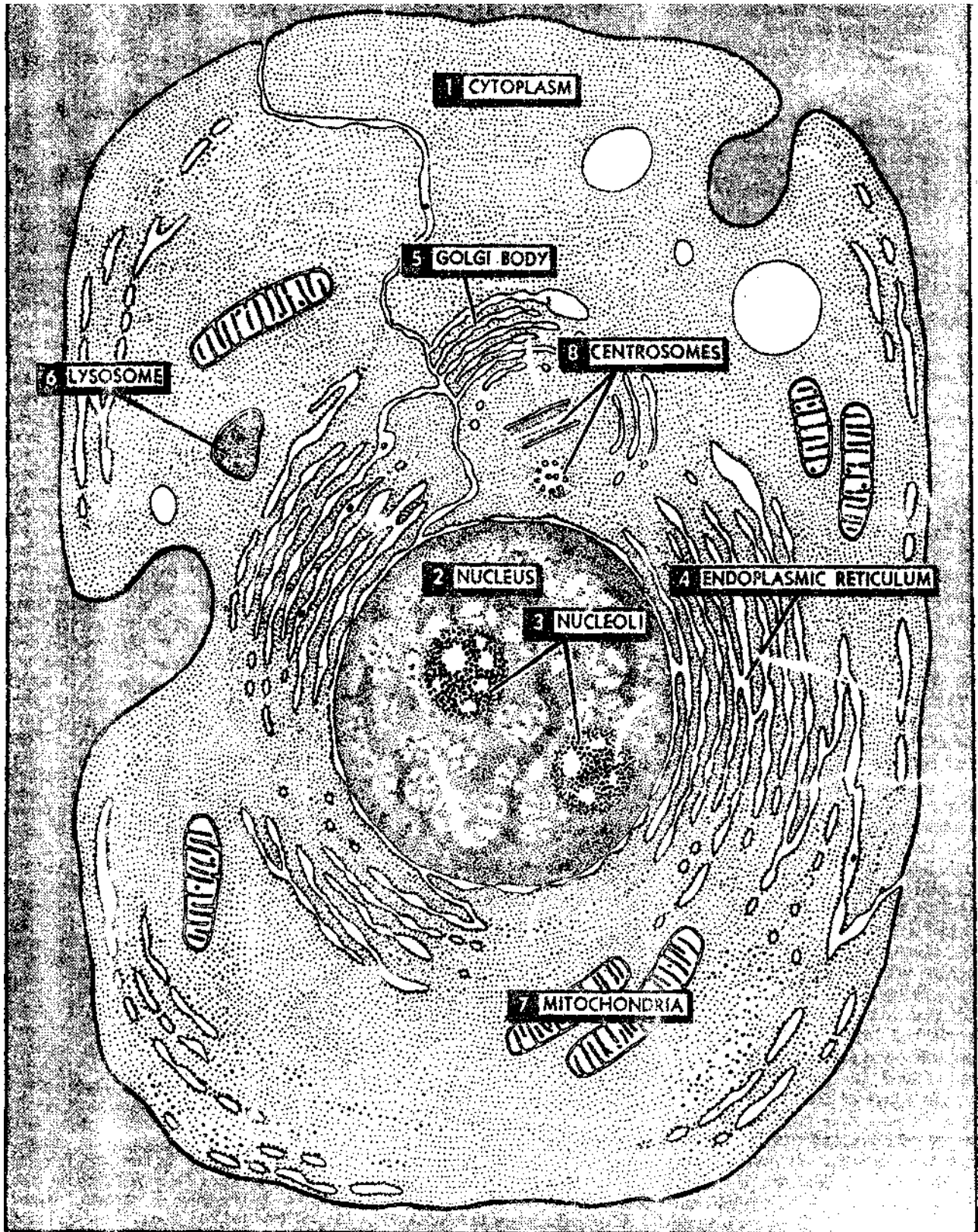


THE CELL AND ITS ORGANELLES



The diagram above, adapted from the Scientific American, is a schematic representation of a typical cell. It is based upon the appearance of a cell section magnified about 10,000 times with an electron microscope. The cell's organelles, analogous to a body's organs, are suspended in the cell fluid, called the cytoplasm (1). Directions that determine the structure of the cell come from the nucleus (2). Two bodies inside, called nucleoli (3), are believed to be a major center for the production of molecules that direct the synthesis of proteins. Most protein synthesis takes place in the

labyrinthine endoplasmic reticulum (4), the membranes for which are believed to be made of secretions from the Golgi body (5). Raw materials to sustain the cell are broken down by digestive enzymes of the sort found in bodies called lysosomes (6). The materials are then in a form from which energy can be extracted by other enzymes found in the mitochondria (7) and made available to various energy-consuming processes of the cell. Among those is the process of cell division in which structures called centrosomes (8) perform an important function.