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division of labor. Indeed, the comparison of the cellcommunity to the social community may be carried still further, for just as gradations of individuality may be recognized in the individual, the municipality, the state, and the republic, so too in the cell-community there are cells; *tissues*, each of which is an aggregate of similar cells; *organs*, which are aggregates of tissues, one, however, predominating and determining the character of the organ; and *systems*, which are aggregates of organs having correlated functions.

It is the province of embryology to study the mode of division of the fertilized ovum and the progressive differentiation of the resulting cells to form the tissues, organs, and systems. But before considering these phenomena as seen in the human body it will be well to get some general idea of the structure of an animal cell.



FIG. 1.—OVUM OF NEW-BORN CHILD WITH FOLLICLE-CELLS.—(Mcrtens.)

This (Fig. 1), as has been already stated, is a mass of protoplasm, a substance which in the living condition is a viscous fluid resembling in many of its peculiarities eggalbumen, and like this being coagulated when heated or when exposed to the action of various chemical reagents. As to the structure of living protoplasm little is yet known, since the application of the reagents necessary for its accurate study and analysis results in its disintegration or coagulation. But even in the living cell it can be seen that the protoplasm is not a simple homogeneous substance. What is termed a *nucleus* is usually clearly discernible as a more or less spherical body of a greater refractive index than the surrounding protoplasm, and since this is a permanent organ of the cell it is convenient to distinguish the surrounding

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