

Editorial

Our Model

The Behavioral and Brain Sciences (BBS) is a journal of *Open Peer Commentary* modeled on the “CA Treatment” feature of the journal *Current Anthropology* (CA) to whose founding editor Sol Tax and current editor Cyril Belshaw we wish gratefully to acknowledge our permanent indebtedness. They have not only provided our idea and example but also graciously assisted the BBS project in its formative stages.

An *Open Peer Commentary* journal is *none* of the following:

1. a *specialty* journal publishing experimental reports
2. a *theoretical* journal publishing formal theoretical work
3. a *review* journal publishing surveys of research areas
4. a *general* journal publishing syntheses of research areas for the non-specialist

Examples of journals in each of the above categories should be familiar to behavioral and brain scientists (and will be discussed in detail below), but there currently exists only one journal devoted to the kind of service to be offered by BBS, and that is CA. CA accepts for *CA Treatment* only anthropological articles that have been judged by a substantial number of referees “as presenting a controversial viewpoint worthy of argument and discussion from various subdiscipline perspectives.” Such an article is then sent to 50 commentators specially selected to contribute their ampliative and critical perspectives. Their commentaries are then published together with the original article and the author’s response. The result has been a unique and extraordinarily effective form of scientific communication that partakes of some of the virtues of 1–4 above, but, more especially, generates the information, immediacy, and stimulation of a research conference coupled with the rigor and discipline of the refereed formal written medium.

The CA service has been extremely fruitful and is regarded as contributing substantially to both the communication and the generation of data and ideas in anthropology in a way that is simply not possible by any other means. Anthropologists actively aspire to invite *Commentary* upon their work and it is generally acknowledged that CA has exerted a remarkable unifying effect on the Sciences of Man, stimulating research, critical analysis, cross-disciplinary (and cross-nationality) fertilization, and more recently a mounting extradisciplinary admiration on the part of nonanthropologists who have been attracted to this fascinating journal when an occasional *Treatment* has impinged upon their own disciplines. Some of the most devoted nonanthropologist admirers of CA have been behavioral and neuroscientists, which is partially predictable from the fact that it is into the behavioral and brain sciences that interdisciplinary interests in the Sciences of Man are most likely to spill over. We also take this as a sign that the behavioral and brain sciences will be a fertile soil for implementing the *Open Peer Commentary* service.

The behavioral and brain sciences

These can be subdivided roughly (and somewhat arbitrarily and nonexclusively) as follows:

A. BEHAVIORAL BIOLOGY (including behavior genetics, animal communication and intelligence, human ethology, invertebrate, lower vertebrate and mammalian behavior, primatology, sociobiology, etc.)

B. COGNITIVE SCIENCE (including artificial intelligence, human information processing, linguistics, mathematical models, philosophy and philosophy of science, psycholinguistics, psychophysics, etc.)

C. NEUROSCIENCE (including higher CNS function, invertebrate neurobiology, human neuropsychology, motor systems, neuroanatomy, neuroethology, neurochemistry and neuropharmacology, sensory systems, etc.)

D. PSYCHOLOGY (including clinical, cognitive, comparative, developmental, personality, social and physiological psychology, experimental analysis of behavior, etc.)

It would be prejudicial and counterproductive (not to mention that it would not be consonant with the spirit of the *Open Peer Commentary* concept) to rule that the “focus” of BBS is to be, say, cognitive psychobiology, or human as opposed to animal studies, or studies emphasizing brain rather than behavior. On the one hand, it is unlikely that any narrow range of subject matter would be sufficient to sustain a journal exclusively devoted to the *Commentary* service. Moreover, in narrowing the content spectrum, one would also be narrowing the comment spectrum and thereby reducing the potential of the service to cross-fertilize, integrate, and, indeed, reduced to a sufficiently parochial level, even to *inform* in any fashion distinguishable from that of a conventional review journal.

It should be noted that the Sciences of Man, in which *Open Peer Commentary* has turned out to be so effective, consist of a notably broad spectrum, including paleontology, archaeology, physical anthropology, biological anthropology, primatology, cultural and social anthropology, linguistics, and human ecology. The corresponding organ in the behavioral and brain sciences must retain this scope, and we will accordingly make every effort to assure that the entire BBS spectrum is at all times fully represented, both in terms of articles and commentaries thereon.

The role of BBS relative to existing journals in the behavioral and brain sciences

1. **Specialty journals.** These are abundant and easy to identify: *Behavioral Biology*, *Animal Behaviour*, *Cognitive Psychology*, *Perception*, *Brain Research*, *Journal of Neurobiology*, *Journal of Comparative and Physiological Psychology*, *Journal of Personality and Social Psychology*, *Developmental Psychobiology*, etc. All these journals (and many more like them) are devoted to empirical research reports and occasional theoretical articles (although most theory not incorporated in the empirical report itself is reserved for the theoretical journals, discussed below).

Specialists tend to follow one circle of such journals, and it is rare for a paper to be known to even as much as a quarter of the behavioral and brain scientists who constitute the above readership. This is the case despite the fact that, as should be evident from our earlier classification scheme, the boundaries between these subdisciplines are far from categorical, and coherent work in one area often necessitates forays into areas in which the researcher is not himself a specialist. Often this is done within the rubric of the researcher’s specialty and its own journals, so the material never reaches the scrutiny of the appropriate readership. This means, for example, that cognitive psychologists can and will say things about the brain and about animal cognition that might have been greatly improved by feed-

back from specialists in those areas; learning theorists will report research and interpretations that would have benefited from criticism by behavioral biologists; neurobiologists will investigate neural mechanisms from perspectives to which more insight may have been added by information scientists; social psychologists will operate in a biological vacuum, psychobiologists in cognitive poverty, psycholinguists in oblivion of animal learning, and so on. If ever related disciplines would profit tangibly from more cross-talk, the behavioral and brain sciences are such.

