

truth unproved. He even demonstrates the provability of the statement, "If arithmetic is consistent, it is incomplete," which, like other statements about arithmetic, can be represented by a Gödel number.

The mathematical and philosophical implications of this proof are very extensive. They have been discussed in the *NEW PHILOSOPHY* in recent years, especially in the annual address given in 1956.<sup>3</sup> The central theme of the implications is the impossibility of achieving certain goals. But there is a positive side too. The impossibility of a complete and consistent description of arithmetic shows that it is a subject without limitations, a road with no end in either direction. No matter where one begins in arithmetic, he can travel both ways. He can always delve deeper into the foundations of the subject, uncovering complexity as he looks for simplicity, just as in physics, biology, or any other investigation of creation. And he can always come across conjectures that he cannot prove. The problems that remain unsolved today will very likely be solved later, but the process will not come to an end. There will always be impossible problems that will entice mathematicians to explore new fields they might not have noticed otherwise. And by the time each new problem is proved impossible, it will have led to developments that are ample compensation for the difficulty of the struggle.

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## "BY MEANS OF THE THINGS OF SENSE"

HUGH GYLLENHAAL

### BACKGROUND

In the December 1960 issue of *NEW CHURCH LIFE*, the Reverend Geoffrey S. Childs ("The Man Child and The Serpent") draws a sharp line between inductive reasoning from the senses, from the first rational (the "negative" principle), and reasoning from a higher, spiritual perception (the "affirmative" principle).

He says that a centuries-long process of thinking started by

<sup>3</sup> Joel Pitcairn, "The Foundations of Mathematics," *NEW PHILOSOPHY* (Volume LIX, July, 1956), pp. 79-91.

Bacon and developed by Locke, Berkeley and Hume has led to the infiltration of the "negative" principle into the modern world. Inductive reasoning has its place, says Childs, but the abuse has come in the endeavor to analyze a discretely higher plane from one below it—to seek to discover spiritual causes from natural effects—via the inductive approach.

He cites the warning of the Writings not to study discretely higher degrees "*by means of the things of sense and of the memory.*" But he affirms that induction precedes perception. In fact, on its own plane, it is the stepping stone toward perception.

#### PURPOSE OF THESE COMMENTS

It is our purpose here to attempt to relate this thinking (above) to certain aspects of contemporary scientific thought in order to illustrate that:

1. *Inductive reasoning is far more pervasive of our thought processes than most of us realize (including many in the New Church).*

The *direction* of this way of thinking not only changes our philosophical notions but affects the way in which we filter incoming sense stimuli. It alters the way we react through our nervous system; how we form symbols and attempt to convey meaning to ourselves and others.

2. *Therefore, in order to make the "jump" to a higher degree of thinking we need to become more aware of the distinctions between these stages of reasoning.*

While elevation is essential to the development of spiritual perception, for most of us raised and educated in the twentieth century it is not possible simply to ignore modern thinking and "make all things new" through our interpretations of revelation. (It has been said that we may be through with the past, but the past isn't through with *us!*) We are deeply immersed in the assumptions of the "negative" principle. They form many of the unexamined starting places of our thought. To be able to place them in a subordinated position we need first to identify them and *rank* them.

3. *Some of the new thinking in the so-called "advancing" sciences may be an aid to us by at least shaking the founda-*

taking of appearances for all ultimate reality and the belief that sense perception is the sole standard of the real?"

A profound implication of this theory of brain models is that in the training of young brains, models are developed which can later be modified only by great effort, if at all. If a child gains, through whatever unplanned means (television, for example) an inferior explanation of the universe, this will react against him. He will limit himself and remain inferior to his own potential. Note Bishop Benade's emphasis on the vital importance of truly correspondential imagery starting in infancy. (*Conversations on Education*)

As for the adult, can he hope to throw off old models and replace them with higher forms of thinking by a routine, linear consumption of the written and spoken words of revelation—without a very vigorous, conscious re-structuring of his ways of thinking? What new methods for change are required? If the techniques of science have led us down these paths of externalized thinking, can they be used to jog our brains out of such programs?

Certainly a much better knowledge of these learning processes needs to be in the hands of the learner as well as the teacher.

## 2. A PHILOSOPHICAL PROBLEM OF ATOMIC PHYSICS

Werner Heisenberg, Nobel Prize Winner, states ("From Plato to Max Planck," *The Atlantic Monthly*, Nov. 1959, pp. 109-113) that the ancient controversy between Materialism and Idealism has been revived by modern atomic physics. He implies that Materialism is becoming less useful as a starting assumption. Here are some quotations (*italics added*):

Planck's radiation law for the first time postulated the existence of different *scales* in nature and suggested that events in the different realms of magnitude need not be similar at all (p. 110).

Events are not necessarily determined but . . . the possibility of or tendency toward an occurrence constitutes a kind of reality—an intermediate layer of reality situated halfway between the bulky reality of matter and the spiritual reality of the idea or picture (p. 111).

Modern physics, in the final analysis, has already discredited the concept of the truly real, so that *it is at the very starting point that the materialistic philosophy must be modified* (p. 112).

