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**Marking Experiments to Locate the Presumptive  
Endoderm in *Fundulus heteroclitus***

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Sixty-six living embryos of *Fundulus heteroclitus*, the killie fish, were marked at stage 12 or 13 of Oppenheimer (Anat. Rec. **68**: 1, 1937). A coloured mark was made on each blastoderm with cellophane which had been impregnated with Nile blue sulphate and neutral red, and carbon particles were jabbed into the mark with a glass needle. In only 3 out of 47 cases where both marks could be identified had one failed to move with the other. It was therefore assumed that this method was adequate.

Each specimen was drawn by camera lucida to show the position of the mark, and subsequently examined and redrawn at intervals during a period of up to three days. Forty-six were fixed in either Zenker's or Bouin's fluid, and serially sectioned. The blue stain was lost during histological preparation, but the carbon could usually be identified in the section. Usually the marks were placed in the region shown as presumptive endoderm by Oppenheimer (Quart. Rev. Biol. **22**: 105, 1947), on the posterior border of the blastoderm.

The blastoderm could be marked from its lower surface, after releasing its rim from the underlying periblast for a short distance, or from its upper surface. Marks were found in the gut more frequently when they had been applied from the lower rather than from the upper surface. This suggests that endoderm may already be invaginated at stage 12, but more experiments are necessary to establish or refute this. In more than half of all the stage 12 specimens carbon which had been placed at the hind end was later found in the notochord, somites or mesenchyme.

**Oxygen Electrode Measurements on the Respiration of  
Echinoderm Gametes**

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The oxygen electrode technique has been evaluated for measurements of oxygen uptake of eggs and sperms of the sea urchin (*Echinarachnius parma*) and the starfish (*Asterias vulgaris*). Gradual settling of the eggs to the bottom of the electrode chamber necessitates the introduction of mechanical stirring. A platinum micro-screw stirrer inserted directly through the teflon plug of the glass electrode chamber proved suitable. Fertilizability and development show that the eggs remain uninjured over a wide range of