He seems to want teleology extirpated from science teaching, and if he had his way I believe science teaching would suffer a severe setback.

The most important point to remember after reading Mr. Oakes' article is that teleogolical expressions must be very carefully avoided *when talking to Mervin E. Oakes* or others of his kind! Every expression is a communication, and what is appropriate for one audience is wrong for another. When we come into contact with a man with a "scientific attitude" we must, if we want to communicate with him at all, use his own terms. We can talk to him about science without using teleological expressions; the exercise would be comparable to discussing religion without using terms peculiar to the Writings. The truth will stand up for itself without teleological interpretation, and we should allow it to do so whenever we address scientists with divergent philosophical views. But to impose the same sort of censorship on what we say to our own students (particularly in New Church schools) would be to deprive them of the best part of science for the sake of an end that I myself consider very dubious even from a scientific standpoint.

KENNETH ROSE

WHAT ARE PEOPLE SAYING?

Concerning the Nature of the Mind

In *Time* magazine for October 13, 1961, there is a discussion of the work of Jerome Bruner at Harvard's new Center of Cognitive Studies. This experimental work continues the program suggested in a small book Bruner wrote about a year ago, *The Process of Education.* Apparently this work has already made an impression on some educators in New Church schools. We read in the first paragraph of the chapter called "Readiness For Learning" as follows:

> We begin with the hypothesis that any subject can be taught effectively in some intellectually honest form to any child in any stage of development. It is a bold hypothesis and an essential one in thinking about the nature of the curriculum. No evidence exists to contradict it; considerable evidence is being amassed that supports it.

Some idea of the task that lies ahead for studies is implied in the observation as reported in *Time* as follows:

> How humans think and learn has been investigated enough by teachers and

philosophers over 20 to 30 centuries to produce a set of working rules—for example, six is supposedly the right age for children to start school. But scientific study of the functions of the brain—memory, perception, intuition, imagination, conceptualization—has hardly been touched. Less has been learned about learning in humans than about learning in animals: Pavlov's dogs, for example, or the ping-pong-playing pigeons that led to the invention of the teaching machine.

Undaunted by this lack of success in time past to gain an understanding of the nature of thought the article describes the hope of Bruner as ". . . relying heavily on experiments—to try to work out a theory of intelligence—the nature of the human mind."

We observe three ingredients of these studies: 1. a clear-cut hypothesis, 2. an evaluation of the history of the subject, 3. a declaration of a hope. This is a cheerful change from so many movements that have in recent years associated themselves with the so-called "scientific attitude."

So often the result has been so critical of studies of the nature of the human mind with reference to its imaginative and intuitive processes as to relegate such studies to the past scholastic age when people still under Aristotelian influence could write about rational psychology. Many were so mixed up by the startling nature of "modern" discoveries as to believe that any contribution going back more than just a few years was useless if not entirely false. And finally they were so "objective" as to discount such an anthropomorphic influence as "hope."

We also observe in particular that Swedenborg would be included among the scholastics—or at least among the medievalists—by the person parading the "modern" scientific method. Swedenborg wrote about the nature of the mind. Not only did he distinguish between the functions which he called perception, imagination, intellection, thought, reasoning, and judgment, but he also ascribed to the mind a structure based upon discrete degrees. The above functions were part of what he called the human intellect. Above this there was what he called the pure intellect.

What Swedenborg wrote was based upon the best scientific studies in anatomy available to him in his day. Yet the faith that drove Swedenborg along his way was the belief in the existence of God and of the human soul. Experimental psychology was to begin many years later, however, and in its early period was to produce much of what was negative to Swedenborg's ideas.

Swedenborg's studies relied heavily upon his faith, and their development upon reason not attached to experiments but more to

common observation. Bruner's hope relies *heavily* on experiments —if not entirely, upon what else?

These studies appear to suggest many interesting things, and there is an opening for some person interested in psychology and education to follow them and prepare an informative article for the readers of NEW PHILOSOPHY.

Concerning the Origin of Life

Another subject that we can hope one of our readers will look into for a possible article has been suggested by a clipping from *New York Times* called to our attention by Mr. Boyd Asplundh. The article is entitled "Tests Offer Clues To Origin of Life."

The narrow geocentric view held so often in the past that life is limited to this earth seems to be challenged by the possibilities noted in the news item. It is suggested "that organic compounds, the basic ingredients of living material, are being synthesized now in space by cosmic radiation passing through frozen gas mixtures."

The news item arose from a report by Dr. Berger in the September issue of the *Proceedings of the National Academy of Sciences.* Dr. Rainer Berger is of the Convair Scientific Research Laboratory in San Diego. A remarkable feature of Berger's observations is that he even quotes from Aristotle! The *Times* article states:

> Dr. Berger cautioned that there is an enormous step between the finding that simple chemical materials can be produced under conditions found throughout space (or on the primitive earth) and what is now regarded as "life."

The news item comments that other work related to the problem of possible synthesizing in space of organic compounds is being done under Dr. Stanley L. Miller at the University of California in La Jolla, under Dr. Melvin Calvin and associates at the University of California at Berkeley, and under Dr. Bartholomew Nagy at Fordham University.

We are reminded that a few short years ago, when about the only things that we were concerned with in "empty space" were electromagnetic and gravitational phenomena, someone wrote to the effect, "but that seems to be an awful lot to take place in *empty* space." Apparently empty space might be cluttered with more than these phenomena and artificial satellites and related hardware.

E.F.A.