

### South-Eastern Union of Scientific Societies

#### ANNUAL CONGRESS AT READING

THE Annual Congress of the South-Eastern Union of Scientific Societies was held at Reading on July 11-14, under the presidency of Prof. H. L. Hawkins. By the courtesy of the Vice-Chancellor and Council and Senate of the University, the meetings were held in the various buildings of the University, the grounds of which were thrown open for the use of those attending. The president's address was entitled "Fossils and Men", and was in part a philosophical discourse on the lessons to be learnt from over-specialism in both ancient and modern life, and the invariable consequences resulting from such specialism, notably as regards human life. The address was a notable one. "To some the voice of Evolution is a birthday serenade, to others it is the tolling of the passing bell," was a passage which one might quote. "The Lords of Creation of one era are the fossils of the next," is another. "If numbers imply success, graptolites and ammonites were successful groups. We can scarcely guess what inborn impetus drives some groups to riotous evolution, leaving others almost static; but we can find an analogy in human temperament, where the mercurial and the stolid may appear for no apparent reason in the offspring of one marriage. Persistent stocks are not the actual ancestral types, but are the simplest derivatives from those types that possess all-round efficiency. *Cidaris* was not, by a long way, the first sea-urchin to appear; there were plenty of queer experiments in the echinoid world during the palaeozoic eras; but it is, and since triassic times has been content to remain, the simplest expression of orthodox sea-urchinity. *Nautilus* came into being after a long succession of preliminary types had come and gone; it has proved more durable than scores of its less and more elaborate relatives.

"The efficiency of short-range types is that of the specialist, who is supreme in his own particular line and a hopeless fool in any other. The danger of undue specialisation is almost self-evident. An expert in the use of the crossbow would not find much scope in a modern naval battle; while a professor of Hellenistic Greek might starve on a desert island where an agricultural labourer could scrape an adequate living. The moral emerges that a specialized type is efficient only in special circumstances, and becomes like a fish out of water when circumstances change. A Jack of all Trades may not excel in any; but he is less likely to find himself stranded than the master of a single trade that goes out of fashion. In other words, to become thoroughly efficient in one respect is to be relatively incapable in others. This is, in effect, a restatement of the principle that simple, moderately efficient types last longer than those that are highly specialized.

"In the education of the young we must point to the pitiable failures of man the successful animal, and the glorious achievements of man the struggling soul.

"There is no precedent by which we can foretell the issue of the triumph of reason; but a million witnesses await us in the rocks and catacombs to testify to the outcome of uncontrolled specialization. Reason, and reasoned ideals, give outstanding qualities to individuals—'An honest man's the

noblest work of God'. Surely it does not seem a hopeless experiment to try the effect of humanity for men, and to leave bestiality to beasts.

"And so the lesson of Palaeontology is the same that has been taught by seers, sages and saints down the ages. They used their human faculty of imagination to find the truth; and few there were that heard it. But fossils are a sign for this generation; their evidence is open for all who care to see it. We must strive to avoid somehow the fate that has always overwhelmed animals like us. Looking around in despair, we find that only idealism is free from the taint of death. Pure thought and noble ideals alone can raise mankind out of its present mortal danger to a position where success, even if it cannot be commanded, may at least be deserved."

The ancient charters of Reading, which were on exhibition at the Museum, were explained by Mr. W. A. Smallcombe, the curator. Much interest was shown in the reproduction of the famous Bayeux 'tapestry' which is one of the chief features of the Museum, and in the Roman treasures from Calleva (Silchester). The extensive ruins of old Reading Abbey were visited, on one wall of which is a large reproduction of the canon, "Sumer is icumen in", one of the earliest musical compositions of the country, said to have been composed by a Reading monk.

In the Zoological Section, Dr. C. B. Williams, of Rothamsted, gave an address on "Insect Immigration in Great Britain", summarising the information to date, and incidentally mentioning that the present year has not been a good one from the immigration point of view. In 1933, eighty reports were received of actual movements to and across the country.

Major H. C. Gunton outlined a scheme by which amateurs in local societies can assist in the recording of the earliest and latest observations of fifty well-known insects, to which, it was stated, considerable importance is attached by the Entomological Department at Rothamsted. Mr. Smallcombe gave details of the "Local Vertebrate Fauna during the Human Period". In the absence of cave-deposits in the district, the gravels yielded evidence of such animals as reindeer, red deer, bison, woolly rhinoceros, hippopotamus, lion, sabre-toothed tiger, hyæna, mammoth, and a lower jaw of Irish elk, the latter giving rise to some discussion. At the Kennet mouth, on the site of the gasworks, an Early Iron Age settlement revealed amongst other mammals the beaver.

Mr. F. H. Edmunds read a paper on "The Water Supply and Geology of the South-East of England", and gave instances of the long galleries, sometimes a mile or more long, which have been driven in the chalk in order to intersect drainage channels and fissures. The Eastbourne well at Friston is 110 ft. deep but has a heading 4,012 ft. long. The normal water-table under London is potentially above the level of the chalk surface, but cannot rise through the impermeable tertiary above it. Chalk water is, in effect, under constant pressure against the overlying beds, and, when bored into, the water overflows as artesian water. The water-table under London has, however, sunk considerably into the chalk of late years. At Slough a boring was put down in 1909, reaching the Lower Greensand at 1,021 ft.

from the surface. The pressure was so great against the overlying strata that the water in rising blew a hole in the factory roof, and flowed at the rate of 100,000 gallons an hour. Water under similar pressure was found at Virginia Water, where it rose 90 ft. above the ground. Instances were given where the flow of water was in the first place very great, but owing to the silting-up of the bore-holes with fine sand and clay the supply rapidly fell off.

