THE AMERICAN PHYSICAL SOCIETY

THE two hundred and sixty-fifth meeting of the American Physical Society, which is the "1944 annual meeting," as already announced, will be held at Columbia University, New York City, on January 19 and 20. The American Association of Physics Teachers holds concurrent meetings. The registration desks for the two societies will be in the Pupin Physics Laboratories, where all the sessions will be held, except the session on Saturday morning. The council will meet at 8 P.M. on Thursday in the Men's Faculty Club. The business meeting will be held at 10 A.M. on Saturday.

The retiring address of the president, Professor A. J. Dempster, of the University of Chicago, entitled "Twenty-Five Years of Mass-Spectroscopy," will be delivered after the business meeting and will be followed by the two formal annual events of the American Association of Physics Teachers—the award of the Oersted Medal to a distinguished teacher of physics and the delivery of the fourth Richtmyer Lecture.

At the invitation of the council, a symposium on "The Physics of the Solid State" has been arranged. Six members of the society—S. Dushman, T. A. Read, F. Seitz, W. Shockley, S. Siegel and R. Smoluchowski, will take part. The fourteen papers are distributed among three sessions on the morning and afternoon of Friday and on the afternoon of Saturday. This symposium may be the prelude to the establishment in the society of a Division of the Physics of the Solid State. Time for a discussion of this step has been provided in the schedule of the symposium, beginning at 5 P.M. on Friday.

Sessions for other invited papers and for contributed papers will be held on Friday morning, beginning at 9:30, and in the afternoon.

The dinner of the two societies, advance reservations for which are requested, will be held on Friday evening at six o'clock at the Men's Faculty Club.

COLE PRIZE OF THE AMERICAN MATHEMATICAL SOCIETY

AT the 1944 annual meeting of the American Mathematical Society, which was held in Chicago on November 24 and 25, the Frank Nelson Cole Prize in Algebra was awarded to Dr. Oscar Zariski, professor of mathematics at the Johns Hopkins University, for his "brilliant research in the field of algebraic geometry." The award was made on the basis of the following four papers published during the period 1939–1943:

"Some Results in the Arithmetic Theory of Algebraic Varieties," *American Journal of Mathematics*, Vol. 61, pp. 249–294.

"Algebraic Varieties over Ground Fields of Characteristic Zero," *American Journal of Mathematics*, Vol. 62, pp. 187–221.

"The Reduction of the Singularities of an Algebraic Surface," *Annals of Mathematics*, Vol. 40, pp. 639–689.

"Local Uniformization on Algebraic Varieties," *Annals of Mathematics*, Vol. 41, pp. 852–896.

The Cole Prizes were founded in honor of Professor Frank Nelson Cole, of Columbia University, on the occasion of his retirement as secretary of the American Mathematical Society, and editor of the *Bulletin*. Professor Cole was the secretary of the society for twenty-five years, from 1896–1920. The awards are in algebra and the theory of numbers and are made every five years. The recipient must be a member of the society and not more than fifty years of age at the time of the publication of the memoir for which the prize is awarded. Winners of the Cole Prize in Algebra have been Professors L. E. Dickson and A. A. Albert, both of the University of Chicago.

SCIENTIFIC NOTES AND NEWS

DR. ISAIAH BOWMAN, president of the Johns Hopkins University, has been elected a corresponding member of the Sociedad Chilena de Historia y Geografia.

DR. HARLOW SHAPLEY, director of Harvard College Observatory, has been reelected to the presidency of the Society of the Sigma Xi. Dr. Frank B. Jewett, president of the National Academy of Sciences, has been elected a member of the national executive committee, and Dr. M. C. K. Jones, of the Esso Research Laboratories, Elizabeth, N. J., has become a member of the national membership committee.

THE National Aeronautics Association has awarded the Frank G. Brewer Trophy to Dr. Edgar Fuller, assistant director of the Civil Aeronautics Administration Aviation Education Program in recognition of his work in assisting state governments to develop programs in aviation education, including actual flight training. Special record certificates have been given to Igor Sikorski for helicopter performance and to Colonel C. A. Peterson and Lieutenant Colonel Jack H. Carter, of the Army Air Forces, for west-east transcontinental speed records.

THE Remington Honor Medal was presented to Dr. Harvey Evert Kendig, dean of the School of Pharmacy of Temple University, Philadelphia, at a dinner

given on December 12 at the annual meeting of the New York Branch of the American Pharmaceutical Association.

