

the lesions they do and select the tissues they do without any conscious effort and without any influence except purely a matter of chemistry and physics. The first film will show the fertilizing process of a form of sea life. These organisms deposit their eggs into the water and they are fertilized in the water, and they behave almost like bacteria. See how quickly these little male atoms rush to that egg purely by a chemical process, and the first one that gets in is the only one that gets in, and as it does so it produces a chemical action on this membrane which prevents any other germ from getting in. This chemical process is so rapid that it takes place in a very small fraction of a second. As soon as the egg is fertilized, it divides into two, and presently into four, and then we have formations of eight. Here is an egg that did not fertilize, and you see the mass of germs that have been attracted purely by chemical attraction. Now, that process means that this nucleus of life has had carried into it the determiners of character and the determiners of resistance, and as it has been carried into it, it has been subject to modification of environment. Now, the thing I want to emphasize is, there is one condition under which an influence may take place, put there rapidly and rapidly modified, that is the determiner of the resistance of the body. Those are principally just when the membrane is forming in the early stages of development, and that may throw some light on why some people are subject to typhoid or inflammatory rheumatism, and so on. You will notice how these eggs separate or part as soon as the first germ enters, and that chemical process takes place, as I said, in a few seconds and is a physical operation that we can hardly conceive of, because of its rapidity. It is not difficult to modify that development process by the addition of very small quantities of chemicals, and very many people are susceptible to disease because at the time they were being fertilized as embryonic forms of life one of the parents, or both, was under the influence of alcohol, or the mother was suffering from the retention of some systemic poison—acid particularly, probably, and you will see some pictures of what was caused by the addition of a very small portion of alcohol, and how it is capable of making monstrosities, some with only one eye or with the eyes too close together, or, in some cases, serious head deformities and nervous deformities. The same deformities are produced in guinea pigs. In this case you can see the heart beat in this embryonic form of life. Here is one showing a head deformity on account of being treated when it was an egg with a very small percentage of alcohol. Many people have their resistance lowered because of influences that have come into their lives at the time that the determiners were being transferred through this very sensitive stage. In contrast to that, you see here a few cells of tissue taken from a frog's throat, which would be identical to those taken from the human throat. Here is a specimen showing two mouths, and if we cut the head off entirely and cut it up in sections, they