

A Thoroughly Empirical First-Person Approach to Consciousness: Commentary on Baars on Contrastive Analysis

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Abstract: According to Nagel, bat consciousness is "what it is like to be a bat." According to Baars (1994), we will never know what it is like to be bat, so this approach to consciousness does not allow the science of consciousness to progress. Rather, the nature of consciousness *as such* should be determined empirically, by contrasting processes which are conscious with processes that are not conscious. The present commentary argues that contrastive analysis is appropriate for finding the processes most closely associated with consciousness; but it will not illuminate the nature of consciousness *as such*. Unlike bat consciousness, human consciousness is accessible to humans introspectively (or through communication with others). Consequently, a complete science of consciousness needs to *relate* introspective, first-person accounts of consciousness to third-person processing models of the brain.

1.1 In his "Thoroughly empirical approach to consciousness" Baars contrasts Nagel's question "What is it like to be a bat?" with the "method of contrastive analysis." According to Baars the "bat criterion of consciousness" asks what consciousness *as such* is like in an unanswerable way - unlike systematic contrasts between processes which are or are not conscious which enable one to discover what consciousness is like by experiment and inference.

1.2 One could hardly take issue with the usefulness of contrastive analysis, as the method (Hume's "method of difference") is as old as empirical science. How else, other than through the careful addition and/or subtraction of specific conditions could one ever find

out the necessary and sufficient conditions (the causes) for given events? In the field of consciousness research this is the appropriate method for determining the necessary and sufficient conditions for consciousness within the brain specified either in physical (neurophysiological) or functional (information processing) terms.

1.3 However, whether contrastive analysis is the appropriate method for determining the nature of consciousness *as such*, or whether it will ever be possible to claim that consciousness is just a construct within an information processing theory ([section 1.5](#)) are different matters.

1.4 Nagel's bat criterion of consciousness was intended to be illustrative of the irreducibility of the "first-person perspective." If one views a bat from a "third-person" external observer's perspective one might be able, in principle, to observe everything that there is to observe about bat physiology and behaviour. But one cannot observe how the bat experiences the world. No matter how extensive one's knowledge might be of bat physiology and behaviour one cannot know what it is like to be bat from the *bat's point of view*. Consequently, for Nagel, bat consciousness could never be just a construct within an information processing model. But he accepts that this irreducibility poses an insuperable problem for a science of consciousness - and if it does, Baars might be right to suggest that we could discuss bat consciousness forever without progress.

1.5 There are many students of animal consciousness that would take a somewhat different view. One might, for example, agree with Nagel that it is not possible to experience what it is like to be a bat, and that bat experience is not reducible to information processing, and yet hope to *infer* something about the nature of what the bat experiences on the basis of what one can observe. One might, for example, be able to infer whether or not the bat is in pain (see Dawkins, 1990, for an extensive discussion of this issue).

1.6 More to the point, the "bat criterion" does not apply to *human beings*. To understand what it is like to be a bat one might have to *be* a bat; but to understand what it is like to be a human being one has to be a human being. Baars' argument for reducing consciousness to an information processing construct relies on all more direct routes to an exploration of consciousness being closed. It might be that the consciousness of bats is inaccessible to humans. But it is absurd to suggest that humans have no access to human consciousness. To explore different conscious states one can experience them for oneself, or one can communicate about those experiences with other human beings. In short, for humans, contrastive analysis needs to be set not against a "bat criterion" but against a "human criterion" of consciousness.

1.7 In itself, of course, this would not be sufficient to establish a science of consciousness. One has to establish systematic methods of first-person enquiry and first-person accounts have to be related to third-person accounts (some of the complexities are discussed in Ericsson & Simon 1984; Velmans 1991a,b, 1993a,b). This is far from being an unscientific dream - the relating of first- to third-person accounts is as old as experimental psychology, in the study of psychophysics, perception, and so on. Indeed,

some of Baar's criteria of consciousness *come* from first-person analysis although they are presented as the fruits of third-person empirical science. For example, his generalization that "conscious experiences are most clearly articulated in the case of perceptual or quasi-perceptual phenomena" derives from an *introspective* examination of such phenomena, as does the distinction between focal and fringe consciousness (Section 8.3). This applies also to "the unity of consciousness" (Section 8.4) and to the relative evanescence of images (Section 8.6). We think of consciousness as unified only because we generally *experience* it that way, images are generally *experienced* to be less well-articulated and stable than percepts, and so on.

1.8 In sum, a third-person contrastive analysis does not compete with a "human criterion" of consciousness and it certainly does not legitimise the reduction of consciousness to a construct within some cognitive theory (cf Velmans, 1991a,b, 1993a). Rather, first-person (introspective) and third-person (neural and information theory) approaches are complementary. A complete psychology of consciousness requires both.

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