How does this sort of development help us to move beyond the confines of inductive, materialistic reasoning? At least we can

use a leading scientist's words to question some of the basic assumptions of science, while avoiding the hazard of jumping to the conclusion that a common referent exists for Heisenberg's and Swedenborg's "spiritual reality." But perhaps this development has greater value in that it helps to dramatize a learned tendency in ourselves as modern men: we are constantly encouraged to believe that we can lay bare the secrets of nature; we tend to assume that we have discovered what a substance is, by discovering the quantity and kind of elementary constituent "bricks" in the substance. But the *purpose* of the substance and the correspondential ideas behind the substance belong to a discretely higher degree of reality.

We are taught to ignore *quality*. Comte even said that quality was no positive entity, the most positive entity being *quantity*. Yet the *meaning* of a thing, as a whole, is its most positive aspect! Comments Nicoll (*Living Time*): "Explanations seem to be fascinatingly easy on this basis [of quantities]. Is not this the obsessing fascination of explaining the greater by the less—the root of all obsession?"

Again, advancing science may help to cure the "obsession" of seeking to explain things by means of the things of sense. It is understandable how anyone who is just beginning to think can become intoxicated by the powers that science seems to put into his hands. It seems possible to explain everything, eventually! But perhaps a new direction is being suggested in such theories as that of Heisenberg where the element of *mental construction* is great. In such a case is not man really studying his own mind? When we discover "scale" or some form of discrete degrees, and discover that nothing can be predicted accurately in atomic *phenomena*, we are learning about the mind and our attention is being directed toward the "inner" world.

### 3. THE "NEW" PSYCHOLOGY

The dangers of a cultural lag between what science discovers and what the man-on-the-street later comes to accept as "fact" is nowhere better illustrated than in the field of "modern psychology."

The highly useful but pessimistic psychology of Freud and his followers, with its preoccupation with the crippling effects on human personality caused by the play of external stimuli on the

"sub-conscious," has held the field until very recently. It has been based on massive studies of, for the most part, crippled personalities.

But while most people have gradually come to accept these ideas, the last ten or fifteen years have seen a departure from many of their underlying assumptions. Here may be another trend toward looking at the "whole" instead of the inductive approach which unravels the "parts." In this case the subject is man himself:

Abraham Maslow postulates a hierarchy of "needs" which motivate man: first physical needs, which when met lead to emotional needs, and finally to the rational need to grow beyond a concern for self. He leaves man's growth potential open-ended at the *top*. His "upward" tendency is toward greater "use."

Gordon Allport sees man "becoming" what it is his nature to become, only aided or hampered, not governed, by heredity and environment. Again, he leaves open man's growth into higher levels of maturity.

Gardner Murphy (called "Dean" of American psychologists) in his new book *Human Potentialities* sees man transcending his biological and cultural limitations and draws the outlines of a "Third Human Nature" which can break through the mold of heredity and environment.

The Russian psychiatrist, P. D. Ouspenski (*Tertium Organum*) describes six scales of consciousness in man (which seem very similar to Swedenborg's discrete degrees) and boldly condemns all modern theories of psychology because of their insistence on defining man in terms only of his lowest degrees of consciousness!

In this newer thinking there is often strong emphasis on cognitive re-structuring to move us out of the older patterns of thought; for example:

Perls (*Gestalt Therapy*) prescribes fascinating listening, observing, and feeling exercises in the development of an awareness of the *relatedness* of things.

Korzybski (*Science and Sanity*) insists that "the only content of knowledge is structure," and develops a profound (but distressingly unreadable) "non-Aristotelian" logic which must be rigorously studied and practiced if the brain and

nervous system are to be freed from the burden of our cultural inheritance, stemming from Aristotle's errors (specifically: patterns of thought structured by our language models and reinforced by our persistent confusion of words themselves with their referents).

Kurt Lewin's followers provide unstructured group situations in which separate individuals, through the struggle to bring order out of chaos, experience a sense of a higher order of inexorable "law" in the dramatic emergence of the human group.

J. Samuel Bois (*Adventures in Awareness*) exposes one to "semantic psychoanalysis," a mode of thinking one's way through five stages of reasoning toward an awareness of the man-made nature of these methods of thought and, hopefully, to "jump into different orders of existence." Incidentally, "modern science" disappears entirely at the fourth stage. The problems posed by its assumptions no longer exist at stage five.

Bachelard, Sorokin, Fromm, Goldstein and others all seem (to us) to have moved beyond the assumptions we usually associate with "modern science."

It has been our purpose to underline the fact of our deep immersion in assumptions of reality which are based on the inductive approach, to suggest that each must identify these "starting places" in his thinking and that some of the recent new knowledges in the sciences may be of use here. These knowledges will never replace revelation. They will always, themselves, be potential touchstones to new obsessions. But they may help us build a few more "stepping stones" toward the development of those higher perceptions which should order man's thought.

Perhaps never before in history has knowledge commanded the power over men which it commands today. Peter Drucker (*Landmarks of Tomorrow*) suggests that the unique new characteristic of what he calls the "Post-Modern" world is that we are no longer concerned with the threat to knowledge but with the threat of knowledge. Science formerly was the pursuit of knowledge for the sake of knowledge. Today science is increasingly the pursuit of knowledge for the sake of power.

Not only our spiritual survival, but our physical survival as well, may depend upon our proper ordering of knowledge.