behaviour with it, and the complete elimination of the tunicate adult stage. *Amphioxus* thus contrives to combine the endopharyngeal apparatus of the adult ascidian (which it continues to make use of in an almost exactly ascidian-like way[10]) with the notochord, tail, nervous system, etc., of the larva. There seems no reason at all why this sort of thing should not have happened more than once—the Larvacea are evidence that it happened twice—or why it should not begin to happen again to-day or to-morrow. It may therefore be that the present-day Cephalochordate genera represent a relatively recent offshoot of the ascidian stem. This would not in any important way depreciate their significance for the biologist. The modern higher chordates probably arose from ascidians much as *Amphioxus* did: that is all we are likely to know about the problem, and we are lucky to know so much.

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[1] Garstang, W., *Quart. J. Mic. Sci.*, **72**, 51 (1928).
[2] Conklin, E. G., *J. Morph.*, **54**, 69 (1932); *J. Exp. Zool.*, **64**, 303 (1933).
[3] Vandebroek, G. (unpublished). See Daleq, A., "Form and Causality in Early Development", 37 (Cambridge, 1938).
[4] Berrill, N. J., "Essays on Growth and Form" (Oxford, 1945).
[5] Willey, A., "*Amphioxus* and the Ancestry of Vertebrates" (London, 1894).
[6] Berrill, N. J., *J. Morph.*, **81**, 262 (1947).
[7] Orton, J. H., *J. Mar. Biol. Assoc. U.K.*, **10**, 506 (1914).
[8] van Wijhe, J. W., *Proc. Section of Sciences, Kon. Akad. Wet. Amsterdam*, **29**, 286 (1926); **30**, 991 (1927). (van Wijhe was unaware of Orton's work when he reported on the fixation of larval *Amphioxus*.)
[9] Mr. H. K. Pusey, who has given me the most valuable criticism in the preparation of the paper, suggests that the dorsal mouth and anterior endostyle may also be 'forward looking' characters in just this sense. In Ascidians, as in *Amphioxus*, the mouth rudiment first appears in an antero-ventral position.
[10] Orton, J. H., *J. Mar. Biol. Assoc. U.K.*, **10**, 19 (1913).

Effect of Moonlight on Insect Activity

It has been known to entomologists for many years that if a bright light is used for attracting insects at night, the catches are considerably higher near the period of new moon than near full moon. One of us (C. B. W.) showed[1,2] that in three successive years, between May and October, the catches in a light trap, both of Lepidoptera alone and of all insects together (chiefly Diptera), reached a peak at, or shortly after, new moon, when the geometric mean catches were three to four times as great as those at full moon.

In spite of the fact that it is generally believed that other methods of catching are also poor at full moon, in the absence of any real evidence for this there was a distinct probability that the low catches in a light trap might be due to a lowered relative luminosity and hence a lowered attractiveness of the trap at full moon.

During the summer of 1950, we carried out continuous trapping of insects at night by means of a 'suction-trap' which draws in the insects by a strong electric fan, and thus is in no way dependent on reaction to light. The insects so caught are mostly Diptera; but many other orders are present.

An analysis of five complete lunar cycles between July and November 1950 shows that the geometric mean catches in the four weeks, that is, three days on either side of (1) full moon, (2) last quarter, (3) new moon and (4) first quarter, were as follows:

204; 589; 1,259 and 562.

Each of these figures is the mean of thirty-five nights.

These results are slightly affected by accidental differences in temperature and wind on the different nights, and when a correction is made for these, the figures become:

240; 490; 1,175 and 589.

Thus the geometric mean catch in the new moon week is nearly five times that in the full moon week. As the records include nights with cloud as well as clear nights, the effect of full moon on a clear night must be greater than this.

Mr. Healy, of the Statistical Department at this Station, informs me that the differences between full and new moon are significant at the 2 per cent level.

It appears, therefore, that the moonlight must have a definite effect on nocturnal insects, and that the low catches in a light trap at full moon are not merely due to a physical reduction of the efficiency of the trap.

Further repetition and analysis will be carried out during the present year. In the meantime, we would be glad of any other evidence on this problem, particularly long series of night catches of insects by any technique not depending on attraction to light.

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[1] *Phil. Trans.*, *B*, **226**, 357 (1936).
[2] *Trans. Roy. Ent. Soc. London*, **90**, 272 (1940).

Photographic Prints produced by Red Blood Cells

Previously I have shown[1] that the red blood cells of certain animals, for example, guinea pigs, have a high sensitivity to light in contrast to others, for example, man, so that, with the same conditions of light intensity, 98 per cent of guinea pig erythrocytes and only 12 per cent of human erythrocytes are hæmolysed. The light which is responsible for this action is almost exclusively in the visible region.

I have since found this light sensitivity so distinct that it is possible to make photographic prints of any kind, such as a portrait with all its details, by this means.

The method used is as follows: a solution of 2 per cent agar in saline is mixed with a few drops of guinea pig blood, poured on to a glass plate and, after it becomes solid, covered with another glass plate. Then the plates are framed with paraffin wax; on top of them any pattern, such as a photographic negative, is fixed. The blood plate mounted in this way is immersed in a glass vessel, cooled by running tap water and exposed for 15 min. to a strong electric light (1,000 watts), which is collected in a parabolic mirror. After 24 hr. in darkness, the picture appears, becoming gradually more distinct; time is the only developer required. The process is finally arrested by putting the blood plate (after removing the cover-plate) into a solution of 10 per cent formalin in saline for a few hours. After rinsing with water, the plate is dried and can be kept for years.

In spite of the fact that the picture is produced by light, and its aspect, with the exception that it is