SCIENCE

VOL. LXVI AUGUST 5, 1927 No. 1701

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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

New York City: Grand Central Terminal.

Lancaster, Pa. Garrison, N. Y.

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.

Entered as second-class matter July 18, 1923, at the Post Office at Lancaster, Pa., under the Act of March 8, 1879.

RESEARCH[1]

MAN'S search for information about his surroundings and about himself is as old as the race. He has been conscious of it since thought began. Only in degree, in precision, has our search changed in all the ages; now, in designating a very careful, very logical, extremely critical phase of this feature of our intellectual life we have come to use the word research.

A dog searches for a bone led by his senses and experience, influenced little, if at all, by what he has of reasoning ability. The morphologist searches for the reasons underlying the shape of the bone; the physiologist examines into its functions—both search with the aid of their highly developed reasoning powers, and their work we call research.

Whatever the details of the special case, research is a mental process superimposed upon the observation of facts. It is mechanical as well as rational, the two functions being equally important. Because it is a human activity it may be judged in terms of its usefulness as against its cost, cost being interpreted as human effort rather than as mere money expended. However, being wide enough to embrace the infinite multitude of observable facts, whether these are found under natural conditions or as the result of the artificial conditions we call experiment, and also being a product of the trained imagination whose every guess is legitimate if in harmony with the facts, research is not easily reduced to analysis. How is it possible to place a value on a product as intangible as a work of art? How can we say whether the effort that went to the making of it is justified or wasted? It is no easier to judge the value of the products of the play of the imagination on the facts of existence. It is perhaps still harder to judge the value of the effort that goes to the collection of a mass of minute facts, each trivial as the hammering of a nail into a plank, yet each contributing to knowledge. It is much easier to judge of visible products, thus, when the architect and the artisan are finished, the result of the interplay of imagination and detail stands before us and we can judge it according to our likes and dislikes, of our feeling of its fitness to fulfill its purpose as measured against its cost.

Because of its illusiveness, because of the enormous prizes it has brought to mankind, because of its value

[1] Presented at a joint meeting of the Rhode Island Sections of the American Chemical Society and the American Association of Textile Chemists and Colorists.