

into a growth like its parent. You must have one of the lower organisms homogeneous throughout in order to give to each segment the power of reproducing itself. How all that occurs nobody understands. If you wish me to speculate, I will say that the co-ordinating power goes over here and that physical identity exists here. The co-ordinating power in the homogeneous animal is found in every part, and when you divide and subdivide the organisms the co-ordinating power draws to itself from the outer world clothing in each of the fragments, as it drew to itself clothing in the whole animal originally. There are two kinds of ghosts—tangible and intangible. Every organism is a tangible ghost. I am no spiritualist. When I take as a guide a rat-hole revelation it will be when the clouds obscure the sun at noon. In the water polyp we have a co-ordinating power, and it is attracting to itself a clothing. We sub-divide the animal, and each part draws to itself similar clothing. We do not suppose that the co-ordinating power is increased or diminished. It was all in that original organism. It was all in the germ of that animal, and its forty lives have all been evolved from that original co-ordinating power. That is what we see. There are the facts. But how they were evolved is more than we know. It is a mystery, perhaps, beyond plummet's sounding.

8. The double identity between the parent and the germ of the child is the cause of the likeness of the latter to the former.

9. It is not physical sameness which accounts for the likeness, but the sameness of the co-ordinating power.

Many germs of different animals are chemically identical. The difference, therefore, in their development must be accounted for by the different co-ordinating powers behind them. It is, therefore, safe to assert, and it appears to me greatly important to emphasize the fact, that it is not a physical sameness which accounts for the likeness of parent to child; but the sameness of the transmitted co-ordinating power. The sameness of life is the influence which produces the likeness between parent and child, and not the sameness of the famous firm that Virchow of Berlin calls "Carbon Oxygen & Co."—a firm which, he thinks, has failed of late!

10. In the higher forms of self-multiplication, such as budding and egg-cells this law of double identity holds good.

Hackel says that all the laws of self-multiplication in its higher forms are involved substantially in the simple self-subdivision by which self-multiplication occurs in lower forms. We have organisms that multiply by budding and by seeds, and others by egg-cells; but at the last analysis there is a physical identity between parent and child, and an immaterial identity behind that physical identity. Hackel says that laws of hereditary descent may be summed up in the physical identity of parent and child. He holds that life is only a mechanical action of molecular particles. But we here have rejected his authority on that point. We hold that life is more than mechanical action. Hackel affirms ("History of Creation," Vol. I, p. 199, Am. Ed.) that "the life of every organic individual is nothing but a connected chain of very complicated material phenom-