

SCIENCE

VOL. LXIX

JUNE 21, 1929

No. 1799

THE APPLICATION OF TRANSMITTANCY MEASUREMENTS TO BIOCHEMISTRY¹

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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.

INTRODUCTION

MANY years ago at Troas, a visioned Macedonian came to Paul seeking assistance. From that hour the Macedonian left no doubt in Paul's mind as to the way he might best serve. So he took a straight course for Samothracia, and then on to Philippi.

To-day, we who are engaged in biochemical work have long sought help in the solution of our problems. As the Macedonian came to Paul, so we come to you for assistance in our labor. Meanwhile we have been marking time, pyramiding our evidence and quibbling about many of the non-essentials, while the real problem all the time unattacked has been lying before us. Our mutual problems are as full of spiritual significance and humanitarian interest as were those of the Macedonians, and should be considered no less seriously. The correct interpretation of every experiment has tremendous spiritual significance and every experimenter should most courageously guard the interpretation of his experimentation. Every interpretation should be pictured as a grain of truth, which, when put with other grains of truth to form a unified whole, will make the world in which we live one of reality and not one of superficiality. The biochemist again and again has looked to one branch of science and then to another for suitable methods of investigating his problems. He is beginning to realize that something not found in a test-tube or in any mechanistic physical-chemical philosophy of life must come to aid him in his efforts. New procedures, new interpretations and independent thinking seem imperative. The relation of light to matter appears on the horizon offering assistance in many of the modern problems which confront those investigating the chemistry of life. This paper is an attempt to show how properties of light will assist us in the solution of problems which as yet remain unsolved after many years of struggle. Light and chlorophyll, which are both so commonly known and so little understood, are worthy of our most critical examination.

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¹ Paper given before the Optical Society of America at the Bureau of Standards, November 3, 1928.

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