Milk Island off Rockport; the Boxford Wild Life Reservation at Boxford; the Henry Cabot Lodge Bird Sanctuary at Nahant; the East Sandwich State Game Farm; the Ram Island Sanctuary at Mattapoisett; the Watatic Mountain Wild Life Reservation; the Edward Howe Forbush Wild Life Reservation in Hancock and Billingsgate Island, off North Eastham; the large Annie H. Brown Sanctuary at Plum Island, where the Audubon Society already owns fifty acres adjoining, and Tern Island, off Chatham, where thousands of tern breed. Wild life reservations secured by the federation by gift, purchase or legislation since 1924 amount to approximately 2,000 acres, scattered through the state.

AN Associated Press dispatch states that a new law bearing the signature of Premier Mussolini prescribes the oath of loyalty to be taken at once by members of institutes of scientific research in Italy. The oath, which the law says is of "absolute and urgent necessity," reads: "I swear to be faithful to the King, to his royal successors and to the Fascist régime; to observe the Constitution and the other laws of the State and to exercise the office intrusted to me in the spirit of bringing about the greater development of the national culture and science."

MEMBERS of the Oxford University Expedition to North East Land, Spitzbergen, arrived in London on September 10. The party, under the leadership of A. R. Glen, has spent fourteen months in the Arctic. It was the first expedition to winter in the interior of North East Land and is reported to have carried out its program with complete success.

A SUMMARY of the annual report for 1935 of the Henry Lester Institute of Medical Research, Shanghai, is given in *The British Medical Journal*. In the Clinical Division Dr. Platt has carried out researches on vitamin B_1 with reference to beri-beri. In the Division of Physiological Sciences Chinese factory diets have been investigated as part of a general diet survey with a view to elucidating the nutritional factor in disease. In field medical research special attention has been paid to entomology and parasitology. Mosquito research has been carried out by breeding the insects in special "insectaries" in their natural environment. In the Division of Pathological Sciences advances have been made in the analysis of the antigenic structure of the typhoid bacillus, and in the preparation of a serum, which is already proving of value. Twenty hospitals in other towns, from Tientsin to Amoy, have availed themselves of the Lester Institute for section cutting and histological diagnosis. A bibliography gives a list of seventy-five publications by the staff, the Chinese members being especially prolific in this respect.

DISCUSSION

SUNBURN AND WINDBURN

IT is generally believed that exposure of the human skin to ultra-violet light of the sun or to a strong wind may induce therein a red pigmentation, *i.e.*, erythema. As far as we are aware, however, it is not thoroughly understood whether windburn is entirely a direct result of the wind or whether the wind merely makes the skin more susceptible to sunburn. Does a strong wind produce erythema of the skin in the absence of ultra-violet light?

We have made preliminary experiments in pursuit of this question which indicate a negative answer. For example, we have exposed the inner side of the forearm of one of us to the blast of a 40-mile per hour wind in an experimental wind-tunnel. The forearm was covered with a piece of heavy rubber (inner tubing of automobile tire) except for a small area of about one square inch where the rubber was cut away, leaving the bare skin exposed to the blast. There was no ultra-violet light present. The relative humidity of the air was 50 per cent. and the dry bulb temperature was 66° F. During the half hour exposure to the blast the skin exhibited "goose flesh," but at no subsequent time was there the slightest evidence of reddening or chapping of the exposed area of the skin.

Other experiments, to be published shortly in detail, indicate that human sweat partially absorbs ultra-violet light in the spectral region which is effective in producing erythema. A drop of perspiration was placed between two flat plates of crystal quartz separated by a 0.2 mm spacer. This was placed over the inner forearm of one of us and was irradiated with the total radiation of a quartz mercury arc lamp. The skin under the quartz plates developed, in due time, normal erythema, except for the small area of about a square centimeter directly under the 0.2 mm film of sweat, where the reddening of the skin was markedly less than that of the surrounding region.

Spectrophotometric measurements indicate that a 0.5 mm film of human sweat transmits only about 75 per cent. of solar radiation which is effective in producing sunburn. For the total radiation from a quartz mercury arc lamp the transmissivity is somewhat less than this figure.

From the foregoing observations we are led to wonder whether erythema usually attributed to strong winds may not be due, in part at least, to ultra-violet

sunlight, the action of which is intensified by secondary effects of the wind; such as, for example, a variation of the temperature and moistness of the skin[1] and a suppression of perspiration which, were it present, would provide some protection from the actinic rays of sunlight.