A GOLD medal in recognition of distinguished service in the pharmaceutical field commemorating William Proctor, Jr., "Father of American Pharmacy," will be presented to Dr. Ivor Griffith, president of the Philadelphia College of Pharmacy and Science, at a dinner to be held on the evening of January 23 at the Bellevue-Stratford Hotel, Philadelphia.

WILLIAM J. JUDD, in charge of plant propagation at the Arnold Arboretum of Harvard University, has received the Veitch Memorial Gold Medal of the Royal Horticultural Society, London. The Veitch medals are awarded annually to individuals who have made important contributions to the field of horticulture. The two other recipients this year are Colonel S. R. Clark, of Sussex and the Isle of Wight, and Dr. J. Ramsbottom, of the British Museum of Natural History.

A PORTRAIT of Professor J. B. Davidson, head of the department of agricultural engineering at Iowa State College, was presented to the university on November 18. R. H. Driftmier, president of the American Society of Agricultural Engineers, presided, and Dr. R. M. Hughes, president emeritus of Iowa State College, was among the speakers.

PROFESSOR CHARLES A. KRAUS, of Brown University, has been elected a regional director of the American Chemical Society to succeed Professor Arthur J. Hill, of Yale. Dr. Edward R. Weidlein, director of the Mellon Institute for Industrial Research, has been reelected a regional director, and Dr. Willard H. Dow, president of the Dow Chemical Company, has been reelected a director-at-large. The following councilors-at-large have been elected: Dr. Harry L. Fisher, U. S. Industrial Chemicals, Stamford, Conn.; Dr. Donald B. Keyes, director, Office of Production Research and Development of the War Production Board, and chairman of the Chemical Referee Board of the office; Professor Harry B. Weiser, Rice Institute, Houston, Texas; Dr. Robert R. Williams, chemical director, Bell Telephone Laboratories, New York.

THE Mycological Society of America announces the election of the following officers: *President,* Dr. Frank D. Kern, Pennsylvania State College; *Vice-president,* Dr. George B. Cummins, Purdue University; *Secretary-Treasurer,* Dr. F. K. Sparrow, University of Michigan; *Councilors,* Dr. G. W. Martin, University of Iowa, and John A. Stevens, Bureau of Plant Industry, Soils and Agricultural Engineering, U. S. Department of Agriculture.

AT a recent stated meeting of the Eastern Pennsylvania Chapter of the Society of American Bacteriologists, Dr. Earle H. Spaulding, Temple University School of Medicine, and Dr. Harry E. Morton, University of Pennsylvania School of Medicine, were reelected president and secretary-treasurer, respectively.

AT a luncheon meeting of the Louisiana State Chapter of the Society of the Sigma Xi held in the Faculty Club of the university on Thursday, December 14, the following officers for 1945 were elected: *President,* Dr. Max Goodrich (physics); *Vice-president,* Dr. E. C. Tims (botany); *Secretary,* Dr. George H. Mickey (zoology); *Treasurer,* Dr. P. W. West (chemistry); *Members of the Nominating Committee,* Dr. F. B. Kniffen (geology); Dr. S. J. P. Chilton (botany); Dr. M. B. Sturgis (agronomy), and Dr. C. W. Upp (animal industry). The retiring president, Dr. A. R. Choppin, dean of the College of Chemistry and Physics, presided.

DR. HERBERT RUCKES, professor of biology in the College of the City of New York, has been appointed a member of the advisory board of the Watumull Foundation, an organization founded for promoting better relations between institutions in the United States and India.

DR. JAN O. M. BROCK, associate professor of geography at the University of California at Berkeley, has leave of absence to enable him to conduct a study under the auspices of the Coolidge Foundation of the post-war problems of the Southwest Pacific.

DR. WARREN J. MEAD, head of the department of geology of the Massachusetts Institute of Technology, will take charge of the coordination and expansion of research of the Reynolds Metal Company at Winfield Hall, Glen Cove, L. I., formerly the estate of the late Frank W. Woolworth. Associated with him will be Reid B. Gray, formerly chief of the testing laboratories of the Glenn L. Martin Aircraft Company; Dr. Richard J. Lund, until recently mineral consultant of the Office of Production Management, and Dr. Samuel C. Prescott, emeritus professor of biology of the Massachusetts Institute of Technology.

