DAVID WHITE (1862-1935)--PIONEERING PALEOBOTANIST, COAL GEOLOGIST, AND PETROLEUM GEOLOGIST

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David White spent his entire 49-year career with the U.S. Geological Survey (USGS), and, simultaneously, served as Chairman of the Division of Geology and Geography of the National Research Council (1924-1927). White's senior thesis (1886) at Cornell University was on the enigmatic Devonian plant, Ptilophyton Dawson 1878. From his humble beginning in 1886 as a draftsman under the paleobotanist, Lester Ward, White rose to Chief Geologist of the USGS (1912-1922), and ended his career as senior geologist.

White impressed Lester Ward and others when he established in the early 1890s, on the basis of "five barrels of very excellent material", that the Gay Head section in Massachusetts was Cretaceous in age, and not Tertiary as held by Charles Lyell, N.S. Shaler (Harvard University), and other notables. After his careful examination of the Lacoe Collection, a large collection of some 100,000 plant-fossil specimens donated in 1893 to the Smithsonian, he straightened out the disparate regional correlations of the Pottsville in the Appalachian states. His 1900 work on the fossil flora of the Pottsvile of the Anthracite region became a classic work on Carboniferous megafloral biostratigrphy. This work and White's 1899 "Fossil flora of the lower coal measures of Missouri", firmly established his reputation as a biostratigrapher. White (1912) reported Gigantopteris Schenk 1883 in western North America and postulated that the Gigantopteris Province extended from China to western North America, indicating similar climatic conditions during early Permian time. He expanded his breadth of knowledge to regional coalification patterns in the Appalachians. White and Reinhardt Thiessen--who was hired by White, went on to the newly formed U.S. Bureau of Mines in 1910, and pioneered the field of genetic coal petrology--wrote a classic work on the origin of coal (1913). They disproved the widely held algal theory and promoted the land-plant origin of coal. During World War I, White, as Chief Geologist of the USGS, led geological activites in the pursuit of petroleum and unconventional fossil fuel (oil shale). As Chief Geologist, White established in 1914 the new USGS publication series "Shorter Contributions to General Geology" to highlight and promote basic geological research in the USGS.

White concentrated his field activties on the Carboniferous and Permian, even though his field studies extended from the Precambrian to the Cretaceous. White's carbon-ratio theory (1915), which he considred his greatest discovery, established the relationship between regional coalification and petroleum generation. Thus, he stimulated the search for petroleum in the United States and worldwide, and was a leader in the assessment of world petroleum reserves. He advocated that Gondwana glaciation was responsible for dryness in upper Paleozoic European and American red beds, and, thus, was an early promotor of paleoclimitological studies. White served as Chairman of the National Research Council's Committee on Paleobotany from 1929-1934; annual reports from this committee ably summarized progress in the field of paleobotany. The present-day "Biography of American Paleobotany" had its roots in White's Committee reports, which were much more informative and comprehensive.
David White left a rich legacy--over 300 publications, including the discoveries of Precambrian fossils (algae) and early Permian plant fossils in the Grand Canyon, seeds attached to the genus Aneimites, and a new coal field in the Anthracite region of Pennsylvania, a discovery that could have made him a coal baron.

White inspired several generations of geologists and paleobotanists. He was "Uncle David" to some of his younger staff, and he tirelessly promoted their careers. In the 1930s, he propelled the careers of the paleobotanists W.C. Darrah nd C.B. Read, who were the first generation of many paleobotanists to come under White's influence. Darrah went on to become an authority on Upper Pennsylvanian and Dunkard floras. Read became an expert on Devonian, Mississippian, and Pottsville floras, and completed in 1943 a small part of White's unfinished work on the Pottsville floras.

White received much recognition and many honors during his lifetime, including membership in the National Academy of Science and three hononary Doctor of Science degrees. During his last days, he was wortking on a monograph on the Pottsville floras of Illinois. He is buried at the south rim of the Grand Canyon, where he spent his last field days in 1930 working in collaboration with the National Park Service. David White was a model of excellence in the earth sciences. His work still continues to influence progress in the fields of paleobotany and coal geology.