

where they are, in reality, absolutely antagonistic to the theory of evolution. By regarding the species as an expression of the line of evolution, and only in that way, can we keep our species concept in conformity with the demands of the theory of evolution.

The curve of variation according to which the values of characters group themselves may change, but so long as it remains *one curve*, we really have the same species, as it is the realisation of the same line of evolution, even if the characters have changed. But if two (or more) different populations of a species change in different ways, so that the curves of variation are no longer congruent, two (or more) species arise from the old one. The line of evolution has divided into new ones, which manifest themselves as different species, none of which is identical with the old one, even if one of them might show to a certain extent the same exterior qualities. For the further consequences of my view I may refer to the original paper; I may add that the problem has recently been touched upon by Hiitonen³.

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¹ NATURE, 136, 574, Oct. 12, 1935.

² Bergens Museums Årbok 1931. Natv. r. Nr. 4.

³ Mem. Soc. Faun. and Flor. Fenn. (1933-34), 59; 1935.

"The University of London Council for Psychical Investigation"

IN September last the "University of London Council for Psychical Investigation" issued an invitation to an exhibition of fire-walking. Much attention was given to the subject in the daily Press, and an account of the demonstration was contributed by Mr. C. R. Darling to NATURE of September 28, p. 521. From the reports it is not clear what 'psychical investigation' had to do with the heat-resisting properties of the soles (? souls) of the feet; but what was more important was the interest apparently taken by the University of London in an unusual method of studying thermal conductivity. On inquiring, indeed, of the Principal, I was told that the 'University of London Council for Psychical Investigation' had no connexion with the University of London: if it had none with psychical investigation either, that might explain the matter. Since then, however, the "Honorary Secretary of the University of London for Psychical Research" has given an exclusive film interview, which was advertised recently in the programme of the Gaumont-British Movietone News Theatre. "Psychical Research", in spite of the Principal, has clearly come into its own.

It is to be hoped that other learned bodies will follow suit: for example, The Royal (Spook) Society of London; The Marine Biological Association (for the Study of Sea Serpents); The Institution of Fire (-walking) Engineers; The (Psychical) Research Defence Society. My only personal fear is that the Anti-Vivisectionists may seize their opportunity and announce themselves as A.V. Societies.

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Kelvin's 'As if' in Physics

IN a letter appearing in the issue of NATURE for November 9, headed "Kelvin and the Age of the Sun", attention is very needfully directed to an instance of a complete misrepresentation of Kelvin's attitude towards a special problem.

A still more lamentable instance was given in a comparatively recent statement, by a leading worker, in which scorn was poured on Kelvin for his support of the so-called elastic-solid theory of the ether. One can scarcely avoid the conclusion that the worker had never read the "Baltimore Lectures", which deals with investigations as great and mind-satisfying as any of the truly great investigations of the present day. For, on p. 9 of the "Lectures", Kelvin says:

"The luminiferous ether we must imagine to be a substance which *so far as luminiferous vibrations are concerned moves as if* it were an elastic solid. I do not say it *is* an elastic solid". (I have added the italics.) And, on p. 17, he says: "There is no way in which that can be explained by the rigidity of an elastic solid".

It is greatly to be desired that the "as if" of Kelvin were freely interspersed throughout many of the unqualified statements made regarding the conclusions to be drawn from the theory of relativity. An apt illustration of the need for this occurs in the letter, by Dr. Lanchester, which appears in the same issue of NATURE.

It cannot be said that we are without indications, for example, in connexion with Miller's work on ether drift, that it may yet be found necessary to return to, and develop, Kelvin's methods. The necessary "as if" is as safe in them as it is in an unillustrated equation. Co-ordinates ignored in an equation may actually be the most fundamentally active.

The idea that relativity first told us that, possibly, physical "things are not as they seem to be" is inconsistent with the history of natural philosophy.

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Nov. 11.

A New Technique in Cookery

THE authorities on cooking understand the effects of time and temperature¹ better than one might be led to suppose from Mr. Dufton's comments in his letter² under the above title.

The new technique is interesting, and has some obvious advantages over normal roasting, which demands experience, personal attention and a knowledge of cuts, but the meat is really *stewed* in its own juices for a very long time. It would be a tough joint indeed that resisted fifteen hours cooking at 212° F., if evaporation was prevented. Stews can be delicious, and are generally made from inexpensive meats.

In *roasting*, the centre of the joint never reaches 212° F.; for 'well done' meat the maximum recommended is 180° F. to 185° F. Hence only cuts which do not require prolonged hydrolysis can be roasted successfully. Tough meat has to be stewed or boiled for some hours because more drastic hydrolysis of the tissues is needed to secure a tender result. To do this in the ordinary oven, water must be added on account of evaporation; but the smaller the excess, the more flavoursome the meat: a large excess yields tasteless meat, but good broth.