

an amphisporangiate strobilus, either simple or complex. That strobilus is in a measure visualized in Cycadeoidea. Maybe it is seen in Tumboa. In any case it was a forerunner of flower and cone.

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### THE SPECTRA OF GASES LIGHTED WITH STRONG ELECTRICAL DISCHARGES

THE spectrum of a gas is known to vary with the pressure and the type of electrical excitation. Experiments were undertaken to find out what the spectrum of the gas is like when very strong discharges are used. A small discharge tube containing the gas at pressures up to several cms of mercury was arranged to be excited either in the usual way by the discharge of a transformer, or by a small 0.002 microfarad condenser, or by the violent discharges of a 1 microfarad condenser charged to 15,000 volts. The discharge of a 1 microfarad condenser at this voltage is quite an energetic affair; it produces a blinding flash of light and a pulse of sound like a gunshot. With hydrogen in the tube the Balmer lines widened with increasing strength of the discharge, the higher members of the series disappeared and the continuous spectrum became more intense, until with the 1 microfarad condenser discharges there were no Balmer lines left at all, only the continuous spectrum and some absorption lines due to aluminum from the electrodes, etc. Helium, oxygen and nitrogen exhibited similar changes, *i.e.*, with increasing intensity of the discharge in helium the lines gave way to a continuous spectrum, and in oxygen and nitrogen the molecular bands gave way to spark lines and these in turn to a continuous spectrum. The continuous spectra from all the gases were closely alike. The intensity distribution across the continuous spectrum was rather even and probably not that of a black body.

The result of the experiments was in some respects a surprise, although to be sure as the experiments progressed one could see in what direction they were headed. That certain lines would widen or disappear in the intense discharges was to be expected, but to find all the lines wiped out and their places taken by a smooth continuous spectrum was hardly anticipated. It seems that the external characteristics of the atoms were pretty well effaced. One may imagine that the conditions approached those in the interior of a star.

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### SCIENTIFIC MINUTE MEN IN ANTHROPOLOGY AND ARCHEOLOGY

IN cooperation with the Division of Anthropology and Psychology of the National Research Council,

Science Service has arranged a plan by which competent and accurate reports of rumored discoveries relating to anthropology and archeology may be obtained for prompt publication in the press. The committee, appointed by the Division of Anthropology and Psychology, National Research Council, is as follows: Dr. Roland B. Dixon, Harvard University, Cambridge, Massachusetts; Dr. A. L. Kroeber, University of California, Berkeley, California; Dr. Leslie Spier, University of Washington, Seattle, Washington, and Mr. Neil M. Judd, chairman of the committee, U. S. National Museum, Washington, D. C. Dr. Fay-Cooper Cole, chairman of the division, has been helpful in formulating the plan.

The plan, briefly, is this. Selected anthropologists, geologists and paleontologists situated in geographically strategic localities are commissioned special correspondents of Science Service and authorized to visit and investigate any reported discoveries in their vicinity which may appear important or likely to receive wide publicity. Science Service guarantees to defray expenses up to \$50.00; more than this, by prior agreement. Specific authorization is not required but the collaborator uses judgment in determining what needs investigation and, to avoid duplication of effort, first ascertains that others near by are not also starting out on the same report.

Before starting on any specific investigation, each investigator states what is known of the reported discovery, his personal plans, telegraphic address, etc., in a concise telegram sent press rate collect to Science Service, Washington, D. C. He does not wait for an answer but proceeds immediately with the investigation. Upon arrival at the site, the results of preliminary investigation are telegraphed to Science Service. Details and photographs are sent as soon as possible by mail.

Investigations are restricted to reported discoveries that seem likely to be of real importance or that seem likely to create considerable publicity. Science Service, supplying science news to a fifth of the newspaper reading public in America, is desirous through this plan to distribute accurate and prompt news of all important archeological and anthropological investigations before exaggerated and misleading statements are circulated.

The investigator arranges with his institution to coordinate his efforts under this cooperative plan with his activities on behalf of his institution. The scientific results of any investigation may be published as the scientist sees fit, but news reports and public statements, in consideration of the participation of Science Service, are distributed exclusively through Science Service.

