PLATE I

Fig. 1. Microphotograph of transverse section passing through the blastoderm 1.4 mm in length. X 80

Fig. 2. Microphotograph of transverse section of the blastoderm 500μ in diameter showing the flask shaped cells of the superficial layer. X 350

Fig. 3. Microphotograph of longitudinal section of a 2.0 mm long blastoderm showing the involuted hypoblast and the two types of mesoderm cells. X 150

Fig. 4. Microphotograph of transverse section passing through the branchial buds in a 19.0 mm embryo. X 100

Fig. 5. Microphotograph of transverse section passing through the premandibular somite of a 3.8 mm embryo. X 180

Fig. 6. Microphotograph of transverse section passing through the head region of 5.4 mm embryo showing the head vesicles. X 150

Fig. 7. Microphotograph of transverse section passing through the head of 11.4 mm embryo showing the relative size of the premandibular and mandibular vesicles. X 60
PLATE II

Figs. 8 & 9. Microphotograph of transverse sections of the pharynx in a 1.9 mm embryo showing the thyroid rudiment. X^{333}

Fig. 10. Microphotograph of transverse section of thyroid in 11.4 mm embryo. X^{275}

Fig. 11. Microphotograph of transverse section of 1.9 mm embryo passing through the arched mid-gut region. X^{235}

Fig. 12. Microphotograph of transverse section of the thyroid rudiment in 3.8 mm embryo. X^{235}

Fig. 13. Microphotograph of transverse section of the liver rudiment in 3.0 mm embryo. X^{420}

Fig. 14. Microphotograph of transverse section of the 16.6 mm embryo passing through the pharynx showing the placodes and contact points of the facial nerve. X^{150}
Fig. 15. Microphotograph of transverse section of the heart in a 5.1 mm embryo showing the budding endothelial cells. X$^{260}$

Fig. 16. Microphotograph of transverse section of the heart in 11.4 mm embryo. X$^{105}$

Figs. 17 & 18. Microphotograph of transverse sections of 11.4 mm embryo passing through the anterior region of the head showing the Rathke's pouch. X$^{30}$

Fig. 19. Microphotograph of a 3.4 mm embryo from a transparent preparation. X$^{22}$

Figs. 20 & 21. Microphotograph of transverse sections of the 11.4 mm embryo passing through the anterior tip of the gut showing the opening of the mouth. X$^{30}$

Fig. 22. Microphotograph of a 5.1 mm embryo from a transparent preparation. X$^{22}$
Fig. 1. Reproductive system of a mature female.
Fig. 2. Ovary cut open through the dorsal wall.
Fig. 3. Median sagittal section of the nidamental gland.
Fig. 4. Transverse section of the ovarian follicle.
Fig. 5. Egg-case.
Fig. 6. Transverse section of the blastoderm 500μ in diameter.
Fig. 7. Transverse section through the anterior region of the 0.9 mm embryo showing the tubular endoderm.
Fig. 8. Transverse section through the middle region of the 0.9 mm long embryo showing the arched endoderm.
Fig. 9. Transverse section through the posterior region of the same embryo showing the neurenteric canal.
Fig. 10. Dorsal view of the 0.9 mm embryo after clearing in cedar wood oil.
Fig. 11. Dorsal view of 1.9 mm embryo after clearing in cedar wood oil.
Fig. 12. Transverse section through the solid anterior tip of the alimentary canal of the 1.9 mm long embryo.
Fig. 13. A portion of the section through the medullary plate, enlarged to show the arrangement of yolk granules.
Fig. 14. Transverse section of the fore-gut wall.
Fig. 15. Transverse section of the mid-gut wall.
Fig. 16. Transverse section of the hind-gut wall.
Fig. 17. Transverse section through the pharyngeal membrane of the 3.8 mm long embryo.
**PLATE V**

**Fig. 18.** A median longitudinal section of the 3.5 mm long embryo, from a reconstruction, showing the ventral depression. x41

**Fig. 19.** A median longitudinal section of the 5.4 mm embryo, from a reconstruction, showing the mouth and Rathke's pouch. x41

**Fig. 20.** A median longitudinal section of 9.5 mm long embryo, from a reconstruction, showing the tubular Rathke's pouch. x45

**Fig. 21.** Ventral view of the head of a 10.0 mm embryo.

**Fig. 22.** Transverse section through the anterior region of the oesophagus of a 5.4 mm long embryo.

**Fig. 23.** Transverse section through the occlusion of the oesophagus of the same embryo.

**Fig. 24.** Transverse section of the oesophagus of the same embryo through the region immediately behind the occlusion.

