

they have to be crushed, after calcination, by mechanical means ; while the fossil in the centre, and the semi-transparent spar of the cracks, are composed of matter purely calcareous. And from this peculiar mixture this cement seems to derive those setting qualities which render it of such value.

AMMONITES OF THE NORTHERN LIAS.

THE Ammonites of the upper beds of the Lias approach more to the type of the *Ammonite communis*, being comparatively flat when viewed sectionally, and having the whorls broadly visible, as in the Ionic volute ; while the Ammonites of the lower beds approach in type to the *Ammonite heterophyllus*,—each succeeding whorl covering so largely the whorl immediately under it, that the spiral line seems restricted to a minute hollow in the centre, scarce equal in extent, in some specimens, to the twentieth part of the entire area. In other words, the Ammonites of the Upper Lias in this deposit represent, as a group, the true ammonite type ; while in the Lower Lias they approach more nearly as a group to the type of the nautilus. And not only are they massier in form, but also absolutely larger in size. I have found Ammonites in the more ponderous septaria, that fully doubled in bulk any I ever saw in the upper shales. We occasionally find nodules that, having formed in the outer rings of these larger shells, somewhat resemble the rims of wheels,—in some cases, wheels of not very diminutive size.

BELEMNITES OF THE NORTHERN LIAS.

WE find the Belemnites of the lower deposit, like its Ammonites, of a bulkier form than those of the upper beds.