emulsion would be more sensitive. The effect of range of size can also be explained by adsorption as the small grains adsorb relatively more soluble halide than the larger ones, leaving the larger ones relatively freer and therefore more sensitive than if the small ones had not been present.

Experiments performed in this laboratory show that large-grained emulsions are more sensitive when unsensitized, but that after sensitization the relative speeds are reversed. The sensitization process used is one of removing adsorbed retarding halide. We are forced to conclude that intrinsically small-grained emulsions are faster; that adsorbed halide may neutralize or reverse the purely dimensional effect so that where there is much adsorption the large-grained ones seem the faster; that unless one knows not only the ratio of size of the grains, but also relative amounts of adsorbed retarders, it is impossible to predict the relative speeds of two emulsions.

The above investigation is at present nearing completion, and the complete results will be published in the near future.

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THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

THE LOS ANGELES MEETING

THE seventh annual meeting of the Pacific Division held in conjunction with the fourth annual meeting of the Southwestern Division and the summer session of the American Association for the Advancement of Science at Los Angeles from September 17 to 20, 1923, was from every point of view a pronounced success.

While the various eclipse expeditions of the preceding week had in most cases been somewhat disappointing on account of weather conditions, yet the occasion of the eclipse had drawn together many distinguished astronomers from all parts of the world and their assemblage under the auspices of the Pacific Division was a dominating feature of the Los Angeles meeting.

The symposium on "Eclipses and Relativity" on the opening day of the meeting proved to be a very attractive feature of the general sessions and was largely attended.

The Research Conference, held at the luncheon hour on Monday, September 17, was participated in by practically the entire convention and the following program was presented:

Research activities of the California Institute of Technology: PROFESSOR EARNEST C. WATSON, California Institute of Technology, Pasadena.

The Scripps Institution: ACTING DIRECTOR F. B. SUMNER, Scripps Institution for Biological Research, La Jolla.

The causes of variation in yield in citrus trees: ACTING DEAN HERBERT J. WEBBER, University of California Agricultural Experiment Station, Riverside.

Petroleum research: DR. LAIRD J. STABLER, University of Southern California, Los Angeles.

On Monday evening, September 17, the meeting was formally opened with an address of welcome by President von KleinSmid, of the University of Southern California, to which response was made by Dr. C. E. Grunsky, chairman of the executive committee.

The address of the retiring president, Professor E. P. Lewis, of the University of California, was then delivered. Dr. Lewis chose as his subject: "The contributions of astronomy to civilization," thus further emphasizing the astronomical character of the Los Angeles meeting. He gave a masterly survey of the progress of astronomical knowledge from the earliest times showing that the race has benefited not only materially but ethically and spiritually through the labor of astronomers. He held out the hope that through the discoveries of Einstein and others some of the most illusive problems of space and time may be brought within the range of human comprehension. As a notable contribution to a popular understanding of these abstruse questions the publication of this address in SCIENCE will be welcomed.

Wednesday evening, September 17, Dr. John C. Merriam, president of the Carnegie Institution of Washington, spoke on "The meaning of history as illustrated by the records secured at Rancho La Brea." The perfect preservation of the specimens entrapped in the asphalt beds of La Brea and the wonderful succession of life represented constitutes a unique historical record and furnishes indubitable proof of the evolution of existing species from these remote types. It is hoped that Dr. Merriam will arrange the substance of this interesting address for publication.

Dr. R. B. von KleinSmid, president of the University of Southern California, gave an interesting discourse on the "Psychology of Crime," a subject in which he has specialized for many years. It was a notable addition to the program provided for the general sessions.

Too much can not be said in praise of the very efficient preparations made for the meeting by the local committees. The accommodations for the various meetings of the affiliated societies were all that could be desired and the courteous hospitality extended to visitors was the occasion of much favorable comment.

Over 500 registered for the meetings, including 253 members of the association. Twenty-three affiliated societies held meetings under the auspices of the Pacific Division. Reports of some of these meetings,

as submitted by their secretaries, will be printed in SCIENCE.

