but is apparently the only one in harmony with observed facts.

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INFLUENCE OF POLARIZED LIGHT ON PHOTOCHEMICAL REACTIONS

I HAVE read with keen interest and great delight the article by Dr. S. S. Bhatnagar appearing in SCIENCE for October 14, entitled the "Selective Effects of Polarized Radiations on certain Photochemical Reactions." In this article the author announced his findings concerning the remarkable acceleration of chemical reaction between the amalgams of the alkali metals and water produced by exposure to polarized radiations. In the interest of historical accuracy and scientific priority I beg to submit for publication the following information which may not be known to scientists at large. Our esteemed Hindu colleague states in his paper that "As far as the author knows, this is the first purely chemical reaction as distinguished from the biochemical reactions studied by previous investigators which has definitely been shown to be selectively affected by polarized radiations." It is evident that owing to the slow communication between the United States and India he was not aware of the fact that on April 12, 1927, I and Dr. W. T. Anderson, Jr., read a paper before the American Chemical Society at the Richmond meeting entitled "The Effect of Polarized Light on the Pharmacological Properties of Some Drugs." In that paper which was published in the *Journal* of the American Chemical Society for August 5, 1927, and which was broadcast by "Science News," we have described our findings concerning the effects of polarized light on the pharmacological and chemical reactions of certain drugs. The profound changes produced by polarized radiations on the substances studied were certainly due to photochemical changes produced in their chemical structure because the chemicals were first irradiated and only subsequently tested. This was demonstrated not only by pharmacological means but also in the case of cocain by purely physical chemical tests, namely, changes in hydrogen-ion concentration, and in the case of quinin tartrate by the changes produced in its optical rotation. It is hardly necessary to state that the drawing of distinctions between biochemical and other chemical reactions is mere academic quibbling. I wish to call attention furthermore to the fact that a preliminary paper concerning the effects of polarized light on the reactions of certain drugs was published by me and John C. Krantz, Jr., in the *Journal* of the American Pharmaceutical Association for March, 1927.

In the present communication I wish to announce briefly the results of certain other experiments performed by me which I mentioned at the above meeting of the Chemical Society, but which were reserved for publication in a later paper. I have studied the effects of polarized light on five groups of optically active alkaloids. These were the following: Cocain, Epinephrin, Hyoscyamin, Scopolamine (Hyoscin) and Physostygmin. Solutions of each of these alkaloids after irradiation with polarized light were found to have undergone photochemical changes as evidenced by numerous pharmacological tests. An examination of various stereo-isomers in this connection revealed the remarkable fact *that the laevo variety in every case was the one most profoundly affected by polarized light.* These experiments have been in progress for a long time and would have been published at an earlier date had it not been for the unusually unsympathetic attitude towards our investigations on the part of certain American scientists, which fortunately did not discourage us in our work but which did compel us to repeat unnecessarily a large number of experiments otherwise quite clear cut, flawless and fool-proof. It is but fair to add in this place that the whole investigation could not have been conveniently carried out had it not been for the encouragement and facilities extended to us by two private industrial laboratories, namely, the Pharmacological Research Laboratory, Hynson, Westcott and Dunning, of Baltimore, and the Physico-chemical Research Laboratory of the Hanovia Company, Newark.

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FLOOD EROSION AT CAVENDISH, VERMONT

ONE of the tragic but geologically most interesting happenings connected with the recent Vermont flood occurred at Cavendish village, which is located on the east slope of the Green Mountains some fourteen miles from Summit Station on the Rutland Railroad.

Here, during the early morning of November 4, after some twenty-four hours of heavy rain, part of a highway leading from the village down the valley was suddenly engulfed, carrying with it seven houses, numerous barns, garages and their contents. Happily no lives were lost, but the unfortunate people, with almost no warning, witnessed the total destruction of their property and even of the land upon which it stood. The loss is estimated at from $35,000 to $40,000.

The draining away of the waters revealed, where once the road had been, a yawning gully some forty feet deep, two hundred feet wide at the bottom and