

## SOLVE MYSTERY OF GIANT CELLS OF BLOOD

The mystery of the "giant cells" in the blood seems now at last to have been solved.

Dr. W. H. Lewis, of the Embryological Laboratory of the Carnegie Institution has found by actual observation of cultures outside the body that the so-called "giant-cells", present in pathological cases, - especially in tubercular conditions, are formed by the fusion of a number of white blood cells.

The "giant" is a large cell with several, some times many, nuclei. There have been two theories as to their formation; one that they were made by splitting the nucleus; the other that they come by combination or fusion of separate cells. Instances of nuclear division have been noted and Dr. Lewis thinks that it is probable that many "giant cells" are formed in that way, but it is now certain that they are formed by fusion also.

The body of an adult person, Dr. Lewis estimates, contains from 250 to 500 trillions of living cells, every one different from every other one, just as personalities differ, but capable of being grouped in certain classifications according to their functions and structure. There are brain cells, nerve cells, muscle cells, bone cells, blood cells and many other specialized groups.

The majority of these cells have settled down in definite locations, formed definite contacts with their neighbors and perform definite, specialized functions. The rest are nomads or wanderers. They travel about the main highways of the body in the blood currents, but, not content with this, they penetrate the walls of the blood vessels and wander at will. According to Dr. Lewis, there are billions of these nomads wandering freely about the body all the time.

In return for this freedom, the wanderers render a valuable service to the stationary cells. They act as scavengers. They eat up the waste from the other cells, and in an emergency they gather in great numbers at any point of injury to clear away the wreckage. In case of a severe bruise, turning the flesh "black and blue", it may take the wreckers days or even weeks but they stay on the job until the debris is cleared away and the ordinary tissue cells repair the damage.

Numerous and different as are these many varieties of cells, they have all arisen from the primitive cell of embryonic tissue, through the process of division and different lines of specialization, Dr. Lewis states.

Modified white blood cells were taken by Dr. Lewis from rat tumors and cultivated in sealed glass containers with a nutrient material for the cells to live on. In this way the behavior of individual cells was watched for weeks. They constantly came in contact in various positions. Certain cells were observed to fuse with "giant cells", the cell protoplasm being absorbed into the "giant" and their nuclei being drawn into the group or circle of nuclei of the "giant". Other cells, for some unknown reason, possibly because of a temporary chemical or functional difference, declined to fuse.

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