

## NEAL ELGAR MILLER:

### NATIONAL MEDAL OF SCIENCE RECIPIENT

ON February 8, 1965, in the East Room of the White House, the President of the United States personally presented to Neal Elgar Miller the National Medal of Science.

Neal Miller, former President of the American Psychological Association, was cited:

"For sustained and imaginative research on principles of learning and motivation and illuminating behavioral analysis of the effects of direct electrical stimulation of the brain."

This was an extraordinary day of honor even for this behavioral scientist whose exceptional work has already brought him exceptional recognition.

The National Medal of Science was established by the Eighty-Sixth Congress, to be awarded for "outstanding contributions to knowledge in the physical, biological, mathematical or engineering sciences."<sup>1</sup>

The awards for the year of 1964 were given to 10 other persons including Julian Schwinger, Harold Urey, Robert Burns Woodward, and Theodosius Dobzhansky.<sup>2</sup>

Neal Miller has won many awards and has also held outstanding offices and advisory posts..

Miller has been President of the Eastern Psychological Association and was elected President of the American Psychological Association for the 1960-61 term.

His Presidential Address was on "Analytical Studies of Drive and Reward,"<sup>3</sup> and in it he reviewed some of his pioneer work, and gave generous credit to current research of his students and to others in experimental studies of the basic drives.

In his conclusion he said:

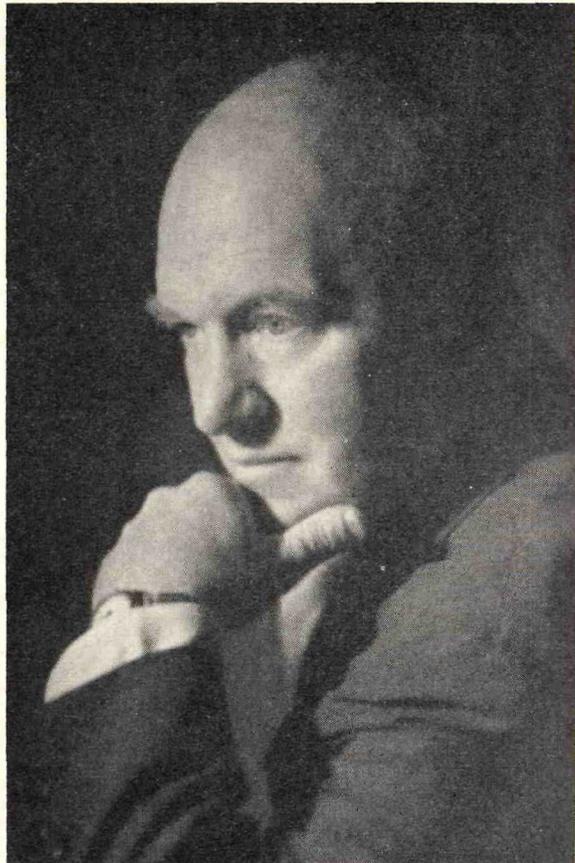
<sup>1</sup> Before this year's awards there were only six previous awards of this Medal: Theodore von Karman, Luis W. Alvarez, Vannevar Bush, John R. Pierce, Cornelis B. van Niel, and Norbert Wiener.

<sup>2</sup> The complete list of the 11 winners: Roger Adams, Othmar H. Ammann, Theodosius Dobzhansky, Charles S. Draper, Solomon Lefschetz, Neal E. Miller, Marston Morse, Marshall W. Nirenberg, Julian Schwinger, Harold C. Urey, and Robert B. Woodward.

<sup>3</sup> Published in the *American Psychologist*, 1961, 16, 739-754.

We no longer view the brain as merely an enormously complicated telephone switchboard which is passive unless excited from without. The brain is a device for sorting, processing, and analyzing information. The brain contains sense organs which respond to states of the internal environment, such as osmotic pressure, temperature, and many others. The brain is a gland which secretes chemical messengers, and it also responds to such messengers, as well as to various types of feedback, both central and peripheral. A combination of behavioral and physiological techniques is increasing our understanding of these processes and their significance for psychology.

He also has served the American Psychological Association as a member of the Policy and Planning Board, the Convention Committee, the Committees on Constitutional Issues and on Postdoctoral Education, and as Representative, National Research Council.



NEAL ELGAR MILLER

AN AMERICAN PSYCHOLOGICAL ASSOCIATION MESSAGE  
TO NEAL MILLER

The following telegram was sent on February 2 from American Psychological Association headquarters to Neal Miller:

On behalf of your admiring colleagues in psychology we are pleased indeed to send our warmest congratulations on receiving the National Medal of Science.

We cannot add anything to your recognition which now extends to other fields and to the White House, but at least we can say that we knew you first. We are glad psychologists honored you with *our* Presidency before the nation honored you through the offices of the American presidency. Countless psychologists know you not only as a scholar but as a gentleman and as a warm friend.

American Psychological Association  
Headquarters Building  
Washington, D. C.

JEROME S. BRUNER, President  
ARTHUR H. BRAYFIELD, Executive Officer

Also in 1961 he was appointed by the late President Kennedy to serve as Chairman of the Behavioral Sciences Section in the Life Sciences Panel of the President's Science Advisory Committee. This Panel produced a paper on research and science policy which was widely distributed and influential.

