

It is the part of the chemist to tell us by what peculiar action of the organic matter the dye was discharged in these spots and patches. But how was the dye itself procured? From what source was the immense amount of iron derived, which gives to nearly five sixths of the Old Red Sandstone the characteristic color to which it owes its name? An examination of its lowest member, the great conglomerate, suggests a solution of the query. I have adverted to the large proportion of red-colored pebbles which this member con-

---

Old Red Sandstone remarked by Professor Fleming as early as the year 1830, and the remark reiterated by Dr. Anderson, of Newburgh, in nearly the same words, but with no acknowledgment, ten years later. The following is the minute and singularly faithful description of the Professor:—

“On the surface of the strata in the lower beds, circular spots, nearly a foot in diameter, may be readily perceived by their pale yellow colors, contrasted with the dark red of the surrounding rock. These spots, however, are not, as may at first be supposed, mere superficial films, but derive their circular form from a colored sphere to which they belong. This sphere is not to be distinguished from the rest of the bed by any difference in mechanical structure, but merely by the absence of much of that oxide of iron with which the other portion of the mass is charged. The circumference of this colored sphere is usually well defined; and at its centre may always be observed matter of a darker color, in some cases disposed in concentric layers, in others of calcareous and crystalline matter, the remains probably of some vegetable or animal organism, the decomposition of which exercised a limited influence on the coloring matter of the surrounding rock. In some cases I have observed these spheres slightly compressed at opposite sides, in a direction parallel with the plane of stratification—the result, without doubt, of the subsidence or contraction of the mass, after the central matter or nucleus had ceased to exercise its influence.” — (*Cheek's Edinburgh Journal*, Feb. 1832, p. 82.)