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# "COMMUNICATION THEORY IN PERSPECTIVE"

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# COMMUNICATION THEORY IN PERSPECTIVE


## Abstract

The problem of communication and control is the central problem of contemporary society. The concentration of the philosopher upon precision of measurement and precision of definition, although essential for scientific process, tends to neglect human feelings, so that we can lose our humanity. The three levels of communication theory; namely, the technical, the semantic, and the effective must all be developed to maximize the negentropy of human civilization. The confusion between "myths", facts", and "truth" must be properly understood. The relationship between facts, logical truth, and myths must be investigated, particularly as they relate to thermodynamics, information, organization, and reverence for life.



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# COMMUNICATION THEORY IN PERSPECTIVE

## (Communication Theory and Society)

### A. Introduction

This memorandum is an attempt to establish a perspective view of the potential role of the communications research and its philosophical relationship to the problems of contemporary society. The problem of communication and control with maximum individual freedom is the central problem of our civilization. The drive for sufficient energy sources is presently solved. As our civilization becomes more complex and interdependent the right of the individual to pursue his own development becomes both more dependent upon large power groups and potentially more unique on account of greater store of scientific and artistic tools available in an industrial society.

### B. The Changing Role of Applied Scientific Research in a Complex Society.

It is postulated that the transition from an agricultural society to a highly industrialized society shifts the integrative role of the philosopher into the area of applied research by (1) The increasing specialization of science, (2) the position of applied research as a buffer between basic scientific research and the society which uses the results of science through engineering, and (3) the preoccupation of many philosophers with segments of human activity which can be precisely defined.

These changes leave the philosopher unprepared to perceive the totality of human activity. The concentration upon precision of measurement and precision of definition leads to neglect of the interaction of human feelings with the intellectual achievements of science.

C. Understanding of Relation to Society and Levels of Communication Theory.

It is proposed that the creativity of applied research can be increased if there is an understanding of the role of the researcher in the evolving civilization to which he belongs. To approach this problem, let us examine the levels of communication theory postulated by Warren Weaver.[1]

(1) Technical (Engineering) Level of Communication thru Mathematical Theory of Communication of bits of information, i.e., How precisely can the symbols be transmitted?

(2) Semantic Level of Communication Theory. The analysis of the meaning and logic of symbols. How precisely do the transmitted symbols convey the desired meaning?

(3) Effective Level of Communication Theory. The problem of effectiveness of communication. How effectively does the received symbols affect conduct in the desired way.

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[1]Shannon and Weaver, A Mathematical Theory of Communication, pp. 96, 114, University of Illinois Press (1949).

The three levels of communication theory can be further related to types of information as follows:

Technical information transmission of facts (observed events and generalized laws deduced or verified from series of observed events).

Semantic Information--Determination of logical truth (logical truth, based on set of definitions, defined logical operations, and sentences).

Effective Information--Inciting to action (myths or allegories which effect a sharing of human emotion through the associated access to common human feelings).

There is some doubt as to whether this grouping of "logical truth" with "semantic information" is a valid relationship. Perhaps a more complex table should be constructed showing the relationship of "facts" "logic (truth)" to produce "myths" having a high probability of validity. Thus myths which we can show consistent with known facts by use of logical operations come to be accepted as scientific laws until new facts are discovered which show inconsistencies.

The term "myth" does not imply lack of validity compared to "truth" or "facts". A myth is not intended to be interpreted literally by dictionary definitions of the component words, but conveys a meaning in terms of human feelings that are

not easily communicated verbally.

In the technical information area of communication theory (or cybernetics) the areas of interest are: (1) Theory of information content, (2) Inverse feedback circuits, and (3) composite networks using inverse feedback circuits as sub-elements.

D. Facts, Logical Truth, and Myths.

As an example of the interrelation of "facts", "logical truth," and "myths" consider the relationship between:

(1) The second law of thermodynamics

(2) The basic definition of information

(3) The equivalence of "information (or authentical)" and negative entropy.

(4) The principle of organization as the message or the life process by which man increases his level of organization (or negative entropy) as an island in the general stream of increasing entropy.[4]

(5) The principle "that all men are created equal."[5]

(6) The principle of "reverence for life."[6]

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[4]See especially Norbert Wiener, The Human Use of Human Beings, (Cybernetics and Society) Second Edition. Garden City, N.Y., Doubleday Anchor Books (1956) p. 95.

[5]Declaration of Independence.

[6]Albert Schweitzer

E. Consciousness of the Communication Problem

The consciousness of the communication problem in our society comes through two channels:

(1) Economic channels in which business organizations find that communications problems must be solved in order to decrease losses or increase profits. The complexity and large size of business and transportation organizations require new solutions of communications problem.

(2) Ideological channels in which human beings are searching for ways to fulfill their potential individuality, while at the same time striving for a higher level of cooperation in a complex industrial society. The pressures for conformity and the insecurity derived from the oscillations in the economic system in the past generate feelings of insecurity. In the past people have responded to these challenges in various ways, such as placing hope in education, communication,[6] social service, and political reform movements.

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[6]John Mills, The Engineer In Society. N.Y., D. Van Nostrand Co. Inc., (1946).