but the great majority are roundish nucleated cells, the true "marrow cells" of Kölliker. These marrow cells proper, or **myelocytes**, resemble in appearance lymphoid corpuscles, and like them are ameboid; they generally have a hyaline protoplasm, though some show granules either oxyphil or basophil in reaction. A number of eosinophil cells are also present. Among the marrow cells may be seen smaller cells, which possess a slightly pinkish hue; these are the **erythroblasts** or **normoblasts**, from which the red corpuscles of the adult are derived, and which may be regarded as descendants of the nucleated colored corpuscles of the embryo. **Giant cells** (*myeloplaxes, osteoclasts*), large, multinucleated, protoplasmic masses, are also to be found in both sorts of adult marrow, but more particularly in red marrow. They were believed by Kölliker to be concerned in the absorption of bone matrix, and hence the name which he gave to them—*osteoclasts*. They excavate in the bone small shallow pits or cavities, which are named **Howship's foveolæ**, and in these they are found lying.

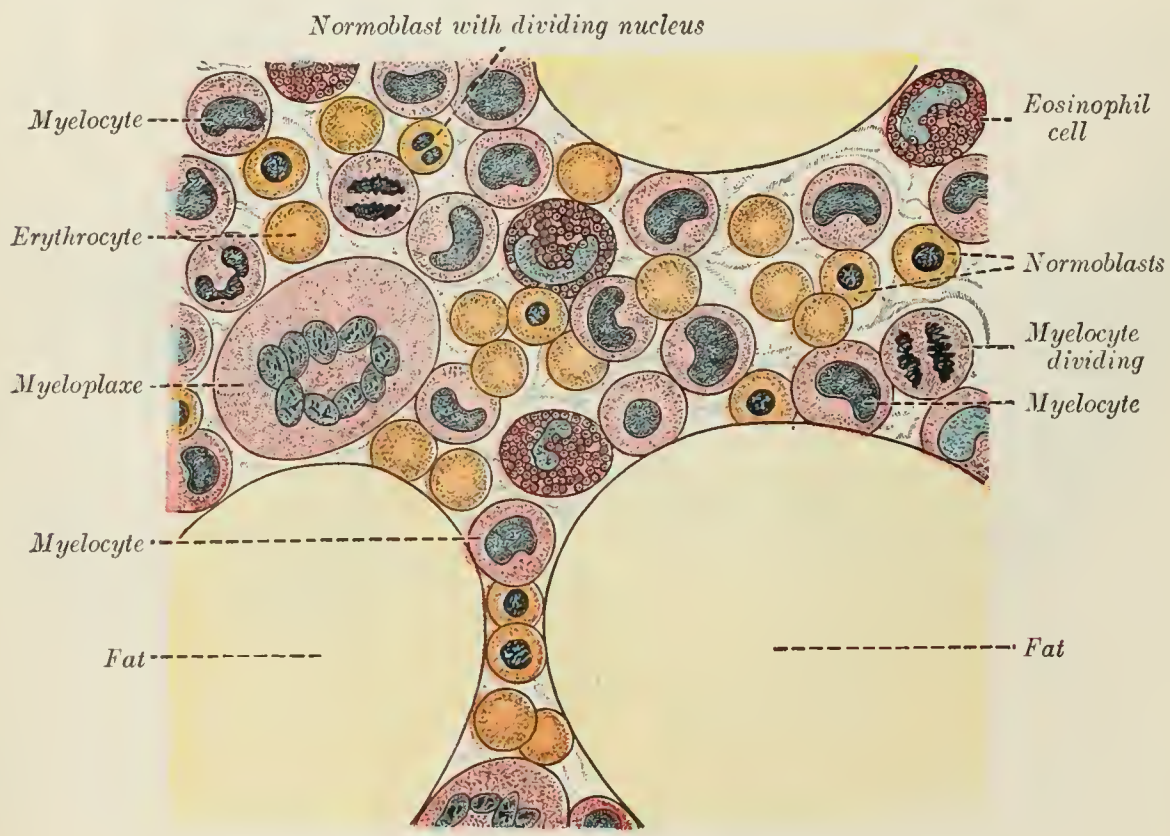

Fig. 72.—Human bone marrow. Highly magnified.

Vessels and Nerves of Bone.—The **bloodvessels** of bone are very numerous. Those of the compact tissue are derived from a close and dense network of vessels ramifying in the periosteum. From this membrane vessels pass into the minute orifices in the compact tissue, and run through the canals which traverse its substance. The cancellous tissue is supplied in a similar way, but by less numerous and larger vessels, which, perforating the outer compact tissue, are distributed to the cavities of the spongy portion of the bone. In the long bones, numerous apertures may be seen at the ends near the articular surfaces; some of these give passage to the arteries of the larger set of vessels referred to; but the most numerous and largest apertures are for some of the veins of the cancellous tissue, which emerge apart from the arteries. The marrow in the body of a long bone is supplied by one large artery (or sometimes more), which enters the bone at the nutrient foramen (situated in most cases near the center of the body), and perforates obliquely the compact structure. The *medullary* or *nutrient* artery, usually accompanied by one or two veins, sends branches upward and downward, which ramify in the medullary membrane, and give twigs to the adjoining canals. The ramifications of this