http://www.geology.19thcenturyscience.org/books/1886-Winchell-Walks/README.htm

vertised themselves as geologists, were pretenders and quacks. Recognized by the undiscriminating as geologists, possessing equal authority with scientific men who had earned reputations among their compeers, these geological quacks brought discredit on science, and justified, to some extent, the contempt of "practical men" who appreciated conclusions, but spurned the reasoning which led to them.

Now, some of the scientific principles which must hold true without any regard to the particular causes and conditions of oil-accumulation, are such as these: 1. Oil is not a direct deposit from the sea; it is the product of some changes in substances which formed part of the ocean's sediments. 2. Being composed of carbon, hydrogen, and oxygen, it must have originated from *organic* substances, either vegetable or animal.

3. Being lighter than water, it must tend to *rise* through the water which saturates all rocks, instead of *sinking*. The source of the oil, therefore, could never be in any formation situated at a higher level than the place of the oil. This is a principle which the crazy crowd could never be taught. The oil, for them, was always a "drip" from the Coal Measures.

4. A good "surface show" is not favorable, since it is only caused by the escape and waste of the oil; while the thing wanted is an accumulation or retention of the oil—that is, an absence of surface show. This the contemners of scientific guidance could not understand.

5. There must consequently be an overlying stratum which is impervious to oil, to prevent the product from rising to the surface, to be wasted in a "surface show." If a fissure, even, passes through this, the oil will escape. A bed of clay or compact shale might serve as such a cover. Compact limestone might serve; but most limestones are too much shattered. Indeed, shattered limestones, in some cases, serve as reservoirs for the accumulation.

6. The accumulation of oil must be determined, among other things, by the attitudes of the strata. The trends of "oil territory" must conform to the trends of formations. The situ-