

the cell surface or of both. The maternal cytoplasm seemingly has potentialities for determining at least the early stages of development, a matter that lies at the root of the problem of genetical inheritance, for it raises questions regarding the functions and relations of cytoplasm and nucleus. To what may these potentialities be traced? Normally the cytoplasm receives nuclear material when the germinal vesicle breaks down, but the role of such material in maturation and segmentation is not known; nor is there certainty that the cytoplasm receives secretions from the intact germinal vesicle. Nevertheless it would be unwise to exclude the latter possibility occurring prior to the experimental removal of the vesicle from the egg fractions. Another possibility is that the chromatin of the previous generation influences the maternal cytoplasm. Of these matters Harvey is well aware.

Regarding experimental activation, the work of R. S. Lillie, Just, Runnström<sup>18</sup> and others with sea-urchin eggs indicates that its initiation is due to the release and interaction of substances originally separated in the egg cortex, with the consequent formation of an acid which may be a fundamental activator.

The physiological bases of experimental parthenogenesis have been discussed in masterly fashion by Daleq<sup>19</sup> and he cites the serious limita-

tions in our knowledge. The types studied have been mostly aquatic and the facts gleaned from them are of limited application to the majority of parthenogenetic animals, which are terrestrial. Cytological knowledge is really patchy and incomplete. No common activating principle has been found in the many agents used, nor has the nature of experimental activation been elucidated. How far the mechanisms of experimental and of natural parthenogenesis and of fertilization are identical is unknown, while as for the origin(s) of natural parthenogenesis, experimental methods have not as yet revealed them.

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<sup>4</sup> Delage, Y., "La Parthénogénèse naturelle et expérimentale" (Paris, 1922).

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<sup>6</sup> Kasansky, W. J., *Zool. Anz.*, 110 (1935).

<sup>7</sup> Tyler, A., *Biol. Bull.*, 63 (1932).

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<sup>10</sup> Kasansky, W. J., *Zool. Anz.*, 106 (1934).

<sup>11</sup> Pincus, G., "The Eggs of Mammals" (New York, 1936).

<sup>12</sup> Garuß, G., *Arch. Sci. Biol.*, 21 (1935).

<sup>13</sup> Harvey, Ethel B., *Biol. Bull.*, 71 (1936).

<sup>14</sup> Kling, K. G., "Experimentelle Untersuchungen über die traumatische Parthenogenese bei Amphibieneiern" (Uppsala, 1936).

<sup>15</sup> Montalenti, G., *R. C. Acad. Lincei*, 23 (1934).

<sup>16</sup> Frolowa, S. L., *J. Biol.*, 4 (1935).

<sup>17</sup> Doncaster, L., *Proc. Roy. Soc.*, B, 82-83 (1910, 1911).

<sup>18</sup> Runnström, J., *Biol. Bull.*, 69 (1935).

<sup>19</sup> Daleq, A., "Les bases physiologiques de la fécondation et de la parthénogénèse" (Paris, 1923).

## OBITUARIES

Mr. C. J. Bond, C.M.G.

BY the death of Mr. C. J. Bond, Leicester has lost one of her most distinguished and also most beloved citizens. Few lives can have been more completely devoted to the service of mankind. He was a 'philanthropist' in the literal sense of the word.

Bond's skill as an operating surgeon, combined with his kindly and considerate manner towards his patients, had brought him one of the largest surgical practices in the Midlands, but he retired from private practice at a comparatively early age (in 1912) in order to have more time for purely scientific and social work. He was specially interested in biology and genetics, and he carried out numerous interesting experiments, extending over many years, in the breeding of poultry and pigeons. Another special interest was eugenics, and he delivered the Galton Memorial Lecture, under the auspices of the Eugenics Society, in 1928.

When the War broke out in 1914, Bond offered his services to the War Office and became consulting surgeon to the Northern Command with the rank of Hon. Colonel, A.M.S. As the representative of the Medical Research Council, of which body he was an active member for many years, he served on the

Inter-Allied Commission on the Treatment of War Wounds, held in Paris during 1916-18. He was twice mentioned in dispatches and was awarded the C.M.G. in 1917.

Possessed of exceptional ability and a seemingly tireless capacity for work, C. J. Bond readily gave his support to causes and movements which he believed would benefit his fellow-men. In this brief notice it is quite impossible to enumerate all his many activities and interests, though reference should be made to his work for the Leicester Royal Infirmary, of which he was consulting surgeon, member of the Board of Governors and vice-president; also to his work for University College, Leicester, which he helped to start and of which he was a member of the Board of Governors; and for the Leicester Literary and Philosophical Society, of which he was twice president. Nationally, he served on the Departmental Commission on the Cause and Prevention of Blindness; on the Industrial Fatigue Research Board (of which he was deputy chairman); Lord Trevethin's Committee on the Prevention of Venereal Disease; the Advisory Council of the National Health Insurance Committee, etc. He was a life member of the British Association.

