condition the spire is quite regular and on a uniform plane, but sometimes the test exhibits a certain amount of lateral asymmetry, as seen in figs. 8 *b*., and 11.

If the test be laid open horizontally, so as show the interior, it is found to consist of two to three convolutions of a gradually widening spire, regularly divided into chambers, as indicated by the sutural lines on the exterior. Fig. 12 represents a specimen so prepared, and fig. 14 a thin horizontal section viewed by transmitted light. The communication between the consecutive chambers is maintained by means of a curved slit-like orifice at the inner margin of each septum.

But the most striking peculiarity revealed by the sectional view is the extraordinary development of the testaceous skeleton. Instead of a simple external wall of ordinary thickness and septa to correspond, the parietes are developed to such an extent that no cavities whatever are apparent in the earlier chambers, and in those of the final convolution the open spaces are relatively very small, so that in point of fact almost the entire test is occupied by the walls.

As has been already stated, the walls are arenaceous, and composed of fine siliceous grains incorporated by a ferruginous cement. A thin layer on the exterior is solid and imperforate, as shown in fig. 13 ; but with this exception the entire substance, both of the outer wall and the septa, is cancellated, that is to say, it is perforated with tubular passages to such an extent as to present a porous spongy appearance. These passages are not mere accidental lacunæ, but are regularly constructed, and the sand-grains surrounding them are arranged and cemented in orderly fashion.

The only external indication of the interior structure of the test is to be found in the characters of the exposed septal face of the terminal segment of a growing specimen, such as that portrayed in fig. 11. In this figure the broad outer arch on the front of the last chamber represents the thickness of the shell-wall, and its nearly parallel tubulation is quite apparent, though better shown in the transparent section (fig. 14). The smaller area enclosed within this is the septum, the cancellated or tubulated structure of which appears externally in the form of irregularly disposed orifices.

Fig. 16 is taken from a specimen from which a small portion of the external imperforate coating has been artificially removed, in order to show the ends of the tubular passages lying immediately beneath. Old and worn shells, and even some that are otherwise perfect, are occasionally found abraded in this way, and might easily lead to the supposition that the test in its normal state is perforate, which is not the case.

Of the chemical composition of the test it need only be stated here that about 80 per cent. of the entire weight is silica, and nearly 9 per cent. peroxide of iron ; so that there can be little doubt that the latter body enters largely into the composition of the cement by means of which the sand-grains are incorporated.

It may be added that sand-grains of large size are sometimes employed in the con-