indication of the reception of acoustic or vibratory stimuli. Consequently it is not legitimate to regard the magnitude of the microphonic response as a measure of the sensitivity of an auditory organ.

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Microspores in Diatoms

THE occurrence of microspores in centric diatoms and their possible nature have been the objects of great discussion. Recently, Gross[1], on the basis of cultures of *Chætoceros pseudocrinitus* and *Ch. didymus*, concluded that "there is no evidence whatever that these microspore-like bodies found in the cultures of *Ch. pseudocrinitus* acted as reproductive cells. They were never liberated or at any rate never found outside the parental cells, and flagellate-like cells were never found in the cultures where their formation had taken place". He tentatively put forward the view that "what have been described as microspores are either abnormal products of the diatom cell or alien flagellates, neither participating in the life cycle of the diatoms".

Culture work with plankton diatoms has suggested a different conclusion. In cultures of *Chætoceros* species obtained by isolation of single cells or chains by means of capillaries and cultivated according to Allen's method[2], two species formed microspores, namely, *Ch. constrictus* and *Ch. decipiens*. The formation of the spores took place in much the same way: the cell content first divided into two, then into four parts by constrictions parallel to the valves. Each part then divided into two by constrictions perpendicular to the valve, so eight spores were formed in each cell. The spores were not all strictly of the same size; but all contained one or more chromatophores. Being fully developed, the spores had one rather solid cilium, several times as long as the spore, lying coiled around the spore. The liberation of the spores from the cells was observed. They were lively and motile and the culture fluid was crowded with them. Among the free-swimming microspores several were larger than the others and had two cilia. Fusion between two single-ciliate ones was, however, not observed. The formation of microspores took place in cultures without usual signs of crowding.

Transference of *Ch. decipiens* microspores by means of capillaries from a culture to a drop of pasteurized Allen sea-water[2] and again to a flask with the same fluid in such a way that no regular *Chætoceros* cells might by chance be brought along, gave in several cases luxurious cultures of regular *Ch. decipiens* cells. In some cases two microspores or more were transferred, in other cases only one. Growth occurred in some cultures of both categories, but the number of isolations are yet too small to allow any conclusion as to the possible necessity of two microspores for obtaining ordinary vegetative *Chætoceros* cells from microspores.

The development of regular *Chætoceros* cells from microspores seems to give conclusive proof that these spores represent a mode of reproduction in *Chætoceros*. Their part in the life-cycle of the plant has to be determined by further studies, also of the cytological features of microspore formation.

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Cultivation of Rabies Virus in the Developing Chick Embryo

IN a recent publication we reported that fixed rabies virus can be recovered from an infected chick embryo, that the virus tends to be localized in the brain of the embryo, but that serial passage was irregular and uncertain[1].

The continuation of these studies has led to successful serial passage of the virus in the developing chick embryo. In one series the virus has been carried through nine, and in a second, through six successive passages without loss of virulence of the virus to mice and rabbits when infected intracerebrally. The virus is present both in the allantois and in the embryo brain, but always in higher concentration in the latter. Both series are being continued.

The successful cultivation of the virus in the developing chick embryo depends, apparently, on the age of the embryo at the time of infection, as well as at the time of passage. A large series of experiments showed that embryos of eight days or more are only irregularly infected and that passages are, as a rule, negative. On the other hand, embryos 5–6 days old are readily infected and serial passages can be maintained without any difficulty if they are made 9–10 days after infection. The eggs have been kept at a temperature range of 37·0–38·5° C.

The following experiments are illustrative of this:

(*a*) Embryos eight days old were infected with 0·1 c.c. of a 1 : 10 emulsion of infected mouse brain; eggs opened nine days later: the embryo brain infected mice injected intracerebrally with a dilution of 1 : 10, the allantois failed to infect; in another case the embryo was removed after twelve days and both brain and allantois infected mice in dilutions of 1 : 100.

(*b*) Embryos five days old were infected as above; embryos removed nine days later, and both brain and allantois were infective for mice in dilutions of 1 : 10,000; embryos removed after thirteen days, the brain was infective in a dilution of 1 : 1,000 and the allantois in a dilution of 1 : 100.

In all passages thus far, the embryo brain removed 9–10 days after the infection was infective for mice in dilutions of 1 : 1,000 to 1 : 10,000. Passages from embryo to embryo can be made with emulsions of either allantois or embryo brain, provided that young embryos are infected and that passages are made not later than 10 days after the infection. Embryos removed more than ten days after infection have shown lower concentration of virus; in one case (passage 4) an embryo tested fifteen days after infection failed to infect mice in any dilution. It is of interest that this specific neuro-virus can be cultivated in the chick embryo provided the infection is made at the earliest possible stage of its development.