2. Theoretical journals. There do exist theoretical and review journals through which researchers can escape the narrow circle of their specialty journals, and indeed this is a valuable function such journals perform, but they cannot provide feedback concerning a researcher's *own* work; he is only the passive recipient of the products of other workers. Nor can the author of a theoretical article get an idea of how his work is received by the field other than in terms of (a) the responses of a few anonymous reviewers, (b) relatively rare and unsolicited commenting articles (usually negative), and (c) the destiny of his article in terms of citations in the context of other articles. There exists no mechanism for overt solicitation of open peer commentary on one's work.

Theoretical journals include the *Journal of Theoretical Biology*, which publishes a good deal of theoretical neurobiology; *Kybernetik*, which is not a cybernetics journal at all but an excellent though somewhat esoteric journal of theoretical neuroscience; *Journal of Mathematical Psychology*, which publishes mathematical models in the behavioral and brain sciences; *Psychological Review*, which is not a review journal but a first-rate journal of theoretical syntheses in behavioral and brain science; *Cognition*, which publishes both empirical and theoretical articles in the area of cognition, language and information processing; *Artificial Intelligence*, which is devoted to computational models; and *Synthese*, which publishes work on the philosophical foundations of the sciences. Such theoretical journals are exceedingly valuable, to be sure, but, as mentioned, cannot provide feedback in either direction, either to the author or the specifics of the reader's research. Moreover, with the exception of *Psychological Review*, which is truly representative of the entire behavioral and brain science spectrum (except hard-core neurobiology and artificial intelligence), the theoretical journals, too, suffer from isolationism. For example, although it formally welcomes such material, it is highly unlikely that *Cognition* will receive many submissions from neuroscientists since the readership of the journal is largely cognitive, and no real rationale for a common interest is offered to a prospective author in the neurosciences. The service of interdisciplinary *Open Peer Commentary* offers just that rationale.

3. Review journals. The case is much the same with these. The *Annual Review* journals (in *Psychology*, in *Physiology*, etc.) amount essentially to annotated bibliographies, a valuable service to specialists in the various reviewed sub-areas, but not one that makes it possible to provide any sweep or insight. And they are certainly *not* the way to become conversant with an area one does not know; at best they can only provide a guide for further reading. The more recent *Annual Review of Neuroscience* is aspiring to produce a deeper and more assimilated kind of survey, but if successful it will still be only a

review, with one or several authors offering an individual coherent perspective on a panorama of research by diverse authors. The conception of a *Commentary* journal is rather the converse of this, with a panorama of reviewers commenting openly on the work of one author.

Another kind of review journal is the excellent *Neuroscience Research Program Bulletin* and *UCLA Brain Information Service* series, reporting summaries of conferences devoted to topics in neuroscience. Again, these are a very important service to the neuroscience community, but they cannot subserve the kind of direct interaction provided by *Open Peer Commentary*. The same is true of *Psychological Bulletin*, which publishes very coherent and valuable reviews in the behavioral sciences and psychometrics, but little interaction.

Journals that review books do provide an interaction that partakes of the spirit of commentary, but of course this interaction is both one-to-one and asymmetrical. It provides at most one coherent perspective on the author's work. There is usually no reply, and the readership, in general unfamiliar with the work under review, is obliged to adopt the reviewer's perspective if it is at all persuasive. Moreover, it has been our own experience that book reviews are usually quite superficial, and, to a degree, understandably so. One is expected, as a book reviewer, to survey and comment upon the book in its entirety; the book review has a well-defined function in this regard. And yet one may not have been interested in the whole of the book, nor have read it attentively enough to retell the entire tale, much less have something insightful to say on every salient point. So most book reviews represent various degrees of compromise with respect to these unrealizable goals. They are either but brief précis appended to a journal otherwise concerned, such as *Neuropsychologia* or *Quarterly Review of Biology*, or somewhat longer attempts to say something significant, as in *Science*, and, occasionally with remarkable success in at least one of these respects, *Scientific American*. *Contemporary Psychology*, exclusively devoted to book reviews, even occasionally rises to two-on-one (reviewers-to-author); but under the pressure of its admirable mission of keeping pace with the enormous volume of book publishing in psychology, it has in our experience rarely produced a memorable review (at least since the time of Boring), but at best a sufficient hint at the contents of the book so one is somewhat aided in deciding whether or not to read it for oneself: the function of a conventional book review, after all.

In contrast, the goal and the effects of a *CA Treatment* of a book are much more sensible and realizable [see review of Jerison's *Evolution of the Brain and Intelligence*, CA 1975: 16(3), 403–26]. For the benefit of readers who have not read the book, the author first provides a comprehensive précis; the commentators are then expected to address only those points that they have found particularly salient to them, and not necessarily the book as a whole. Invariably the panorama of commentators covers a panorama of points, and whereas it is not the intention of a *CA Treatment* to evoke the contents of a volume for a prospective reader, the outcome of the commentaries and response is usually a much more profound excursion into and involvement in the work than even the most ambitious single-handed review can hope to provide. And to a degree, the remarkable way in which a *CA Treatment* of a book can draw one into the contents of an unfamiliar territory is a microcosm of the overall capacity of the *Open Peer Commentary* service to inform and involve a readership in a fashion unparalleled by any other medium. [This analysis of BBS's relation to existing journals will be continued in the next issue, followed by a brief history of the project.]