

Dr. Bronk, ladies and gentlemen, there are two kinds of scientific research, one kind is like extracting gold from gold-bearing sand, if the sand has any gold in it at all, and if a lot of this sand is worked over, some gold is certain to be obtained. Science, one hears it said, is 5% inspiration and 95% perspiration. A new technique, a new kind of apparatus, new experimental material^s are your gold-bearing sands. There is, however, another kind of research. This kind is like finding gold nuggets. Here luck plays an important part, but luck is not the whole story, by any means. One must know where to look for gold nuggets, and where it is a waste of time to try to find them. Some of those who know are lucky and find big ones; some are less lucky and find only small ones, or none at all. Dr. Avery and his colleagues, MacLeod and McCarty, knew where to look and found a large nugget. It was in 1940⁴ or perhaps 1941; I do not recall the exact date⁴ when Alfred Mirsky took me to meet the Avery group. In those days mutation genetics was studied in _____ flies and bacteriologists kept themselves busy with bacteria. Avery was a bit hesitant to regard _____ coxi as merely little drosophili yet he soon satisfied himself that what he had _____ genetic phenomena akin to mutation. More than that, these were mutations in use at _____ in a definite direction as _____ not yet achieved in drosophili even to this day. Directed mutation is and always was a geneticist's dream and the Avery group has made this dream a reality. That is a reality in _____ coxi. The possibilities that would be open if something of this sort were achieved in man staggers the imagination. The road toward direction of human evolution might then be opened. The Avery group has made the first step in this direction, described by the author who knew certainly nothing about Avery work⁴ namely by Teilhard de Chardin in the following work, which I quote; "The dream which human research obscurely fosters is, by grasping

the very main spring of evolution, seizing the ^{title} ~~pillar~~ of the world".