

Peculiar Behaviour in a Female Rat

It is not uncommon for the female rat to exhibit disapproval of a male rat introduced into her premises and to allow her hostile attitude to include any other female sharing her cage. Her attitude towards the male, at such times, is merely defensive—if he approaches her, she rises on her hind legs and utters cries of distress, repelling him with her forepaws. The circumstances seem to have demanded stronger measures from a female rat recently observed. At the same time as her litter was removed, a male was placed in her cage. Immediately she drove him to a corner in the forefront of the cage, where he was obliged to stand on his hind-legs and to remain so standing, while she excitedly brought pieces of hay and, literally, walled him in. Her actions were accompanied frequently by protesting cries which became vehement if he tried to fall on all-fours. The hay was patted in place, to the full height of the cage, so that she might not see him. She herself was totally without bedding ultimately. The state of siege lasted for some six or seven hours, when a truce was apparently arranged.

It is unlikely that the removal of her litter had anything to do with the attitude that this female exhibited, as her youngsters were thirty-four days old at this time.

The intruder made no protest, manifesting a gallantry which is almost invariable in the male rat.
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Oct. 25.

British Association Mathematical Tables

THE appreciation in NATURE of September 13, p. 414, of the work of the Committee responsible for the British Association Mathematical Tables is very gratifying, but the inevitable inference from the note is that financial help is no longer required, and I shall be glad if I may be allowed to correct this impression: the need is still urgent. It is true that the Committee reported at Aberdeen that the publication of the tables of Bessel Functions is now assured. But the grants mentioned in the Committee's report and in the note in NATURE are precisely those which were mentioned in these columns on March 17, and the appeal made then for further support, far from being successful, has elicited as yet only the most meagre response.

The explanation of the change of tone is in the new proposals for publishing. The Cambridge University Press is prepared to handle the Bessel Function volumes not as a business proposition but as a subsidised undertaking on which some loss is to be expected. Considered in relation to a capital cost of about £1,000 for producing the two volumes, the sum of £150 available was properly described in March as "little more than an earnest of belief in the Committee's plan". Regarded as a contribution to a subsidy, the same sum has a very different value. Despair has, therefore, given place to hope. The Committee's assurance that the volumes will appear is, however, not a statement of account but an expression of confidence. It is just possible to pay the subsidy on the first volume now, and that volume need not be delayed to some indefinitely remote future. The Committee is encouraged to proceed

steadily with the preparation of the second volume, but the work cannot be completed until further grants or donations are made: to readers of NATURE a word should be sufficient.

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Oct. 27.

Oxygen Preparation from Sodium Peroxide: A Dangerous Experiment

A FEW days ago oxygen was prepared in the course of a lecture experiment by allowing water from a drop funnel to fall upon some ordinary sodium peroxide (not specially purified) in a flask. On applying a glowing splint there was an immediate and terrific explosion, which was heard throughout the Department and was regarded by those in the more remote rooms as a student's reminder that November 5 was not far distant. The flask was entirely pulverised and the demonstrator was badly cut with flying glass. Fortunately, no students were injured.

It appears probable that the peroxide contained some unoxidised metallic sodium so that in contact with water an explosive mixture of hydrogen and oxygen was evolved. We have never heard of this happening before although the experiment has been carried out as a routine lecture demonstration scores of times during the last fourteen years. We should be interested to hear if any other lecturers have had a like experience.

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Oct. 22.

Mechanism of the Liesegang Phenomenon

IN order to throw light on the mechanism of the Liesegang phenomenon, I decided to investigate this under the simplified conditions obtained by causing ions to migrate into gels under a fixed external potential gradient.

Preliminary results obtained from the migration of Ag⁺ ions into gelatine gels containing sodium chloride (approximately N/100) showed that, under these conditions, sets of rings were obtained spaced approximately equidistant from one another along the direction of the current, one experiment giving eleven rings so arranged.

These results are of interest from the point of view of the theory advanced by Michaleff, Nihiforoff and Schemjakin¹, and supported by some experiments in which the rings obtained from free diffusion were observed, and again by Christiansen and Wulff², that the phenomenon is due to the de Broglie wavelength of the diffusing molecular species, in that on this theory equal spacing of the rings under a potential gradient would be expected; while the actual spacing obtained was of the order of magnitude predicted by this theory.

These experiments will be continued.

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¹ *Kolloid Z.*, **66**, 197; 1934.
² *Z. phys. Chem.*, **26**, B, 187; 1934.