

## GENERAL SCIENCE

# Scientist's Faith Outlined

► "IT IS man's mission to learn to understand."

That is the "simple faith" of the scientist as set forth by Dr. Vannevar Bush, president of the Carnegie Institution of Washington, at the annual meeting of the American Philosophical Society held in Philadelphia.

This faith, he stated, leaves no place for fatalism or for an "urge to live in comfort and enjoy, for tomorrow we die."

"There is no true logic," Dr. Bush declared, "in codes that would submerge and regiment and destroy man's spirit. We wish to so act that those who follow may be healthy men, unharassed, in decent, dignified relationships, free and individual, and to develop the powers of the mind to the utmost."

"This is our definition of the 'better' though not of the ultimate good, and it is not subject to distortion for the enslavement of man's spirit. The definition does not flow from logic but from faith, even from the simple faith which is exemplified by our own devotion to the advance of science."

"If we build well," Dr. Bush declared, "our children may indeed think more deeply and more surely."

There may be both good and evil in what we learn, Dr. Bush said, referring,

perhaps, to learning how to harness atomic energy which can be used for war or peace. But, he added, it is "our duty and our calling to extend man's grasp of the universe in which he lives, and of himself."

"By this process, of beginning to understand, we have made such progress as we have. Though the path be thorny, this is still the way in which we should proceed if we would finally emerge from darkness and strike into the light."

On a less philosophic and more material vein, Dr. Bush pointed out that science needs more mechanical brains, ones that will do far more than the present electronic computers and analyzers. Analogue machines which could handle the routine of organic chemistry, machines that can manipulate relationships and some that can even learn by experience are needed and may be forthcoming. New methods, new ways of storing and consulting the record, and new patterns of collaboration between scientists in different and highly specialized branches are needed.

Backing out of the laboratory and library to gaze over the landscape of the present scientific scene, Dr. Bush said that in considering our universe we can consider "that we live in a three-dimensional bubble blown up in a four-dimensional space."

Science News Letter, May 8, 1954

## ASTROPHYSICS

# Flat and Infinite Space?

► THE UNIVERSE can very well be flat, unbounded and infinite instead of curved, finite and turning back upon itself. This is possible according to the most recent astronomical observations with the world's largest telescope, the 200-inch on Mt. Palomar.

Prof. H. P. Robertson, mathematical physicist at the California Institute of Technology, discussed the kind of space in which we live before the American Philosophical Society meeting in Philadelphia.

The verdict as to the form of the universe cannot yet be rendered. Prof. Robertson finds that the curvature of space and the cosmological constant previously used in mathematical formulations can very well be ignored and still have a model of the universe that seems to agree with reality.

In the last few years, a change in the distance of stars from the earth has resulted in increasing the age of the universe as measured by its expansion, and now the age of the universe is believed to be about five billion years. This figure is very satisfactory to the geologists, who figure the age by other means. Previously the age was thought to be about two billion years.

Prof. Robertson feels that there may be a possibility eventually of having the mathe-

matical expression of the universe reconciled with the kind of mathematics that are used to express what happens in the atom. The new researches on the universe support this possibility.

If the universe is infinite or flat in a mathematical sense, it would mean that light would go on and on into space and not twist around upon itself as other universe models have visualized.

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## PSYCHOLOGY

## Difficulty in Reading May Be Due to Individualism

► WHEN CHILDREN have difficulty in learning to read, it may be due to contrariness or rugged individualism, a report to the Midwestern Psychological Association meeting in Columbus, Ohio, indicated.

When the Rorschach (ink blot) test was given to 63 nine- and ten-year-old school children who were beginning work in remedial reading, it was found that 89% looked at the white space backgrounding the blots instead of trying to see pictures in the black ink daubs, Dr. Mary M. Leichty of the Lansing Board of Education said.

This tendency to pay attention to the white background instead of the black shape is generally considered a sign of "negativism," or unconscious resistance toward fitting into the required pattern of behavior.

Earlier studies have showed that the use of white space in the Rorschach test does not distinguish at the kindergarten level between the children who will later have trouble with reading and those who take to it naturally, the investigator reported. However, it does pick out the poor reader after reading training has begun.

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