

England, published a description of the Tasmanite and Australian white coal, in which he shows that the organisms in these deposits are similar to my *Sporangites Huronensis*, and to the macrospores previously described by Prof. Huxley, from the Better-bed coal. Mr. Newton does not seem to have been aware of my previous description of *Sporangites*, and proposes the name *Tasmanites punctatus* for the Australian form.

Here we have the remarkable fact that the waste macrospores, or larger spores of a species of Cryptogamous plant, occur dispersed in countless millions of tons through the shales of the Erian in Canada and the United States.

No certain clue seemed to be afforded by all these observations as to the precise affinities of these widely distributed bodies; but this was furnished shortly after from an unexpected quarter. In March, 1883, Mr. Orville Derby, of the Geological Survey of Brazil, sent me specimens found in the Erian of that country, which seemed to throw a new light on the whole subject. These I described and pointed out their connection with *Sporangites* at the meeting of the American Association at Minneapolis, in 1883, and subsequently published my notes respecting them in its proceedings, and in the "Canadian Record of Science."

Mr. Derby's specimens contained the curious spiral sea-weed known as *Spirophyton*, and also minute rounded *Sporangites* like those obtained in the Erian of Ohio, and of which specimens had been sent to me some years before by the late Prof. Hartt. But they differed in showing the remarkable fact that these rounded bodies are enclosed in considerable numbers in spherical and oval sacs, the walls of which are composed of a tissue of hexagonal cells, and which resemble in every respect the involucre or spore-sacs of the little group of modern acrogens known as *Rhizocarps*, and living in shallow