

February 25). The term 'Auca' does not refer to any particular tribe but is a Quechua term used in the Andean highlands to refer to any pagan Indian groups as contrasted with those who have been converted to Christianity. The group who did the killing belongs to the Zaparo tribe and lives in the area between the Curare and Napo Rivers. The Franciscans, the Jesuits and the Dominicans established a number of missions among them in the sixteenth, seventeenth, eighteenth and nineteenth centuries. Much of what is known is based on the work of Alfred Simson, an Englishman who spent considerable time with the Zaparos in the 1870's.

White interference has been generally disastrous to the Aucas for several reasons, principally because of factors that upset the normal equilibrium of their lives. Among these were the introduction of the white man's diseases and the unhealthy effect of compelling them to wear clothes in a tropical rain-forest environment. Although the Indians were normally quite nomadic, they were often compelled to work in the fields and perform other tasks unfamiliar to them. Then, too, they resented interference with their own religion and the attempt to substitute for it ideologies completely foreign to their own background and completely incomprehensible to them. They also found objectionable the suppression of many of their own deeply rooted social habits. The white man's ban on polygamy they found especially intolerable. "Because of the hazards of warfare and hunting there were typically more women than men; thus many women found themselves without a normal home and family life, and the men without the prestige of a large family. Inevitably, the Indians revolted against this restriction on their liberties. In the more remote regions where there was virtually no other white population, as among the Zaparos and Jivaros, these revolts were successful and the mortality among missionaries was high."

The Word 'Protoplasm'

DR. GARRETT HARDIN, of Santa Barbara College, U.S.A., suggests that careful consideration of the term 'protoplasm' indicates that its various meanings are so contradictory and have such uncertain reference to facts that to call the term meaningless is no more than an act of simple charity (*Sci. Mon.*, 82, No. 3; March 1956). In published statements about protoplasm there are many incompatibilities. In some, protoplasm is a substance; in others, a mixture of substances. Sometimes protoplasm is an entity common to all organisms, while at others 'it' is different in all organisms and even in different tissues of a single organism. Hardin believes that the conceptual framework implicit in the word protoplasm has probably impeded scientific progress. Research workers who are most actively engaged in determining the facts to which protoplasm supposedly refers have the least use for the term.

Leaf Morphogenesis

STUDIES of morphogenesis in leaves by E. Njoku are concerned with the effect of light intensity on leaf shape in *Ipomoea caerulea* (*New Phytol.*, 55, 1, 91; 1956). In this paper the author has made a useful contribution to our knowledge of heteroblastic development. Observations are recorded of the changes in leaf shape from node to node in plants of *Ipomoea caerulea* grown under varying intensities of light. These show that the amount of leaf lobing

decreases with decreasing light intensity, and lobing is completely suppressed in 0.23 daylight and lower intensities. Plants already producing lobed leaves in full daylight revert to the production of entire leaves when transferred to deep shade, and shade plants producing entire leaves soon begin to produce lobed leaves on transfer to full daylight. There is no correlation between the changes in leaf shape and changes in leaf area, cell size and cell number. The shape of the leaf is determined early in ontogeny and is not appreciably altered during the later growth of the leaf. The effect of light intensity on leaf shape is compared with the effect of length of day reported by Ashby (1950). Length of day has no effect on leaf shape during the vegetative phase of development; but by accelerating or retarding flowering at the apex, length of day exerts a small effect on leaf shape; the leaves just below the terminal inflorescence are usually simpler in shape. The experimental results are discussed with reference to current views on the factors controlling heteroblastic development, and it is concluded that more work is required before the effect of light intensity on leaf shape can be definitely referred to factors as specific as carbohydrate nutrition or auxin supply.

Society of Instrument Technology, Ltd.

THE Society of Instrument Technology, Ltd., has been functioning until recently by the efforts of its honorary officers, and for some time the need has been felt for a full-time staff and permanent headquarters in London. The Society's membership, in all classes, is nearly fourteen hundred, and with the increasing recognition of the need for automation in industry, its activities are growing day by day. An office has now been taken at 20 Queen Anne Street, London, W.1, the headquarters of the Scientific Instrument Manufacturers' Association of Great Britain, Ltd., and a full-time secretary and clerical staff engaged. The secretary is Commander A. A. W. Pollard, who recently left the Royal Navy after more than thirty-one years of service in the Executive Branch. Dr. Harold Moore will continue for the time being as honorary editor of the Society's *Transactions*. All correspondence should be sent to the above address.

Society of Biological Chemists, India

THE Society of Biological Chemists, India, was founded in 1930 and has recently celebrated the first quarter-century of its existence by publishing a "Silver Jubilee Souvenir" (pp. 262; from the Society, Bangalore, 1955). This consists of about fifty short papers contributed by biochemists from many different countries, and the list of authors contains many distinguished names. Some of the papers are descriptions of original work; others are short summaries and discussions of recent discoveries in particular fields of biochemical research. The Society publishes an *Annual Review of Biochemical and Allied Research in India*, and *Proceedings* which summarize the papers read at its ordinary meetings and at its annual symposia. By means of these publications and meetings, the Society helps to co-ordinate the activities of workers in biochemistry in the different parts of India.

Helminthological Society of India

At the annual general meeting of the Helminthological Society of India, held in Agra on January 3, the following officers were elected: *President*, Prof.