News and views

A Letter to the Editor

On a Matter of Nomenclature

The broadplanners and program makers of many agencies have shown in the last few years a growing and disquieting tendency to use the words "development", "applied research", "basic research", etc., in a context not conforming with time honored usage. A code can nearly be established to translate various documents into the physicist's language thus: For "basic research" read "applied research", for "applied research" read "development", for "development" read "engineering", and so forth.

Concern about this state of affairs has been expressed by Conant and Waterman in the first annual report of the National Science Foundation, and the first has suggested a breakdown of research into "programmatic" and "uncommitted" research. The question may be raised at this juncture whether this resolves the essential difficulty: Even if adopted, one or the other term could soon prove to be the "better" one for budgeting or other purposes, and tend to displace the other.

Further concern about this state of affairs has also been expressed by Smoluchowsky who has let off steam in a recent "Physics Today" editorial, the explosive character of which should be heartwarming for every physicist.

A discussion of nomenclature is a dismal and dreary thing which no physicist enjoys, or should enjoy, but to which he is occasionally driven. In an age characterized by changing values and wrought with levelling forces which could usher in the age of mediocrity, an insistence on the proper use of accepted words may constitute an eventually more telling effort to hold part of the line than an escape with new expressions. Little more than a re-dotting of the i's appears in order here, with reference to the expressions mentioned above, and the following definitions are offered, or rather recalled, for the sake of whatever their almost irritating simplicity may contribute to a proper use of words:

Basic Research (Syn. *Fundamental Research*): Search for new scientific ideas or data aimed at a deeper understanding of the universe.

Applied Research: Search for new scientific data aimed at applications.

Development: Study aimed at a new method or device based on untried inventive ideas and on established scientific data.

Engineering: Work aimed at the production, by means of developed methods, of equipment comprising developed devices.

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Total Solar Eclipse

Attracts Scientists of Many Nations

For slightly more than three minutes on February 25th the moon completely eclipsed the sun along a narrow nine-thousand mile path extending from the middle of the Atlantic Ocean through central Africa to the Sudan and then northward across the Red Sea and Arabia, ending finally at sunset some hundreds of miles north of the Gobi desert near the Siberian city of Irkutsk. Teams of scientists from many parts of the world assembled at stations that were stategically located in or near the belt of totality. At Khartum, capital of the Anglo-Egyptian Sudan, where the White and Blue Niles merge, some seventy expert observers from ten nations gathered to take advantage of the highly favorable conditions under which the eclipse took place at that point. The time of the eclipse being near noon at Khartum, refractive distortions of the earth's atmosphere were all but absent, and clear skies at the time of the eclipse aided still further in insuring good conditions for observing the event.

Other stations were set up at intervals along the three-thousand mile belt of totality from Libreville on the coast of French Equatorial Africa to Dhahran in Saudi Arabia, and since no Russian observers were reported to have set up stations south of the Soviet border, it was assumed that scientists were active along that section of the belt which passed through the southern regions of Siberia.

A number of scientific teams from the United States travelled overseas and spent weeks preparing for the three-minute show. An expedition organized by the National Geographic Society and headed by G. A. van Biesbroeck of the University of Chicago's Yerkes Observatory was stationed at Khartum in an attempt to test the deflection of light hypothesis embodied in Einstein's theory of relativity. Clear and conclusive evidence that rays of light travelling past the sun are bent inward by the effects of its gravitational field has long been desired. Professor van Biesbroeck and his party are reported to have obtained at least one good photograph of the star field in the neighborhood of the eclipse which will be compared with other photographs to be taken after the sun has moved to a different region of the sky. It is hoped that the comparison will show the predicted displacement of star images appearing close to the sun's edge in the first photograph.

Spectrographic studies of the solar corona were made by scientific teams from several nations. A group from the Naval Research Laboratory in Washington set up a station at Khartum to make optical records of the visible spectrum and of the violet and infrared ends of