Sixty-six archeologists and anthropologists located

in strategic centers in the United States and Canada are now designated as Science Service minute men in archeology and anthropology under this plan.

Two investigations under the plan have already been made. Drs. Alfred S. Romer and Wilton M. Krogman, of the University of Chicago, and Russel T. Neville, of Kewanee, Illinois, visited a cave in Leasburg, Missouri, where human remains were reported to be found and they determined that the bones were those of bears. When a report of the discovery of "prehistoric giants in West Virginia" gained wide currency, D. T. Stewart, of the U. S. National Museum, visited the site of the bone discoveries near Morgansville, West Virginia, and found that the bones were probably those of normal-sized Indians. In cooperation with Professor Ernest R. Sutton, of Salem College, he excavated further in the mounds and inspired local amateur archeologists to more effective research in a territory which is largely an archeological no-man's-land.

In addition to the news reports of the investigations which will find publication in newspapers and magazines through the usual channels of Science Service, more detailed announcements of these researches will be prepared and sent upon request to those who express an interest.

WATSON DAVIS

SCIENCE SERVICE

## TWO UNUSUAL FLOCKS OF SWANS

IN recent years the appearance of the whistling swan, *Cygnus columbianus* (Ord), in large numbers is so unusual an event that the occurrence of a flock of fifty is a matter of note among ornithologists. Forbush,<sup>1</sup> in reference to this bird states, "In New England we rarely see or hear them now. Once they were abundant in migration along our coasts and many a lake. . . . Now the few that pass over or through our territory fly so high that they are rarely noticed, or they keep well out on wide water during daylight." Barrows, in his "Michigan Bird Life," says, "Single birds or small squads occasionally alight during bad weather in ponds and streams in various parts of the state," and quoting Butler,<sup>2</sup> "Formerly when these birds were more abundant they migrated in flocks of twenty or thirty, and sometimes as many as fifty high in the air." In Wisconsin, Schorger has just issued a report on the birds of Dane County. The territory covered by the report includes a number of lakes which are much frequented by waterfowl during the season of migration. The observations

recorded extend over a period of twenty years, but swans were seen in only three of these, and on only seven different occasions. The largest flock observed contained forty individuals; the others less than eight each.

All the authorities cited lay special emphasis on the rarity of the bird. The appearance this spring of a large number of swans on Lake Winnebago seems therefore to merit notice.

About the first of April swans were reported to be at the northwest extremity of the lake, near Neenah. The writer visited the locality on April 5. The birds were shy and remained well off shore, but a count was possible through glasses. The number of individuals was ascertained to be two hundred.

On the same day a larger flock was reported from a location twelve miles south near Oshkosh. On April 7, after photographing the Neenah flock, which had apparently diminished little if at all in numbers, the writer drove to the Oshkosh shore. The flock here was stretched out in a great band approximately a mile in length and more or less paralleling the shore line. So close in was this band that the red beaks of the younger birds showed prominently and even the yellow spots on the beaks of older birds could be distinctly seen through six-power glasses. The individual birds were counted and found to number one thousand and seven.

A third flock, of small size, was reported to be at the southern end of the lake but this report has not, up to date, been verified. We have, however, knowledge of approximately twelve hundred swans on the lake at one time.

Accounts obtained from residents along the lake shores varied so widely that it was out of the question to determine just when and in what numbers the birds had arrived. But it is certain that these flocks are not remaining intact in their migratory movements. The smaller group in disappearing during the night of April 8 left three of its number on the lake. The larger flock shrank to one hundred and seventeen individuals between the eighth and noon on the tenth. All afternoon, on the latter date, swans in groups of from three to seven individuals left the feeding grounds until at evening only sixty remained. Three days later these sixty stragglers were still on the lake.

NELL A. ROGERS

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## CURIOSITIES OF SCIENTIFIC NAMES

I AM very much interested in Dr. Howard's notes, page 330 of *SCIENCE* for October 4, entitled "Odd Stories about Scientific Names." Some enterprising scientist could compile a book full of such stories and

<sup>1</sup> Edward Howe Forbush, "Birds of Massachusetts and Other New England States," p. 304.

<sup>2</sup> Amos W. Butler, "Notes on Indiana Birds," *Proc. Ind. Acad. Sci.*, 1891.