Editorial: The Contemporary Crisis in Scientific Communication

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The crisis in modern scientific communication is exemplified by the con-dition

which pervades the area encompassed by the term 'neuroscience'. The critical proportions reached at present are not simply problems generated by the overwhelming quantity of contemporary activity and the necessity for ever increasing, narrow specialüization.

Another real difficulty is presented by the danger of losing communicative contact with past, contemporary and future generations of scientists, a loss which would render our present efforts futile. Contact worsens because scientific communication in the neurosciences suffers from a progressive decrease in intelügibility, reliability and perspective. Too often, reports are incomprehensible, unrepeatable and/or lack explicit relation to a broader context. They are frequently incomprehensible because insufficient time is available for careful writing and editing; they are unrepeatable because too little attention and space are given to clear presentation of the methods and actual data; they lack adequate relation to a broader context because presentation of the context of the work is often neglected or slighted for a number of reasons. the most likely of which is uncertainty or disagreement about what might be the broader context. Indeed, it becomes more difficult to develop a sense of context the longer the communication crisis persists. The crisis continues to be further aggravated and extended as long as current practices persist without a balancing trend. The needed increased intelligibility and per-

spective in scientific writing is difficult to generate in a milieu of uncertainty with regard to the reliability, comprehensibility and validity of perspective^{^^^}the existing literature. Apparent contacts in data and Interpretation abound [^]Khout ready resolution (see Scalia's review in this issue for an example of the difficulties encountered when attempts are made to order our knowledge concerning even a small sector of neuroscience). The resolution should be found in reliable data but it is an extremely difficult task to determine what are the actual data. Many presentations are either incomplete or ambiguous. It is no Solution to appeal

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to authoritative people because no authority exists in science other than reliable data and sound logic. (The valid philosophical questions of what constitutes data as opposed to interpretation and what constitutes acceptable logic are noted but not discussed here.)

Let us fix our attention on the ultimate objectives.

It is the editorial position here that the goal of science is the improvement of our understanding of the real world, regardless of how we may wish to apply that improved understanding. Both research and education are vehicles directed toward that goal. The relationship between the two must not be lost in the competitive chaos of the modern world. We do research to improve our knowledge and we teach to communicate what we, as a Community of scholars, have learned. There is a clear partnership between the research and educational enterprise which must be preserved. Where the fruits of research are inadequately communicated to our colleagues in research and teaching, the value of the Information to our students disappears. If adequate communication suffers progressively such that the comprehensibility gap between individual investigators and teachers and between teachers and students continues to widen, the future progress of scientific effort, which lies in our students, will be needlessly frustrated. The deficiencies of textbooks and the difficulties of textbook writers lie, at least in part, in the failure of researchers to produce sufficient intelligible, reliable and knowledgeable Communications in context. The feverish competition to accumulate dramatic discoveries outpaces our efforts to make sense out of the past and current production and jeopardizes the partnership inherent in the goal of research and teaching.

We must devote attention to the alleviation of the existing crisis. Reasonable procedures in that direction must be developed. Successful means will be achieved most readily in an atmosphere of good will and cooperative effort.

Hopefully, this periodical provides a vehicle for exploring new directions cooperatively. It was organized with democratic principles in mind and it should be regarded as a periodical, with elected leadership, in which the contributors and readers have an active role in its destiny.

T. The present periodical should reflect the mood of renaissance which pervades many scientists and as the periodical focuses on ways of meeting the crisis of which we speak

perhaps it will contribute significantly to meeting the challenge. The challenge of 'crisis' provides the impetus for the response of emerging scientific leadership.

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