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45° C. for that from clam liver, the 50% inhibition point for Cu^{2+ions} was reached at $c = 3x10^{-6}$ in the mammalian enzyme, at $c = 5.6x10^{-5}$ in the clam enzyme. The pH optima coincide, but the response to phosphate ions differs markedly. The sensitivity to cyanide and the protective effect of thiosulfate much less pronounced in the clam rhodanese as compared with the mammalian rhodanese.

The Normal Development Of The Sand Dollar Egg

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The time sequence of the early cleavage stages, from fertilization to 32-cell stage, of the egg of the sand dollar, *Echinarachnius parma*, was followed microphotographically and the results statistically analyzed. Parallel series were run for different temperatures. The further development up to pluteus stage was mapped microscopically and the time sequence established. The gained fundamental information will be used in further studies of the embryology of this echinoderm material.

Maternal-Embryo Relationships in the Spiny Dogfish, Squalus acanthias.

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While the dogfish embryo shows no "placentation", and the existence of a gaseous exchange between mother and embryo is obvious, other possible chemical relationships are still obscure. No difference in total iron was found between early (capsule and late (pup) embryos. No evidence of a fetal pup hemoglobin was found in oxygen saturated absorption curves. The uterine fluid changes from one similar to blood in the capsule stages (urea, Cl, Ca, Mg, pH) to a slightly modified form of sea water for the pup stages (no urea, Mg, Cl). This later fluid has a pH under 6, detectable Fiske-SubbaRow phosphate, and a positive Nessler reaction not due to urea or volatile ammonia. This sea water probably enters through the uterocloacal pore which becomes very flaccid in the pup stages. The pups urinate into the uterus (direct observation). Experiments indicate that, based on maternal urine and bile content, the uterus is permeable in the uterinematernal direction to phenol red, atabrine, and sodium fluorescein. The uterus is impermeable to these substances in the maternal blood-uterine direction. The embryo is impermeable to those substances except after oral ingestion. The uterus and embryo are permeable to maternally injected antipyrine, and the uterus is permeable to maternally injected I¹³¹. Move-