THE Smith Chapter of the Society of the Sigma Xi held its annual fall meeting on November 15, when Dr. C.-E. A. Winslow, director of the Pierce Laboratory of Hygiene of the School of Medicine of Yale University, gave a public lecture on "Science and Planning in the Post-War World." The meeting was preceded by a dinner. The new officers for the coming year are: *President,* Dr. Albert F. Blakeslee; *President-elect,* Dr. Marjorie Williams; *Secretary,* Miss Helen Stobbe, and *Treasurer,* Dr. S. Meryl Rose.

DR. E. M. WEST, associate professor of botany at

the Louisiana State University, has been promoted to a professorship, and Dr. Fred G. Brazda, assistant professor in the School of Medicine, has been made associate professor of biochemistry.

DR. LEWIS B. NELSON, technical agricultural representative with the United States Rubber Company, formerly instructor in the soils department of the University of Wisconsin, has been appointed research assistant professor of soils at the Iowa State College.

DR. GERALD P. COOPER has resigned from his position in the department of zoology of the University of Maine, to join the staff of the Institute for Fisheries Research of the Michigan Department of Conservation at the University of Michigan.

DR. DAVID C. PRINCE, vice-president of the General Electric Company, who has been in charge of application engineering for the apparatus department, has been appointed supervisor of the general engineering laboratory, the activities of which will be broadened to include the requirements for the entire company.

DR. PHILIP LEVINE, formerly associated with the Rockefeller Institute for Medical Research, director of the Biological Division of the Ortho Research Foundation, Linden, N. J., will give on January 11 the first annual Reginald Knight Smith Lecture on "The Rh Factor and Its Clinical Significance." The lecture was established in memory of Dr. Reginald Knight Smith, who served as chief of the Division of Obstetrics of Mount Zion Hospital, New York City, from 1909 to 1937, in recognition of his outstanding medical service to the community.

DR. HERMANN OTTO LAURENZ FISCHER, research professor at the University of Toronto, will deliver on January 18 the fourth Harvey Society Lecture of the current series at the New York Academy of Medicine. He will speak on "Biological and Chemical Relationships between Hexoses and Inositols."

DR. CLYDE E. KEELER, professor of biology at Wesleyan College, Macon, Ga., delivered on December 18 two illustrated lectures on genetics sponsored by the department of zoology of the Louisiana State University. The first, entitled "Researches on Unit Character Genes," was followed by a coffee honoring the speaker. The subject of the evening lecture was "Medical Genetics."

PROFESSOR L. C. DUNN, of Columbia University; Dean Raymond Kirk, of the Polytechnic Institute of Brooklyn, and Dr. Harry Grundfest, national secretary of the American Association of Scientific Workers, on December 15 addressed a forum on "Post-war Policy in Science in the United States" held at Columbia University under the auspices of the New York Branch of the American Association of Scientific Workers.

PROFESSOR E. NEWTON HARVEY, of Princeton University, delivered on December 14 the first lecture of the current session of the Osler Clinical Society, a society of undergraduate students, at the College of Medicine of the University of Vermont. The title of his address was "Decompression Sickness and the Formation of Bubbles in Blood and Tissues."

THE 1945 Winter Technical Meeting of the Institute of Radio Engineers will be held at the Hotel Commodore, New York City, from January 24 to 27. It is requested that reservations be made at once. The annual banquet will be given at 7 P.M. on the evening of January 25, when the address of the retiring president will be made. The president's luncheon honoring Dr. W. L. Everitt will be given at 12:30 on Friday, January 26.

THE Oleson plant collection, which is said to number between fifteen thousand and twenty thousand specimens, has been donated by the Oleson Estate to the Herbarium of Iowa State College. The collection includes algae, lichens, fungi, mosses, ferns and flowering plants. The moss collection is made up of Grout's specimens from Vermont, while the foreign plants include specimens from Ireland, England, Norway, Sweden, Spain, Switzerland, the Sahara Desert, South Africa, Turkey, India, Japan and China.

The Times, London, states "that it can now be made public that an important meteorological station, which has played a vital part in military, naval and air operations against the continent, has been operated by Norwegian forces on the Arctic Norwegian island of Jan Mayen for the past three and a half years. Eight times a day since March, 1941, weather reports from this island, which lies in latitude 71 deg. N., far to the north of Iceland, have been flashed by radio to Britain."

A RECEPTION was held recently at the formal opening of the Society for Visiting Scientists, London, by Professor F. G. Donnan, president of the society, and Sir Malcolm Robertson, M.P. *The Times*, London, writes: "The society has been founded to provide a center of welcome and information for scientists from overseas visiting London. It also arranges meetings for the various groups of oversea scientists at present in this country to enable them to meet British scientists and their own colleagues of other nations. The society's house contains a lounge, restaurant and some dormitory accommodation."

