The presence of a sympathomimetic compound in suprarenal extracts with stronger blood-pressure action than adrenaline, such as *l-nor*adrenaline, is also indicated by the earlier results of Schild[6].

The present results show that the normal suprarenal gland from cattle contains *l-nor*adrenaline in appreciable amounts, as previously shown for adrenergic nerves. The results support Blaschko's concept of adrenaline formation in the chromaffine cells[7].

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Proteolytic Activity in Eggs and Sperms from Sea-Urchins

In studying the influence of water extracts from fertilized *Arbacia lixula* eggs upon unfertilized eggs, J. Runnström found that the jelly coat was attacked by the extract (unpublished). In order to examine this activity, extracts were prepared from fertilized and unfertilized eggs and also from sperm. The material was collected at the Zoological Station, Naples, in the spring of 1948, and the investigations started there and continued in Stockholm.

The material was lyophilized and the extractions carried out in the cold for six hours; afterwards it was dialysed for 24 hours against sea water. The activity was tested on gelatin and the effect measured in Ostwald viscosimeters at 35·5° C. The buffer capacity of gelatin was sufficient to maintain the *p*H during the experiment. The samples were made up of 1·00 ml. extract and 3·00 ml. of 4·0 per cent gelatin (Fisher Sc. granular, containing 0·005 per cent merthiolate) as sterilizing agent.

Extracts from eggs. As shown in Fig. 1, there is some proteolytic activity in the unfertilized egg; but

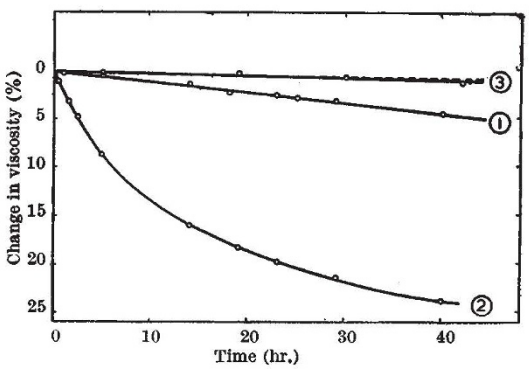

Fig. 1. Activity of egg extracts (*Paracentrotus*). (1) Unfertilized eggs. (2) Three minutes after fertilization. (3) Thirty minutes after fertilization. Control (extract 1 boiled 30 min.): dashed line. Initial concentration of dry matter 1·8 per cent. Temp. 35·5° C. *p*H 6·25

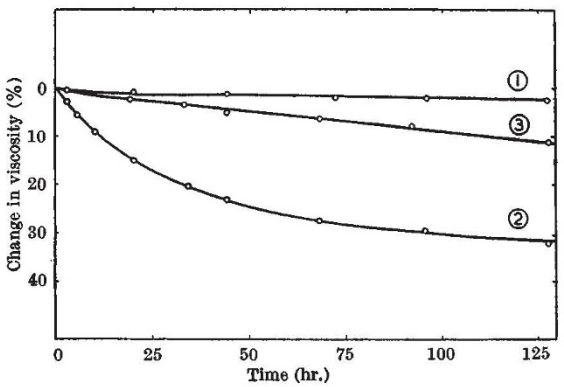

Fig. 2. Activity of sperm extracts. (1) *Arbacia* control (extract boiled 30 min.). (2) *Arbacia* extract. (3) *Paracentrotus* extract. Initial concentration of dry matter 5·0 per cent. Temp. 35·5° C. *p*H 6·45

three minutes after fertilization the activity is stronger than in unfertilized eggs. Thus it can be assumed that after fertilization there is liberated in the egg a proteolytic enzyme (or complex of enzymes) taking part in the processes occurring after fertilization; but after a brief time the activity of the enzyme is abolished. The activity exhibited by extracts from unfertilized eggs is perhaps due to activation during the freezing or the extraction.

Extract from sperms. Fig. 2 shows the activity of two different sperm extracts, one from *Arbacia*, another from *Paracentrotus lividus*. The former is more active than the latter. It is not yet established whether this depends upon a lower concentration of the enzyme, or on a lower rate of extraction in the *Paracentrotus* sperm.

A full report of this work will appear elsewhere. I wish to express my gratitude to Prof. J. Runnström for suggesting the subject.

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Effect of Humidities and Temperatures on the Size and Number of Oocysts of *Plasmodium gallinaceum* Transmitted by a Mosquito

Mosquitoes need a certain amount of moisture in the atmosphere in which they live. From the investigations of earlier workers[1], we find that changes in the humidity influence the longevity of the insect host and consequently that of the parasite within; low, as well as very high, humidities are detrimental. But if a mosquito is infected with the malaria parasite (*Plasmodium*), the size of the oocysts is not influenced by atmospheric humidity. As to the number of oocysts, according to Gill's work, this is not influenced either. In the work done here, *Aedes ægypti* were fed on chicks infected with *Plasmodium gallinaceum*, and the speed and degree of development of oocysts in the mosquito under various climatic conditions were studied.

Method and technique. In these experiments the mosquito was looked upon solely as the medium in which the parasite grows. Jars containing sulphuric acid and water in various proportions were used to