

fibres, dependent upon the destruction and removal of the cartilage cells, vascular apparatus and synovial membrane, leaving the fibrous element floating in the joint; if this condition of things increase, the fibrous element of the cartilage will be dissected up, as it were, by the destruction and removal of the cartilage cells, so that the fibrous element may be left as large bands or fibres floating in the cavity of the joint. Although this state or condition of the part cannot be distinguished by the eye, upon a section under the microscope it is plainly visible, and to the feeling of the hand will seem soft like velvet. Under these circumstances we often find the nuclei of the cartilage cells to abound in the part, being entangled in these fibrous elements, and now wanting due support and proper nourishment, the nuclei are not properly developed into cartilage cells, but they may enlarge, and we may find them filled with fat globules, as pointed out by Dr. Redfern.

It will frequently happen before the synovial membrane and the vascular apparatus of the part is destroyed, that the cartilage cells have been largely submitted to distention rupture and destruction, that a cessation may take place in the diseased action, so that the joint by degrees regains its power of motion; the compression of the surfaces now experienced by these parts consolidates the fibrous structure, by pressing them closely together; when we come to examine the part, it will appear that more or less of the cartilage has been removed, and the indentation and destruction of its substance will sometimes apparently amount almost to complete removal, leaving the surface of the bone to a considerable extent denuded of this structure. We shall, however, in these cases find that the surface of the injured cartilage, or what remains of it, is still covered with synovial membrane, similar to that which lines the other portions of the joint, and which in point of fact has never been destroyed by the ulcerative action; the effect of which is plainly visible through it, has progressed below this structure, but it is now clearly consolidated and united to the surface of the cartilage or what remains of it. When this disease has progressed to a considerable extent, it not unfrequently happens that the cartilage cells which remain after this destruction of its substance will take on a calcareous deposit composed of phosphate of lime. The perfect rest to which the joint has been submitted has in all probability permitted this deposit to form, which, had motion continued, would not have happened any more than in ordinary cartilage, but having occurred, and motion being again by slow degrees established, the fibrous element will be consoli-