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PERIPHERAL DISTRIBUTION OF FORE-LIMB NERVES IN AMBLYSTOMA

THE distribution of plexus nerves to the forelimb in Amblystoma is a controversial matter. The limb is innervated from the third, fourth and fifth segments. Carpenter[1] states that the fifth nerve contributes innervation exclusively to muscles of the wrist. Nicholas and Barron,[2] however, find that electrical stimulation of any one of the three plexus nerves yields contractions in any of the joints of the limb, with possibly a slight prevalence of innervation of distal muscles by the fifth nerve.

In order to decide the question, I have, at the suggestion of Dr. P. Weiss, undertaken degeneration experiments with 6 specimens of Axolotls (*Amblystoma mexicanum*) of approximately 10 centimeters' body length. One of the three plexus nerves was severed and time allowed for degeneration of peripheral fibers.[3] Sections were made and stained by Weigert-Pal myelin method; and counts were made of the normal as well as the degenerated fibers entering the muscles at various levels of the limb.

After the sectioning of any of the three nerves, degenerated fibers were found at all levels of the limb and in all muscles examined. Although a very slight peripheral increase in the ratio of degenerated to normal nerve fibers was indicated after severing the fifth nerve, and possibly a slight peripheral decrease in the innervation ratio of the fourth nerve, the main fact remains that all three plexus nerves contribute fibers to muscles at all levels of the limb, in confirmation of Nicholas and Barron's findings.

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[1] See Hill and Eidenow, *Proc. Roy. Soc.*, 95–B, 163, 1923–24; also Coblentz and Stair, *Jour. of Res. of National Bureau of Standards*, 15: 142, 1935.

[1] R. L. Carpenter, *Anat. Rec.*, 58 (suppl.): 7, 1934.

[2] J. S. Nicholas and D. H. Barron, *Jour. Comp. Neur.*, 61: 413, 1935.

[3] As determined by control experiments, it takes about two weeks for the degeneration to become complete in these animals. The tributaries to the limb nerves from the plexuses do not always remain as sharply localized within the peripheral nerve trunks as has been described for the frog by Kurkowsky (*Zeits. f. Anat. u. Entw'ges.*, 104: 389, 1935.)

BITTERLING OVIPOSITOR LENGTHENING PRODUCED BY ADRENAL EXTRACTS[1]

MOST investigators agree that the ovipositor of the bitterling fish can be artificially lengthened by adding certain urine specimens to the water in the aquarium. Adult male urine and urine from pregnant women usually give a positive response, while urine from adult non-pregnant women may or may not cause this reaction. A recent report suggested that the male hormone in urine caused the phenomenon. In a single experiment using two fish we failed to get any response with a large dose of crystalline androsterone, although both fish gave a positive reaction when tested with material known to be potent.

The present experiments were undertaken to see if the source of this material could be located by means of tissue extracts. Due to the availability of material, dog tissues were used in most experiments. The following tissues were extracted with ether and tested on standardized bitterlings as previously described: skeletal muscle, heart, brain, lung, kidney, spleen, liver, pancreas, stomach, thyroid and parathyroids together, testes, pituitary, thymus and adrenal. In most cases 20 grams of raw tissue were employed. The only extracts giving a positive response came from the adrenals. In one case the medulla was trimmed out as well as possible and the remaining cortex gave the same increase in ovipositor as the whole gland. Approximately 0.75 to 1.0 gram of adrenal tissue is necessary for a positive reaction, using the crude method of extraction which we have employed. The adrenals from other species tested have all given positive reactions. These include cat, rat, rabbit, beef, guinea pig and human. Tests with dog urine have been negative in the concentrations used. The work is being continued, and the possible significance of this material in human urine is being investigated.

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PRINCIPLES OF SCIENTIFIC PUBLICATION

THERE are certain principles which should but usually do not attend the publication of scientific work.

The first is that publication is a part of research.

The second is that the cost of publication should therefore be borne by the institution or individual sponsoring the work.

Regardless of the pain which acknowledgment into practice of these two unassailable principles may cause —they must be put into practice else institutions and workers convict themselves of shirking a just responsibility.

[1] From the Department of Physiology, the University of Chicago, and the Department of Obstetrics and Gynecology, Rush Medical College.