Prof. E. B. Poulton gave a lecture on "The Power of Changing Colour as a Form of Protective Resemblance", and an address was given by Sir Lawrence Chubb to the Regional Survey Section on "The Rights of Way Act, 1932".

The excursions were of considerable value. Silchester was visited, and the Botanical Section explored Greenham Common and the Kennet Valley.

The valuable farms of the University at Shinfield, Sutton's Seed Trial Grounds, and Huntley and Palmer's factory were also visited. Prof. Hawkins led the geologists to Kingsclere, and to Theale and Pangbourne, in the latter showing how the Kennet water is to a great extent conveyed by underground channels to the Sulham stream and so to the Thames at Pangbourne, instead of following the main Kennet River to Reading, whilst the Pang itself is now almost dry. The final excursion was a long one to the Vale of White Horse, passing on the way the dolmen known as Wayland Smith's Forge, and Uffington camp, afterward reaching Uffington by way of the neck and body of the so-called White Horse, which, however, may be the hen-headed dragon of the Celts, said to have been slain by St. George on the flat-topped hill isolated below.

### A Quantitative Study of Trance Personalities

IT is well known that the Society for Psychical Research has for many years studied the variations of personality observed in the mediumistic trance. This has generally been done by means of historico-legal methods, that is, by estimating the evidential value of the statements made by the personalities alleged to be communicating through the medium under observation. This procedure is a perfectly valid one, and it would be entitled to full experimental status if a more reliable method than any used hitherto of computing the value of such free material could be devised. Nevertheless, it is obviously desirable that these trance personalities should be investigated by normal quantitative methods, and to this problem the Society for Psychical Research has now turned its attention.

Mr. Whately Carington (formerly Whately Smith) has attempted to apply to trance personalities the well-known technique of the word association test and the psychogalvanic reflex. A list of words is read out to the subject, who is supposed to react to each stimulus word with the first word that enters his consciousness; his response is recorded, together with the time taken by him in answering and the change in the electrical resistance of the subject's skin resulting from the 'excitement' produced in him by the stimulus word. There is good experimental reason for believing that the magnitude of this change (measured with a Wheatstone bridge and galvanometer) is a fair measure of such excitement. When the standard list of 100 words has been gone through in this way, it is rapidly read over a second time to test the subject's accuracy in reproducing his responses, failure to do so being regarded as an indication that an inhibitory complex is present. The whole process is gone through several (usually six) times to obtain a reliable mean, and the resulting data are regarded as characteristic of the subject's personality.

Such is the technique in general, on which Mr. Carington is an acknowledged authority, and which he has now attempted to apply to the problems of psychical research. If tests were to be applied to a medium in his normal state and then to a trance personality manifesting through the same medium's body, with his normal consciousness in abeyance, a comparison of the two series of data would clearly yield information as to the degree of likeness or

unlikeness between the two personalities. Thus, Mr. Carington argues, definite evidence would be obtained regarding the status of the trance personality.

In his present report (*Proc. Soc. Psych. Res.*, 42, 173-240, July 1934) Mr. Carington sets out the results of a first experiment on these lines, carried out with the mediums Mrs. Garrett, Rudi Schneider and Mrs. Leonard. Unfortunately, in each of these cases the circumstances were such that a full investigation was impossible. Mrs. Garrett turned out to be a very difficult subject for psychogalvanic reflexes, the electrical resistance of her skin being erratic to such a degree that the resulting material was inadequate for the application of Prof. R. A. Fisher's analysis of variance. In the case of Rudi Schneider, the subject did not fully co-operate, so that the results cannot be taken at their face value. In the case of Mrs. Leonard it was not possible to test the psychogalvanic reflex at all, the experiment being limited to reaction times and the reproduction test. From the fragmentary data obtained with these subjects, Mr. Carington concludes that in the case of Mrs. Garrett she and her 'control' Uvani are significantly different; that Schneider and his 'control' Olga are significantly similar; and that in the case of Mrs. Leonard, her 'control' Fedra, and two other of her trance personalities, significant differences exist.

It will be asked of *what* these differences are held to be significant. On this point Mr. Carington expresses himself with due caution, but it is clearly his opinion that if Mrs. Garrett's and Mrs. Leonard's 'controls' were merely split-off secondary personalities, they would not have shown the differences they actually yielded. Unreserved acceptance of this conclusion would, however, be premature, for next to no information is available as to the amount of similarity or difference these tests would yield if actually applied to a pathological case of secondary personality, to a subject in hypnosis, or even to an actor playing a part. Moreover, the results seem far too dependent on the goodwill and free co-operation of the subject. Mr. Carington has undoubtedly made a valuable and thoroughly scientific contribution to psychical research, of a kind warmly to be welcomed, but a series of control experiments is essential before his results justify any generalisation with paranormal implications.