

normal manner under the conditions of the experiment before their production and, as will be shown later, the functional response to damage was that which is observed when the kidney is damaged *in vivo*.

In the discussion of our results we have called attention to the significance of the method for problems of normal cytology, as in the histological study of functioning mitochondria or in vital staining. To quote from our conclusions, "The tissues or organs thus studied are isolated from the complications of circulatory and nervous mechanisms, their environment is artificially and rigorously controlled and conditions are therefore analogous in a certain degree to those which obtain in the study of tissue culture." It is obvious, however, that such an application of Ludwig's method may eventually go a step beyond tissue culture, for not only can the reactions of cells and tissues be investigated thereby, but as our experiments with the kidney show, the pathological as well as the normal responses in both structure and function of entire organs can be examined.

The outcome of our experiments suggests that such an extension of Ludwig's method to anatomical investigation as we have employed may complement the method of tissue culture and perhaps aid, as Dr. Carrel hopes, in "a rejuvenation of Virchow's doctrine of cellular pathology."

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CHROMOSOMES OF PETUNIA

PRACTICALLY all papers dealing with *Petunia* which have been published during the last four years cite references to show that the typical number of chromosomes for this genus was first recorded in 1927. In the interest of bibliographical accuracy, may I call attention to an abstract¹ published in December, 1924, in which the following statement occurs—"The number of chromosomes is clearly seven and fourteen."

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NEWTON'S SAYING

IN the June 12 issue of SCIENCE, Dr. S. A. Mitchell quotes Newton as saying "I have been but as a child playing on the seashore; now finding some pebble rather more polished and now some shell more agreeably variegated than another, while the immense ocean of truth extended itself unexplained before me."

This saying is so important and so often quoted that I think it worth while giving the correct form, which is, "I do not know what I may appear to the world, but to myself I seem to have been only like a boy playing on the sea-shore, and diverting myself in now and then finding a smoother pebble, or a prettier shell than ordinary, whilst the great ocean of truth lay all undiscovered before me."

CHARLES HERMAN

SOCIETIES AND ACADEMIES

THE SECOND INTERNATIONAL CONGRESS OF THE HISTORY OF SCIENCE AND TECHNOLOGY

LONDON, JUNE 29 TO JULY 4, 1931

THIS congress was the outcome of a movement started by the Comité International d'Histoire des Sciences, which was organized at Oslo in 1928 and which meets annually in Paris. This Comité secured the cooperation of its parent body, the Comité International des Sciences Historiques, the History of Science Society, and the Newcomen Society for the Study of the History of Engineering and Technology, and was generously assisted by the British Government, the Science Museum, the British Museum, the Royal Society and the Universities of Cambridge and Oxford. Official representatives were present from the universities of twenty-five countries, and numerous members from these universities and several others. The congress was held under the presidency of Dr. Charles Singer (London), the vice-presidents being Professor Gino Loria (Genoa) and Dr. George Sarton

(Harvard). The following is the program of sessions and a summary of the papers.

INAUGURAL SESSION, MONDAY, JUNE 29

The congress was opened by an address by the Right Honorable H. B. Lees-Smith, M.P., president of the board of education, who expressed his belief that the greatest events in the history of the world had taken place in the realm of ideas, and particularly in the ideas developed in the minds of men of science and technology. The achievements of science and technology, he said, were now progressing with such rapidity that the mind has become dazed and has almost lost the capacity for surprise. He asserted that science and technology were immeasurably beneficent and at the same time completely merciless, furnishing the world with fearful instruments of destruction in war and with the means for saving the lives

¹ Margaret C. Ferguson, "Preliminary Announcement of a Cytological and a Genetical Study of *Petunia*," *Anat. Abst.*, 28-29, No. 116, p. 137, 1924-1925.