Following his selection in September 1959 for the Distinguished Scientific Contribution Award of the American Psychological Association, a complete Miller bibliography was published in the *American Psychologist* in December of that year.<sup>4</sup> The award cited Miller as follows:

"For his sustained and imaginative research on the basic principles of learning. Through brilliantly conceived and skillfully executed experiments, he and his students have served as a major spearhead in the current breakthrough in the area of motivation and learning. The importance of his research in extending knowledge is matched by its importance in stimulating the research of others. His influence has been greatly enhanced by his clear reports and reviews, in which he is never afraid to point out the broad implications of his results. In every respect, he is a fortunate model to set before budding young psychologists."

He had previously won a number of other awards. In 1954 he received the annual Howard Crosby Warren Award of the Society of Experimental Psychology. In 1956 he was corecipient of the

<sup>4</sup> The bibliography appeared on pages 791-793 of "American Psychological Association Distinguished Scientific Contribution Awards," *American Psychologist*, 1959, 14, 784-793.

Cleveland-Newcomb prize of \$1,000, awarded at the 1956 meeting of the American Association for the Advancement of Science.

In Washington, Neal Miller has been one of a small number of psychologists who have worked as advisors at top levels where decisions of science policy are made. It would be unfair to him and unfair to psychology itself to say that he has worked in these offices to advance the cause of psychology. Some of his work has had that effect, but it has been an indirect effect of his main contribution—which was to work toward sound national policy on research.

Neal Miller has had a number of honors in his career and consequently has received public attention, but he has not sought attention. Neither has he turned away from the laboratory into administration. Nor have his honors or responsibility seemed to change the deliberate but incisive way in which he approaches any subject. He can be on occasion just as crusty, blunt, and candid as he was 15 years ago. There often seems to be a twinkle in his eye immediately after there is a grumble—or is it just a rumble—in his voice?

Many of those who have been associated with the responsibilities of guiding the policies of APA will recall an impromptu but effective Miller appearance at the New York convention in 1961, as he was ending his APA Presidency. His remarks that day were characteristic of his ability to get to the root of an issue.

Miller was presiding over a morning meeting of the ultimate governing body of the Association, namely, the Council. About every third or fourth

year issues within psychology or in the public domain bubble up at the annual meeting, and result in spirited Council discussions about some proposed public statement. At this meeting, which was taking place during a period of tension in Russian-American relations, many psychologists were concerned about atomic testing and world peace.

The discussion in Council concerned the advisability of the APA making an official statement to the Secretary-General of the United Nations, and also to the Government of the United States, offering our services and advice.

As presiding officer of the Council and President of the APA, Miller knew that his role was to preside fairly and objectively so that a variety of shades of opinion would be brought out. This he did. But at a certain point in discussion he could sustain the neutral role no longer. So he asked someone else to take over the chair, and he stepped down from the podium to the floor where he could speak as a member of Council. He spoke very briefly and quite earnestly about the manner in which psychologists could participate in public affairs.

He said that a general resolution offering services and advice might be an effective way of soothing our sense of social responsibility, but that it was not an effective way of getting action, and might even be considered presumptuous. He continued somewhat as follows: In order to get an organization to accept psychological services, it is necessary to gain the confidence of key administrators. This must be done by personal contacts, not general resolutions. Usually, the key people have to get to trust you and to know what you can do. The best way is to find some specific problem that they want solved, and that psychology can solve in such a way that the improvement can be proved. This may not be the problem that you want to work on, but after you demonstrate that psychology can help them with the problem that they want solved, they will be willing to let it help them with other problems.

Furthermore, in order to make one's psychological knowledge useful to an organization, one needs to know a good deal about the practical details of the problems with which that organization deals. General principles alone are not enough unless one knows these conditions. Usually, it requires a high level of ingenuity and resourcefulness, and much hard work, to find the effective ways of applying the principles to the practical conditions. Therefore, someone has to make a major investment in time and effort on the spot.

To many of his hearers, the most telling point was a practical one. He said that he knew of a number of instances in which the director of an important agency had been convinced of the usefulness of psychological knowledge and wanted to get someone to apply it, but that it had been impossible to get a psychologist of sufficient caliber to give up his university post or other position to work in the agency. There is no point in selling someone on the importance of using psychological knowledge in the United Nations or in a Government agency unless one can supply the bodies to do the work. He told the members of the Council that, instead of soothing themselves by passing fine resolutions, those who were most interested should take the time as individuals to become acquainted with the United Nations and to seek opportunities to work with that organization.

Thus he argued for more good private works and fewer broad public statements. That day on those issues the Council agreed, and so voted against a public statement.

It is all the more satisfying, therefore, to see how very publicly Neal Miller has now been honored for works done rather privately. A few years ago only a few students and colleagues had any idea what he was doing. Now a great many more persons have some awareness that he and other investigators in this area are making an "outstanding contribution."

ARTHUR H. BRAYFIELD, Executive Officer  
*American Psychological Association*