**Fig. 25.** Transverse section through the pharynx of a 3.0 mm long embryo.

**Fig. 26.** Transverse section through the pharynx of a 5.1 mm long embryo.

**Fig. 27.** Transverse section of the thyroid of a 5.1 mm long embryo.

**Figs. 28, 29, 30 & 31.** Transverse sections of the thyroid of a 13.0 mm long embryo showing the deepening of the lateral constrictions and the formation of the vacuole like spaces.

**Fig. 32.** Transverse section through the attached region of the thyroid in a 3.8 mm embryo showing the pigment granules.
PLATE VI

Fig. 33. Transverse section of a gill arch of 16.8 mm embryo showing the structure of the basal and distal portions of the gill filaments.

Fig. 34. Transverse section through the liver rudiment of a 5.4 mm embryo.

Fig. 35. Transverse section through the liver of 9.5 mm embryo showing the median-ventral pouch like liver and the rudiment of gall bladder.

Fig. 36. Transverse section through the stomach, liver and gall bladder of a 11.4 mm embryo.

Fig. 37. Transverse section through the liver of 11.4 mm embryo showing the opening of the liver pouch into the stomach.

Fig. 38. Transverse section showing the opening of the gall bladder into the liver pouch, in the same embryo.

Fig. 39. Transverse section of a 16.8 mm embryo showing the bile duct and stomach.

Fig. 40. Transverse section showing the opening of the bile duct into the stomach of 16.8 mm embryo.

Fig. 41. Transverse section of the 19.0 mm embryo showing the median ventral lobe of the liver.

Fig. 42. Transverse section of the 27.4 mm embryo through the right and left lobes of the liver.
PLATE VII

Fig. 43. Transverse section of the anterior region of the pancreas in a 11.2 mm long embryo.

Fig. 44. Transverse section through the posterior region of pancreas in the same embryo.

Fig. 45. Transverse section through the posterior region of the pancreas in 19.0 mm long embryo.

Fig. 46. Transverse section of the glandular pancreas of the 27.4 mm embryo passing through the pancreatic duct.

Fig. 47. Reconstruction of the pancreas of the 16.8 mm embryo. x\textsuperscript{133}

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**PLATE VIII**

**Fig. 50.** Transverse section through the hind-gut occlusion of a 23.8 mm embryo.

**Fig. 51.** Transverse section of the 1.9 mm long embryo through the anterior region of the pharynx showing the vascular anlage.

**Fig. 52.** Transverse section through the posterior region of the 1.9 mm embryo showing the vascular anlage.

**Fig. 53.** Transverse section through the posterior region of the thyroid in a 3.0 mm long embryo.

**Fig. 54.** Transverse section through the anterior region of the heart in a 3.0 mm long embryo.

**Fig. 55.** Transverse section through the posterior region of the heart of a 3.0 mm long embryo.

**Fig. 56.** Transverse section through the heart of a 3.8 mm embryo.

**Fig. 57.** Transverse section through the wall of the heart of a 5.1 mm long embryo showing the formation of erythrocytes.

**Fig. 58.** Transverse section of the nerve cord of a 3.5 mm embryo.

**Fig. 59.** Transverse section through the nerve cord of a 3.8 mm embryo showing the neural crest cells.
Fig. 60. Reconstruction of the head of a 3.0 mm embryo showing the neural crest areas, somites and sensory field. X41

Fig. 61. Head of the 3.8 mm embryo reconstructed to show the nerve primordia, auditory vesicle and the first two epibranchial contact points. X41

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Fig. 63. Reconstruction of the head of a 9.5 mm embryo showing the common placode of the dorsal and epibranchial contact points. X45

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