WELCOME ABOARD

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Welcome to the "Interdisciplinary Conference in the Formal Aspects of Cognitive Processes". The word "interdisciplinary" was put in the announced title in the advance flyer, by the way, as a hopeful expression of my own predisposition towards the conference participants. Things worked out pretty well in that regard, I think; the disciplines represented by our speakers include computer and communication sciences, linguistics, mathematics, neurophysiology, philosophy, psychology, social research, and systems and industrial engineering—and the subdisciplines of each of these here represented is equally varied. Let me say now that the responsibility for the choice of the particular area representatives for this conference is entirely mine—the common thread, or "bond", being only (as suggested) an interest in cognitive processes and a formalistic approach. Perhaps a few words in that regard are warranted at this time. Speakers were not chosen on the basis of reputation or area but, rather, on the basis of a disciplined approach as set forth in their preliminary abstracts. This is not to say that I necessarily agree with either the particular approach or the conclusions of any given speaker; simply that each has something important to be said within a framework which allows for some sort of formal statement and/or analysis. And this, I feel, could be profitable for the whole community.

This particular conference came about in the following way: in the past 2-1/2 years I have traveled to several conferences in one or more of the areas here represented—sometimes speaking, sometimes only attending—and I found that several interesting observations were seemingly to be made. Among these are numbered:

1) These conferences were staunchly anti-formalistic. Most speakers, granted, borrowed freely from the more formal disciplines, but often abused the language borrowed from the parent discipline with respect to that discipline. Personal interchanges at these meetings left me somewhat skeptical as to whether or not precise terms, used imprecisely, were being substituted for imprecise terms.

2) Unlike the mathematics and logic conferences (the only ones of my previous active participation) the talks were often exercises in defensiveness (particularly of reputation) and developed into emotional involvement, sometimes to the exclusion of proposed content.

3) Often, at the very university which housed the conference, there were people (who, it appeared to me, were very good, and not to be dismissed lightly) who "never went to such things" even though there were in the apparent mainstream of the discipline in question, had something important and relevant to say, and were, quite obviously, very interested in the

topics under discussion. Those to whom I am referring felt that the very lack of a common formal groundwork was a barrier to productive discussions and results.

4) A disproportionately small segment of the respective communities involved seemed to monopolize the addressed.

In view of these (admittedly subjective) observations (on an admittedly small sample space), I resolved to someday test these observations by organizing a conference which

1) was of a formalistic bent,

2) invited speakers without regard to reputation,

3) aggressively advertised to "those usually excluded from such proceedings", and

4) excluded most of the usual run of speakers via 1), 2) and 3) above, and the injunction that the only thing a speaker may legitimately assume from his audience is some degree of formal sophistication.

The University of Michigan, under the auspices of the Department of Mathematics, with the sponsorship of the Institute of Science and Technology has made my resolution a reality at this time. And this conference was viewed as an experiment—a "trial run", as it were—and the response so far has been extremely positive, almost overwhelming. I (immodestly) ascribe this response to the correctness of (at least some of) my observations concerning the "usual" conference of this type, and that these reactions are shared by some subgroup of the broad community.

Now I, too (in conjunction with John Lamendella), have a formal approach to cognitive processes—i e., a model (which it is not my purpose to discuss here)—and have spoken about it several times to various conferences and "interested" groups. Unfortunately, it suffers from the defect of not properly belonging to any discipline, presupposing some neurophysiology, a little set theory, logic, graph theory (damn little), and one trivial topological result (which can be omitted if you'll take my word that various structures which are introduced are well-defined)—all in all (with the exception of the neurophysiology and the one "lifting theorem" from topology) material covered in the first four weeks of our Freshman Honors Calculus course. The model arose in conjunction with an attempt to formally characterize certain linguistic processes, but, recognizing the generality of the theory, we couched it in the language of "generalized" cognitive processes—a special case of which is the original characterization process under discussion Linguistic journals say, "Too formal; besides this stuff is psychology." Psychology journals devoted to cognitive processes say, "Too formal; besides, this stuff is mathematics." Mathematics journals say, "Too interdisciplinary; and besides, the mathematics involved is trivial. Write a book." Some of the frustration generated by the above also serves as partial motive for this conference.

This conference is, finally, an attempt to obviate the above and similar frustrations (which I know for a fact are not experiences unique to John Lamendella and myself) through the presentation of an interdisciplinary collection of papers devoted to the formal aspects of cognitive processes as a viable, valuable, productive discipline in its own right. The speakers here assembled represent my choice for the spokesmen in support of this viewpoint, and they will begin presenting the hard evidence at 1 P.M. this afternoon.