and prove themselves" (p. 89). Artistic experience may be a datum of science; scientists may at times think and feel like artists, and perhaps it would be better if they did so more often; but as a social enterprise, science has its own agenda that is different from that of the arts.

The unconceptualized evocation of "suchness"—of unique, concrete experience—is surely the home ground of the arts; to claim it for science too is to promote confusion rather than holism. The lessons of past successes and failures in science surely indicate that, desirable as good communication between the sciences and the arts may be, differentiation of their roles is essential. The time for such fusions as Goethe's *Naturphilosophie* is past. In the limited but humanly important agenda of science, exhortatory and evocative statements like the following would seem to be out of bounds: ". . . It looks probable that the full, ultimate 'Truth' is finally definable, only and altogether, by all the other ultimate values. That is, truth is ultimately beautiful, good, simple, comprehensive, perfect, unifying, alive, unique, necessary, final, just, orderly, effortless, self-sufficient, and amusing" (p. 123). Here we would seem to be leaping from science *and* art squarely into theology.

In personality psychology, where his primary concerns lie, Maslow calls in effect for more emphasis on what Gordon Allport termed an *idiographic* approach of faithful phenomenological description, in contrast with the *nomothetic* one that seeks abstracted and lawful generalizations. Allport's exposition of this distinction (*2*)—drawn from the German philosophers of the *Geisteswissenschaften*—is more cautious and sophisticated; Maslow cites but does not discuss Allport's views, and he pays no heed to the extensive critical discussion—as, for example, by R. R. Holt (*3*)—that they have received.

In his preface, Maslow notes that the discursive style appropriate to a lecture gave him leeway to be casual and personal; he disclaims "any systematic effort to document my theses," to " 'cover the subject,' or to be scholarly in a comprehensive or systematic way" (p. xvi). That is honest, but the fact that he has used this license is too bad. The issues deserve more responsible treatment. There is a rising tide of concern, in the Congress and elsewhere, about the pretensions and methods of a science that is aimed at the prediction and control of human behavior and often deals manipulatively with the subjects of its investigations. There is serious question whether prevalent methods of personological and social research pay sufficient regard to human dignity and integrity; whether prevalent theories provide an adequate framework for conceptualizing the experiencing person and the responsible citizen; and whether in the difficult and sensitive realm of human behavior the forms and rituals of science may not too often have taken priority over its spirit.

A strong case can be made that a more collaborative, less manipulative approach to the study of people is needed; and that a desirably humanized science of personality and social behavior might result. Toward such ends, effective spokesmen for a humanized psychology are needed in the arena of scientific controversy. My complaint about Maslow's book is that it is too unclear about the location of the arena and about the rules of the game to get taken seriously by those who are committed to a science of man.

References

1. A. Koestler, *The Act of Creation* (Macmillan, New York, 1964).
2. G. W. Allport, *Personality: A Psychological Interpretation* (Holt, New York, 1937).
3. R. R. Holt, "Individuality and generalization in the psychology of personality," *J. Personality* **30**, 377 (1962).

Early Meteorology

A History of the Theories of Rain (Watts, New York, 1966. 231 pp. Illus. $5.95) is a well-written and fascinating account of the development of ideas about wind and weather from the earliest recorded times to the end of the 19th century. Its author, W. E. Knowles Middleton, is a distinguished research meteorologist and science administrator who has already proven his competence as a historian of science with a book on the history of the barometer. He utilizes original sources almost exclusively, he interprets keenly, and most of what he has written is original and therefore of interest to scientists and laymen equally.

The present book provides both more and less than is promised by the title. The subject is brought only to 1900, short of the point where it begins to assume greater interest and importance to present-day readers. Virtually all of modern cloud physics is omitted. On the other hand, the scope is considerably broader than may be implied by the phrase "theories of rain." It encompasses pressure change, winds, electrical and chemical effects, and water-vapor and phase changes, as well as clouds, dew, hail, frost, and the direct processes leading to rain.

Especially illuminating is Middleton's account of the interweaving of ideas about clouds and water vapor, both right and wrong, within the fabric of the scientific thought of the 18th and 19th centuries. We find that Dalton, Descartes, Boyle, Poisson, Kelvin, and others thought deeply about atmospheric problems and their relation to laboratory experiments, and that they engaged in spirited and long-continued debate with men who today are less well known: Jean André Deluc, Pieter van Musschenbroek, and Heinrich Wilhelm Dove, for example. We learn that the concepts of adiabatic temperature change and of the effect of turbulence on the vertical distribution of gases, so crucial to an understanding of cloud behavior, eluded the most acute minds for many years. And we learn that as early as the first half of the 19th century, a proposal for large-scale weather modification was presented to the federal government. This scheme, due to James Pollard Espy, was based on an exaggerated view of the importance of vertical convection. Espy proposed to burn each week in the western United States 40 acres for every 20 miles along a 600- to 700-mile line, thus initiating a large-scale storm which would sweep across the entire continent, presumably bringing great benefits to towns and farms along its path. Fortunately, it was never endorsed or implemented by Congress.

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Agronomy

The Growth of Cereals and Grasses (Proceedings of the Twelfth Easter School in Agricultural Science, University of Nottingham, England, 1965. F. L. Milthorpe and J. D. Ivins, Eds. Butterworth, Washington, D.C., 1966. 370 pp. Illus. $19) consists of a series of review articles. Most of the con-