT) is something very different from claiming that a given nonconscious mechanism is able to, or in fact does, support the phenomenological capacity in question. So I have suggested that something like the PDP metric "goodness of fit" is the process whereby a global signal of context fit, i.e., rightness, could be "computed" nonconsciously. But even if this PDP approach were shown to be wildly improbable, it would not undercut the phenomenological evidence that the experience of rightness exists in the fringe, or that it is responsible for what we could otherwise call the feeling of knowing, or that this feeling is, on James's treatment, "simple."

Brown cites Miner and Reder (1994) to the effect that the feeling of knowing does not "require careful inspection of the memory traces" and that it is a "monitoring process." Again I would agree, having made this a central point of my own theory. I therefore fail to see why Brown thinks Miner and Reder's findings work against either my general theory of the fringe or against James's and my view that the feeling of knowing is a "simple" experience in consciousness. James observations about the ease with which virtual nonsense can feel meaningful indicates that much information that could conceivably be reflected in the experience of rightness is in fact not. The same limitation on nonconscious processing is evident in the case mentioned above: A word can feel right when vaguely implied by the fringe, but feel wrong as soon as it has actually entered consciousness as an explicit sensory content.

Brown correctly attributes to me the view that the function of the fringe, and especially of rightness, is to summarize in a very condensed phenomenological form the results of extremely "vast" nonconscious processes. Brown takes the research he cites to work against this view, since it shows that the experience of rightness reflects

much less information than is in some sense present in our entire cognitive system. But I hardly thought terms such as “vast” would be taken to refer to every possible bit of relevant information that in theory might be available to processing. It should be evident that I use “vast” and similar terms *in relation* to the extremely limited capacity of consciousness to process information. Even the more or less cursory processing of the sort Miner and Reder attribute to the feeling of knowing is (I think most would agree) vastly more complex than anything *consciousness* could do in the same time. In any case, I can find nothing in Brown’s criticisms of my position which even addresses, let alone supports, the phenomenological claim that the feeling of knowing is not a “simple” experience.

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