

party, clinging to the principle of "vital force" and giving to the blastema of the ultimate physiological unit of the organism the name of bioplasm, while Professor Huxley gave the name of protoplasm to that which he and all of his school recognized as the "Physical Basis of Life." Nothing then was known of the exact structural and functional character and relations of this peculiar cell substance, which appeared to act so differently under conditions apparently the same. It remained for later physiologists to show just what part this ultimate vitalized material played in the great drama of physiology. It was found that both these great scientists were correct, but viewing this cell-blastema under different conditions their definitions differed accordingly, yet led up to the same result, as in the case of Copernicus and Ptolemy, or to speak poetically :

"Like that target discussed by the travellers of old,
Which to one appeared argent, to one appeared gold :
To him ever lingering on doubt's dizzy margin,
Appeared in one moment both golden and argent."

The first step in what may be called the new physiological system was taken when with the improved mechanism of the microscope it was demonstrated that of the two kinds of corpuscles that float in the plasma of the blood, the larger and white corpuscle, the leucocyte, was in every respect a perfect cell, possessed of a cell wall, which Dr. Beale distinguished as "formed material," a blastema or plasmic granular substance, in which floats a body called the nucleus, and within that the nucleolus. How many of these may be thus involuted, can no more be estimated than can the problem of time and space be solved by the finite mind.

The next step towards establishing our new physiological system was taken when the leucocyte was found to be the real unit of the organism, the agent through which all nutrition is accomplished. Up to a very recent date it was believed that all nutritious material which had been operated upon by the digestive agents passed directly into the general current of the circulation, floating freely in the plasma of the blood till it reached the capillaries, and then by a reversed osmotic process was taken up by the individual tissue cells, only that part being taken up by them which was necessary to the support of that structure represented by the cell—the rest passing on in a like manner to the other structures, until all the parts of the organism were nourished.

The red corpuscle was organized as the oxygen-carrier of the system, and the eliminator of carbonic acid, but neither the origin nor the