

vegetable preserved in the rocks. There are facts in nature which can be made to conform to either of these theories, but for the present we must consider oil as a material in the rocks, the origin of which is still unexplained."

Now, I am among those who cannot subscribe to these *terra incognita* statements as to the origin of oil, and as I will endeavor to show below, I think that science has long ago recorded and is recording every day in the newly developed oil and gas fields many facts (among these the valuable records of Mr. Hill himself, in the very paper above quoted), which in my opinion have thrown and continue to throw the clearest light on that origin of the hydrocarbons, whether they be petroleum, natural gas, or solid hydrocarbons.

I will present below a few of these facts under the following heads:

(A). In which I will give examples of carbon and hydrocarbons in ancient plutonic rocks as well as in the present volcanoes, the other associated gaseous emanations of which I will also briefly review, as well as their solfataric phase.

(B). In which I will point out the true analogy of the volcanic emanations and phenomena to the products and conditions found in all the oil and gas fields.

(C) In which I will show the complete inadequacy of all organic theories.

(A). As everyone knows carbon is the fundamental element of the organic world, but this must not blind us to the fact that carbon is also a very important element of the mineral world. Indeed the predominance of carbon in the organic world is one of the strongest evidences that can possibly be adduced to demonstrate its great importance, during past as well as present ages, in the mineral world (including of course the atmosphere) for vegetables and animals alike had evidently no other source to draw from. When one reflects on all the carbon subtracted from the mineral world during the past geological ages by all the representatives of the organic kingdom, especially since the beginning of the Carboniferous, to form not only the coal beds, but the limestones, he must admit that the primitive atmosphere was very rich in carbon.