IT is reported in the daily press that the Mineralogical Museum of the University of Liège was destroyed by fire on the day that the city was evacuated by the Germans.

THE British Secretary of State for the Colonies has appointed a tsetse fly and trypanosomiasis committee to consider and advise on the coordination of action, including research, directed against human and animal trypanosomiasis, and, in particular, against the tsetse fly as the chief vector. The committee, on which the Dominions Office and the Sudan Government are represented, will report from time to time to the Secretary of State for the Colonies, and on all matters affecting research its recommendations will be referred to the Colonial Research Committee for comment and advice before submission to him.

THE name of Professor A. C. Waters, geologist of the U. S. Geological Survey, was accidentally omitted from the article in SCIENCE of August 11, p. 126, giving the names of those who received stars for the first time in the seventh edition of American Men of Science.

DISCUSSION

IMPROBABILITY AND IMPOSSIBILITY

M. LECOMTE DU NOÜY, of the Paris Ecole des Hautes Etudes, in his remarks on this subject[1] has proceeded on the assumption that the evidence which gave the Heisenberg "principle of uncertainty" gave also the quietus to "the old determinism" and rendered the joint determination of the position and the velocity of an electron "a matter of absolute impossibility." But since what is an "absolute impossibility" is evidently determined, M. du Noüy feels at a loss and invites the comments of others.

The "uncertainty" about the behavior of an electron is ours, not necessarily the electron's. If the method for discovering this behavior happens to obscure half of it, that does not signify it to be undetermined. Neither does it signify "absolute impossibility" so far even as the discovery of the obscured portion is concerned. The discovery seems theoretically possible still, like, for example, observation of the other side of the moon.

In order to pronounce anything impossible, on empirical grounds, exhaustiveness of empirical knowledge pertaining to it is required. If we say that is itself impossible, we then presuppose it in the mere assertion. This shows that a judgment of impossibility on empirical grounds involves either a certain omniscience or else self-contradiction.

Now self-contradiction is the criterion of impossibility, on *a priori* grounds—the *a* which is not *a* is impossible. The notion of empirically ascertained impossibility is thus seen to entail the notion of purely logical impossibility. In logic there is an interesting distinction between kinds of implication, namely, the formal, or necessary, and the material; a distinction which powerfully illuminates the import of possible and impossible. Suppose a proposition entails another, as in the composite example: If it is October 13, it is a day of ill luck; then, by necessary implication, it is impossible that it be October 13 and not a day of ill luck, while by material implication it is possible (1) that it is not October 13, yet is a day of ill luck, and (2) that it is not the one and likewise not the other. The reason for (1) and (2) is just that they are contradicted by nothing before, hence are not known to be not the case; which allows the contingency of their being the case. Such contingency is synonymous here with possibility. In general, whatever is not irrational will be considered possible, in thought. This is an indication that possibility is legislated by thought.

Metaphysically the question (possibility) is equally interesting, and it has been a subject for eminent thinkers from before Aristotle to our own day. The solution proposed by Aristotle in his theory of entelechies, and other solutions from different viewpoints by numerous modern philosophers from Leibniz to Whitehead, have rendered the category of possibility into clear terms.

M. du Noüy's question about the color of the emulsion in an unexposed photographic film, and his further question of whether color is determinable in strict objective terms or must be considered subjectively, are questions, no doubt, of epistemological significance. Color might be variously defined, and it is conceivable (hence possible), that some one of the definitions would permit a determination of the emulsion's color, if any, without exposure; likewise that the definition would enable a physicist to tell whether a given substance was colorless. Should M. du Noüy require spectral hues for anything he would call color, and should it be known that the photographic film lacked these, that would be an instance of the colorless. Again, if perception were a requirement of the definition, and were always lacking, the question would be unanswerable. The definition of color is of course not one to be given on logical grounds merely; but since whatever is not illogical is possible, a definition permitting an answer to M. du Noüy's question is within the bounds of possibility.

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[1] In SCIENCE for October 13, 1944, p. 334.

PSYCHOLOGICAL DIFFERENCES AS AMONG RACES

PROFESSOR ASHLEY MONTAGU'S recent comments[1] on race differences leaves me with the feeling that I have misunderstood him or failed to understand him.

[1] SCIENCE, n.s., 100: 383–384, 1944.