

are injected in the lymph sac with 1 ml. A positive diagnosis is made if ovulation occurs in at least 5 out of 10 animals within 9 hours. The correct temperature is obtained by keeping vessels containing the toads in a room heated to 20°-25° by means of an electric fire.

(2) If less than one month has elapsed, a sample of 100 ml. of urine is precipitated with acetone and centrifuged. The residue is suspended in 10 ml. of distilled water and 1 ml. of the suspension injected into each of 10 toads. A positive result is indicated as before. This procedure is necessary owing to the facts that in very early pregnancy there is an insufficient amount of ovary-stimulating substance in 1 ml. of urine to produce a response, and that a volume of fluid greater than 2 ml. cannot be injected into the lymph sac without risk of non-absorption.

A full account of this work will appear later. So far no incorrect diagnosis has been made. In view of the quantitative nature of the test, it is hoped to distinguish normal early pregnancy from ectopic pregnancy or conditions such as hydatidiform mole.

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March 19.

¹ Bellerby, C. W., *J. Physiol.*, **67**, *Proc.* xxxii; 1929.

² Hogben, L. T., *Proc. Roy. Soc. S. Africa*, March, 1930.

³ Bellerby, C. W., *Biochem. J.*, **27**, 615, 2025; 1933.

Uniformity in Bibliographic Particulars

THE excellent letter from the librarian of the John Innes Horticultural Institution, published in *NATURE* of March 10 (p. 380), is welcome to the Committee on Zoological Bibliography and Publication appointed by the British Association in 1895 and still working. Most of Miss Schafer's recommendations have from time to time been made by this Committee in its published reports as well as in its considerable correspondence. May I dot the i's of one or two?

In the order of citation the date should occupy a more prominent position: in making references my Committee would place it immediately after the author's name; in catalogue slips it is usual to place it at the end. In any case the month, and even the day when known, should precede the year.

The practices to which Miss Schafer rightly objects are sins of omission; but there are sins of commission. Details given by a publisher, or appearing on the printed cover, should never be taken at their face value, until one has learned by experience that the particular publisher or editor is to be trusted, and even of them the most accurate can make mistakes. The printed date, as Miss Schafer has noted, is frequently wrong; I have catalogued one paper that had four dates—all incorrect. When priority is in question a printed date inclines to be earlier than the correct one; but textbooks tend to bear a date later than the actual publication. The title on the wrapper is often inexact and sometimes absurd; it is made up by the printers. The use of the term 'plate' is frequently incorrect. A plate, properly speaking, is an addition or insertion and not part of the printed sheet; the fact that an illustration occupies a whole page does not make it a plate, neither should an inserted plate bear a page-number. But the issue of plates without any numbers at all is probably more exasperating, only outdone by the numbering of some and not of others.

For the worker, as distinct from the cataloguer, it is a convenience to have on every page-opening the name of the journal, the volume number, and the date, as well as the running title of the article. But even the cataloguer benefits by this when separates have been formed by the breaking up of a volume.

Printers have a habit, not only of re-paging, but also of rehandling the type so that a paragraph originally on, say, p. 15 is shifted to p. 14. They may even change the numbering of the text-figures. Printers cannot be expected to know better; authors rarely have a say in the matter; therefore my Committee has always appealed to the editors. Editors unfortunately are not permanent, so that one has to be constantly repeating one's protest. It is comforting to find that one is not alone.

Just one point in Miss Schafer's letter leaves me uncertain. Why does she call roman numerals "eye-straining"? I will grant that the present generation does not seem educated up to them, but they have their advantages. Instead of printing 'Series 3, vol. 12, pages 31-43, plates 7-10', it is convenient to print or write '(3) XII, 31-43, vii-x'. The modern use of clarendon arabics for the volume number may be an improvement, but it involves intermittent recourse to a different fount by the compositor, which must be rather worrying to him.

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Diplogen and Fish

IN recent months we have been carrying out experiments on the behaviour of fish in heavy water. We find that goldfish (*Carassius auratus*) behaved quite normally in the heavy water in which they were kept. As heavy water was to be used as indicator of normal water, we had to carry out our experiments in water containing only 0.5 mol. per cent of diplogen, and it is therefore still possible that a higher concentration of this isotope in water exerts effects upon fish.

The aim of our experiments was to follow the exchange of water between the fish and their surroundings, using heavy water as an indicator of the movement of the total water. The use of radioactive isotopes for such purposes is well known. While the latter are practically chemically identical, and as such are entirely trustworthy indicators, that is not the case with the isotopes of hydrogen. Heavy water is, therefore, only to be used with great caution as an indicator of ordinary water. However, when using very dilute solutions of heavy water, we may expect that the rate of exchange of heavy water molecules between the fish and its surroundings will not be very different from that of the normal water molecules. By measuring the speed at which the heavy water enters the body of the fish we can therefore conclude at what rate approximately the exchange of water between the fish and its surroundings takes place.

Some twenty fish having a total volume of about 10 c.c. were kept in about 60 c.c. of water containing 0.5 mol. per cent diplogen water. After a certain time the fish were removed and the decrease of the density of the surrounding water was determined. The fish were then placed in normal water, and the rise in the density of the latter due to the entrance of heavy water molecules leaving the body of the fish