

process which kills most of the eggs—one is driven to the conclusion that a gene is germ damage of which the outward manifestation is a mutation. The only effect that natural selection would have on such aberrations would be to wipe them out. In my opinion, mutations and adaptations have nothing to do with one another and only adaptations are recapitulated in ontogeny.

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#### Administration and Anthropology in India.

THE leading article in NATURE of Nov. 22 appears at a critical moment and must be deeply appreciated by everyone who knows anything of the present state of affairs in India, political or academic. It rightly stresses the literary bias of research in India, in answer to which it may be pointed out that, whereas the older universities teach Indian languages, the University of London is the only English university to accept Indian cultural studies for the B.A. degree (Hons. Archaeology, Sect. H). It is true that field-work is non-existent in India, and that, therefore, the bulk of the anthropological research carried out must be more or less arid, because it is at second-hand and divorced from the facts. As an outcome of this, we are now faced by the peculiar prospect of listening to a lengthy debate, and of accepting willy-nilly a decision of sorts, upon a subject that is nothing else than a problem in applied anthropology, that is, the organisation of a federal India; and we are forced to do so with the knowledge that the facts are not accessible. Whatever is done must, therefore, be done in the dark. The action taken will be political and not scientific. One would have liked to have heard Huxley's views on such a state of affairs!

The problem has, however, been foreseen by many people, most of them harassed government officials, who, following the magnificent Anglo-Indian tradition of Tod, Sleeman, Cunningham, and Meadows-Taylor, have found time to make themselves acquainted with scientific thought, but were never free to undertake research. In spite of Risley and Thurston, and the solitary excellence of Sarat Chandra Roy, it is not possible, in the present state of our knowledge of India, even to begin to discuss the basic problems of Indian ethnology. The district gazetteers are a mine of information, but they are uncorrelated compilations. The very terminology is lacking, because no body of scientific opinion has ever been brought to bear on Indian studies. If the delegates of the Round Table Conference were to be suddenly and blessedly converted to science, it is doubtful whether six people could be brought before them who could speak with authority upon India as a whole. It is not enough to explain the dearth of Indian scholars by saying that India is a continent in itself and a whole compound of races, beyond the ability of one man's compass. So are China and Africa, both of which are academically well represented. The only answer is that India has been academically neglected. The remedy is in the hands of the teaching bodies.

Incidentally, should not a candidate for the Indian Civil Service know a very great deal about the history and culture of the peoples to whose welfare he is devoting his life? It may be asked, Where does the Indian administrator get his knowledge from? The answer is that he picks it up. He certainly does not get what he needs from the older universities.

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No. 3189, Vol. 126]

#### Foaming of Beer.

I DO not know sufficient of chemistry to appreciate the full inwardness of Sir Robert Robertson's commentary on my letter in NATURE of Sept. 20, but I am convinced that the phenomena in question are not purely chemical, and that a physical, and even a directly mechanical explanation, is at least partly appropriate. I have in mind the air lift pump.

As a matter of interest I tried pouring a gassy beer into a champagne glass and it was quite flat. But more convincing was a letter from a well-known professor at Harvard, who states that the mid-west 'hobo' sought to combat short measure by greasing the inside of his tin can or pail with ordinary soap. These 'hobos' argued that they got enough fresh air without drinking it. The Harvard professor, whose initials coincide with my first two, experimented on foaming phenomena and found that something like 20 per cent could be gained by soaping. He was told that the quality of the beer was such that the taste was not unpleasantly affected.

It is permissible to observe that the 'hobo' did not use a glass vessel, and to judge by his name, he would not allow sufficient time for soap to be absorbed or dissolved by the beer. Moreover, my Harvard correspondent does not explain why a slippery container kills froth.

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#### Ball Lightning.

IN view of the interesting letter from Dr. A. Russell on the above subject in NATURE of Nov. 22, and his remarks as to the undesirability of touching these mysterious globes, the following case (quoted from Flammarion by Prof. Ignazio Galli in *Mem. Pont. Acc. Rom. N. Lincei*, 30, 281-2; 1912), when the experiment was actually tried, might be of interest.

During a storm at Beugnon (Département Deux-Sèvres, France) about the year 1904, a globe approached the door of a cattle-shed where were sheltering two children. "One of the children had the courage to touch it with his foot; immediately a frightful detonation shook the walls of the farm, the two children were thrown to the ground, without any wound, but eleven head of cattle were killed in the stable."

Prof. Galli also quotes (*ibid.*, 272) many cases of globes accompanied by a sound variously described as blowing, whistling, roaring, buzzing, and crackling.

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#### A Toy Balloon's Long Flight.

SOME fourth form boys here have recently been carrying out several simple researches. One such research, on air currents, included the liberation of coal-gas-filled balloons. One flight is sufficiently remarkable to be worth recording.

A Woolworth threepenny balloon was liberated near Johnstone, 12 miles south of Glasgow, 100 feet above sea-level, on Oct. 26, at 12.30 p.m. It reached Stony Stratford, in Buckinghamshire, after a journey of at least 310 miles, and was picked up next day at 10.30 a.m.

Alan Hird, the experimenter, remarks: "The day was fine and sunny, in fact it was the only officially 'dry' October day in this part of Renfrewshire, and a strong, steady N.W. wind was blowing."

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