

# SCIENCE

VOL. LVIII

JULY 13, 1923

No. 1489

ON APPLIED AND PURE SCIENCE

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SCIENCE: A Weekly Journal devoted to the Advancement of Science, edited by J. McKeen Cattell and published every Friday by

## THE SCIENCE PRESS

Lancaster, Pa.

Garrison, N. Y.

New York City: Grand Central Terminal.

Annual Subscription, \$6.00. Single Copies, 15 Cts.

SCIENCE is the official organ of the American Association for the Advancement of Science. Information regarding membership in the association may be secured from the office of the permanent secretary, in the Smithsonian Institution Building, Washington, D. C.

Application made for transfer of entry as second-class matter to the Post Office at Lancaster, Pa.

THE terms "pure science" and "applied science" are frequently used at the present time, and usually in a manner that logically either does not differentiate between the two terms, or differentiates on the basis of motives of the devotees. The terms "pure" and "applied" are not happy ones, but I shall point out that there is a logical basis upon which a differentiation may be founded. Applied science includes more than what is embraced in the conventional branches of engineering.

It is sometimes intimated that applied science has to do with the selling or salesmanship side of science, whereas pure science is not so commonplace. Sometimes applied science is the practical, pure science the impractical, that is, something more or less associated with the helpless professor who has specialized to an extent that he is very much akin to the suburban ticket agent whose knowledge of time tables, of stations and of railroads is wholly contained upon one card giving the times of departure and arrival of trains at and from his station to the city station.<sup>1</sup> Sometimes pure science is the free or unrestrained as opposed to the applied or restrained. Indeed, some have it that pure science is the more or less useless as compared with the applied, the immediately useful. Or the pure may be the exact in contrast with the applied. At other times the distinction is made on the basis of the motives of the investigator rather than upon the nature or application of the subject-matter. The one then is the altruistic, as opposed to the selfishly commercial. These differentiations on the basis of motives shade off into the strictly intellectual class distinctions, which may even aver that applied science is not a worthy subject for the mind to entertain. This type of attitude was very general in countries outside of Germany up to recent times. It is of interest to remark that it is almost identical with the attitude that prevailed prior to the sixteenth and seventeenth centuries in regard to the experimental sciences in general, as opposed to other activities of the intellect such as the literary, the philosophic or speculative. So far as motives of the investigator are concerned one can find examples in both pure and applied that will illustrate almost any motive that can be entertained by the human mind. An attempt at differentiation on such grounds is futile. We can

<sup>1</sup> Specialization implies a dynamic and not a passive state. It may well be questioned whether either of these cases represents what is meant by specialization.

# Science

**58 (1489)**

*Science* **58** (1489), 19-36.

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