Bond was a strong advocate of total abstinence and an active and generous supporter of the temperance movement, both locally and nationally.

He was the author of several books, for example, "The Leucocyte in Health and Disease", which embodies the results of much painstaking original research work; "Essays and Addresses of a Surgeon", and Chapter v in "Health and Healing in the Great State", edited by H. G. Wells. He also made numerous contributions to current medical and scientific literature.

During the later years of his life, one of Bond's chief interests was the movement for voluntary euthanasia. He helped to found the Voluntary Euthanasia Legalisation Society, and he was chairman of the executive committee for the five years since the Society was started. Undoubtedly, the great prestige attaching to his name has greatly helped the movement, and he had the satisfaction before he died of seeing it steadily growing and apparently firmly established.

To those who knew C. J. Bond intimately—as it was my privilege to do for more than thirty years—he will be chiefly remembered, not so much on account of all the good work he accomplished during his long and active life, as on account of what he was. He was a man of absolute integrity, scrupulously conscientious in everything he did or said, and modest of character, almost to a fault. It is impossible to think of him as ever being guilty of an unkind, selfish or unworthy action.

He leaves a widow, a son who is in the medical profession, and a married daughter.

C. KILLICK MILLARD.

### Prof. C. G. Santesson

PROF. CARL GUSTAF SANTESSON, the eminent Swedish pharmacologist who died on July 26, was born in Stockholm on July 5, 1862, the son of the professor of surgery at the Karolinska Institutet. He received his medical education at Uppsala, Stockholm, and Lund, and qualified at Stockholm in 1890. During the next two years he studied pharmacology under Schmiedeberg at Strassburg and Boehm at Leipzig. On his return to Sweden he became lecturer in pharmacology at Uppsala, and in 1895 was appointed extraordinary professor in this subject at the Karolinska Institutet at Stockholm, becoming full professor in 1908. He retired in 1927.

In addition to numerous contributions to periodical literature on pharmacology and toxicology, Santesson was the author of a work on general pharmacology (1919). From 1901 until 1916 he was editor of the *Nordisk Medicinskt Arkiv* and from 1924 until his death of the *Skandinavisches Archiv für Physiologie*. The high reputation which he enjoyed at home and abroad is shown by his being a member of the Academies of Sciences of Uppsala, Stockholm, and Halle, the Finnish Medical Society and the German Pharmacological Society. An address on his life and work was delivered at a meeting of the Swedish Medical Society by Prof. G. Liljenstrand, his successor in the chair of pharmacology, and published with his portrait in the *Nordisk Medicin* of October 14, and the issue of *Acta Medica Scandinavica* of October 17 contained the address delivered by Santesson two months before his death on the occasion of the publication of the hundredth volume of the journal.

J. D. ROLLESTON.

## NEWS AND VIEWS

### Anthropological Investigation in Mexico

ON p. 1033 of this issue extracts are given from an account of some remarkable magico-religious observances recorded by Dr. Robert Gessain in the district surrounding Huehuetla, a village in the State of Hidalgo, Mexico, in which in certain respects the use of paper figurines, or *munecos*, recalls practices of Old World witches and the employment of waxen images against their victims. The expedition, of which Dr. and Mme. Gessain were the personnel, was the fifth of a series sent out by an organization for which Dr. P. Rivet of Paris is mainly responsible. This organization, known as the "École française de Mexico", sends out each year a research worker to carry on investigations in that country. In view of Dr. Gessain's qualifications as medical man and anthropologist, in which capacity he had already worked in Greenland, the objective of the expedition was mainly to record observations in physical anthropology, including racial pathology, combined with linguistic and ethnographic inquiry as a subsidiary aid in gaining the confidence of the people. Equipment for testing blood groups and making psycho-

physiological observations was also carried. Unfortunately much delay in reaching the base of operations was caused by difficulties in getting the scientific equipment into the country; and after a few weeks work only, both members of the expedition were taken seriously ill and had eventually to return to France. This happened at a peculiarly inopportune moment, as they had just made a beginning in breaking down the hostility and suspicion with which their early inquiries had been received. Notwithstanding this unfavourable attitude of the inhabitants, a number of interesting anthropographic and demographic observations have been made—the congenital or 'Mongolian' patch was found on all infants—and, in addition to the cultural evidence noted above, songs, technological films and a large number of anthropological and ethnographical photographs have been secured.

### Oil and its Uses

THE Petroleum Films Bureau (15, Hay Hill, Berkeley Street, London, W.1) now has a library of fifteen films about oil which may be borrowed free