

## Social Relations of Science

THE Association of Scientific Workers has been mentioned in several of the contributions to the supplement in NATURE of April 23 on the proposed Society for the Study of the Social Relations of Science. On behalf of the A.S.W., I venture to direct the attention of readers to our work during the last ten years in the field which the S.R.S. proposes to cover.

The A.S.W. has a dual policy which includes the study and the improvement of the relations between science and society as well as the promotion of the professional interests of scientific workers. The Association has endeavoured to pursue the first object of its policy by publishing a journal called *The Scientific Worker*, by holding public lectures, and recently, by arranging showings of scientific films. For lack of adequate means we have not been able to satisfy the urgent need for properly organized

research into the influence which many aspects of science are now exerting on our social life. Such work could only be done under the auspices of a society such as the S.R.S., and we are glad to notice that, in the contributions to the supplement in NATURE, several of our vice-presidents emphasized this aspect of the future work of the S.R.S. It is also necessary that the general public should be kept more in touch with the actual nature and purpose of scientific education and research.

The potentialities of an S.R.S. seem to us to be very great, and we should both welcome its formation and willingly co-operate in its work.

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## Points from Foregoing Letters

FROM the behaviour of a special preparation of heart muscle, containing a high concentration of cytochrome *a*, when treated with various reagents, Prof. D. Keilin and Dr. E. F. Hartree deduce that the absorption band *a* of cytochrome belongs to two slightly different compounds, one of which is autoxidizable and combines with potassium cyanide or carbon monoxide, while the other does not possess these properties. They also enumerate reasons for suggesting that the enzyme which oxidizes cytochrome may be a copper-protein compound.

By irradiating carbon disulphide for several days with neutrons in presence of a strong electric field (70–90 volts per cm.), J. Govaerts has been able to concentrate the radiophosphorus produced almost entirely upon the anode, which increased in weight by 3.7 mgm.

There are two kinds of imperfection causing loss of resolving power in the X-ray spectra of crystals, according to J. M. Bačkovský. One is due to mosaic structure and the other to the regular atomic planes. By using a symmetrical spectrographic arrangement for X-ray study in which the distance slit to crystal equals the distance crystal to photographic plate, the author has been able to reduce the broadening of the lines due to mosaic structure and to render its effect negligible.

Dr. R. H. Sloane and R. Press describe some new experiments on the formation of negative ions by the bombardment of metal surfaces with positive ions. These experiments show that positive ions of one species can produce negative ions of another species, and this seems to require a sputtering mechanism for its explanation.

Photo-electric selenium cells are found by Dr. A. E. Sandström to be susceptible to X-rays of long wavelength, somewhat below 20 Å. Under suitable conditions the photo-electric current is proportional to the intensity as in the case of ordinary light.

A table is given by M. Hara, showing that in twelve bimetallic alloys with lowest freezing point the metals are in simple atomic ratio, corresponding to that of simple chemical compounds (Au<sub>3</sub>Cu<sub>2</sub>, FeNi<sub>2</sub>, etc.).

Graphs showing the relation of swelling pressure to shrinkage in the case of samples of sitka spruce, and also the resistance of the wood to compression at different moisture contents, are submitted by W. W. Barkas and H. Q. Golder.

Successful ripening of the Japanese Kelsey plum grown in South Africa, by treatment of acetylene, is reported by V. A. Putterill.

Chemical investigation of 'dextran', a compound synthesized by the seaweed *Leuconostoc dextranicum*, when grown in a sugar solution, shows that carbohydrate to be similar to starch and cellulose, being constituted solely of glucose residues. There appear to be several hundred glucose units in the dextran molecule.

During the lignification of plant cell-walls, an increase in the carbon content and consequently a reduction process takes place, according to K. Griffioen. Colour tests with oxidation-reduction indicators support this view as they show that the cambium layer near the wood cells has greater reducing power than other cells, particularly during the growth season.

Dr. G. M. Findlay, R. D. Mackenzie and F. O. MacCallum report the presence of Giemsa-stained granules in early lesions of the virus disease, climatic bubo, these being three or four times larger than the previously observed (presumably virus) granules. The authors suggest that the smaller granules are derived from the larger ones by division.

F. Baker and R. Martin demonstrate the disintegration of optically birefringent cellulose and other cell-wall substances in the caecum of the horse, etc. Loss of double-refraction in the zones of erosion is accompanied by changes in microchemical reaction. Pectins are also attacked. Lignin and cutin appear to be immune. The cytotoxic agents are iodophile micro-organisms, probably stages in the life-cycle of a single polyphasic species. Protozoa, where present, play, if any, only a subordinate part in the process of disintegration.