W. W. SARGEANT
Secretary, Pacific Division American Association for the Advancement of Science

JOINT MEETINGS OF THE AMERICAN ASTRONOMICAL SOCIETY, THE ASTRONOMICAL SOCIETY OF THE PACIFIC, AND SECTION D OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

ON the first day, September 17, the sessions were held at the University of Southern California, Los Angeles; on the second day, in Pasadena—in the morning, at the office of the Mount Wilson Observatory, and in the afternoon, at the Norman Bridge Laboratory of the California Institute of Technology, in conjunction with the physicists; on the third day, in the dome of the 100-inch Hooker telescope on Mount Wilson.

There was throughout a large attendance of professional and amateur astronomers. Eastern and western observatories in the United States were well represented, and in addition there were astronomers from Canada, Mexico, Australia, Japan, Argentina, England, Spain, France, Belgium and Holland.

The symposium on eclipses and relativity on the afternoon of the first day attracted a large audience. There were four addresses, as follows:

Some conditions apparently existing in the solar corona: DR. W. W. CAMPBELL, president, University of California.

How the spectrum of the sun's atmosphere is studied at eclipses and the interpretation of the results through the aid of modern physics: DR. S. A. MITCHELL, director, McCormick Observatory, University of Virginia.

The constitution of the sun's atmosphere, the levels of the gases and the nature of their circulation. Results bearing on the displacements of solar spectrum lines as required by the theory of relativity: DR. CHARLES E. ST. JOHN, astronomer, Mount Wilson Observatory, Pasadena.

Relativity as represented by the Einstein-eclipse problem: DR. R. J. TRUMPLER, assistant astronomer, Lick Observatory, Mount Hamilton.

The last two speakers dealt with the bearing of recent observations on the theory of relativity. Dr. St. John's paper contained the important announcement that an exhaustive discussion of wave-lengths of lines in the solar spectrum has led him to the conclusion that the pressure in the reversing layer is negligible, and that after the effects of radial motion and scattering have been eliminated there remain differences between solar and laboratory wave-lengths of the order called for by the Einstein theory. Dr. Trumpler explained in detail the good agreement found on the Lick Observatory plates of the 1922 eclipse between the measured displacements of stars near the sun, and those predicted by the theory of relativity. Results obtained at the eclipse of September 10, 1923, were reported by Professors Brackett, Worthington, Miller, Douglass and Gallo.

About one hundred and thirty persons made the trip to Mount Wilson on the third day. Most of them remained until evening to look through the 60-inch and 100-inch telescopes.

The technical papers presented at the various sessions were as follows:

Some vagaries of refraction: ARTHUR J. ROY, Dudley Observatory.

Recent latitude results at Lick Observatory: R. H. TUCKER, Lick Observatory.

Notes on proper motions: A. VAN MAANEN and HANNAH M. MARSH, Mount Wilson Observatory.

Fundamental consideration on researches relating to minor planets: A. O. LEUSCHNER, University of California.

Radial velocities of stars of spectral class R: R. F. SANFORD, Mount Wilson Observatory.

Hypothetical parallaxes of 135 A double stars measured at three or more epochs: R. G. AITKEN and MARGARET POWELL, Lick Observatory.

The radial velocities of long-period variable stars: PAUL W. MERRILL, Mount Wilson Observatory.

Some properties of the stars in space as derived from the near-by stars: W. J. LUYTEN, Harvard Observatory.

A new catalogue of variable stars: S. D. TOWNLEY, Stanford University.

Three stellar spectroscopic notes: W. S. ADAMS and A. H. JOY, Mount Wilson Observatory.

A possible origin of the nebular lines: H. H. PLASKETT, Dominion Astrophysical Observatory.

The possibilities of instrumental development: GEORGE E. HALE, Mount Wilson Observatory.

On Atmospheric Absorption: H. L. VANDERLINDEN, Observatoire Royal, Uccle, Belgium.

The sun's action on the magnet, a note on variable stars and cosmic clouds: LUIS RODÉS, Observatorio del Ebro, Spain.

The radiation from mercury compared with the radiation from other planets: EDISON PETTIT and SETH B. NICHOLSON, Mount Wilson Observatory.

Asymmetry in the distribution of stellar velocities: GUSTAF STRÖMBERG, Mount Wilson Observatory.

Stellar interferometer work during 1922–1923: F. G. PEASE, Mount Wilson Observatory.

Density distribution in the photographic images of elliptical nebulae: EDWIN HUBBLE, Mount Wilson Observatory.

Radial velocity measurements of the spectrum of omicron ceti: ALFRED H. JOY, Mount Wilson Observatory.

On account of lack of time the following papers were read by title: