

### **Münakaşalar (*Discussion*):**

A Comment on Dr, Lahn's article, «Relations géologiques entre la Turquie et les Régions pétrolifères en Europe Orientale, et en-Asie Occidentale») published in the Bull. G.S.T., Vol I9 No, 1, pp 120-133, 1947.

The adage that comparisons are dangerous is now- here more true than in the art of finding oil. The discovery of oil in Titusville and Oil City and their extension happened to be along the creeks and riverbeds. This accidental correlation gave rise to the first attempt in formulating a theory to discover petroleum. It was simply that oil existed along riverbeds and creeks, and, the seeker for oil practiced «creekology» favoring the valleys and avoiding the hills. But by 1866 the idea that there was no difference between the hills and the valleys gained favor? and, prospecting on the uplands became prevalent. The insistence on the belief that oil was associated with crevices lasted much longer and had real justification in some cases. It was found that these formed a more or less continuous belt and were not isolated. This led to the «Belt» theory. Later, the oilmen learned that the occurrence of oil and gas bore certain relation to the structural conditions in the earth. The name that readily comes to mind in this connection is that of I. C White who in 1885 advanced the theory that hydrocarbons were found on anticlines due to differences of specific gravity. As time passed experience confirmed in a majority of instances the validity of this hypothesis. This led the oil seekers to search for anticlines and domes and the widespread employment of the geologist to map the surface geology became the order of the day. The idea took such a strong hold that for decades no one bothered to inquire into the conditions existing in some of the early Pennsylvania fields such as Titusville and Bradford where there was no relation of structure to accumulation of oil and where it was all a matter of porous sands surrounded by less porous ones. The discovery of oil along nongeological lines were considered pure luck or ignore. To make up for the disadvantages the geologist meets in areas where no surface evidence for structure exists core drilling and geophysics were resorted to. But, with the discovery of the colossal East Texas in 1930 the situations in Bradford, Smackover, Coalinga and Midway- Sunset fields came to mind, and it became apparent that other concepts of oil accumulation besides two opposite dips needed to be taken into consideration.

The earlier belt theory was modified and the structural province came to be spoken of the Golden Lane in Mexico, Mexia fault zone in Texas gave certain support to the adherents of this thought. In a limited sort of way, where no distant extrapolations were attempted, this approach was useful. But we soon found out that this idea was being worked too hard when the Golden Lane was carried too far north in Mexico and when the Mexia fault zone was pushed too far in southwest Texas.

Being in a favorable structural province may be helpful but dividing a whole country like Turkey into tectonic provinces and correlating each with the oil fields in Irak-Iran, Albania, Yugoslavia<sup>5</sup> Hungary and the Vienna Basin as was done by Dr. Lahn introduces dangerous and deceptive generalities without serving much useful purpose. It must be borne in mind that the major factors contributing to the existence of an oil field still are primarily stratigraphic, hydrostatic, petrographic and structural conditions locally obtaining in a province. The fact that Ras Garib has oil and Wadi Baba is dry, the fact that newly discovered Sudr is a producer and the neighbouring Ayn Musa in the same province is dry, the fact that Pozo Rico in Mexico has much oil and the nearby Soledad and Tepezintla wildcats have none, the fact that Ain Zaleh has commercial production and the neighbouring Mashora none, the fact that Baba Gurgur is a tremendous field and the structures of Kvair, Shemshemal and Djambour are abandoned though in the same general zone indicated by Dr. Lahn are too important to permit the consideration of an over all correlation from the Persian Gulf to the Vienna Basin being conceded more than a theoretical interest.

In fact, the job of a petroleum Geologist in a virgin territory is primarily one of elimination rather than being bogged in the morass of possibilities of continental proportions. In justice to Dr. Lahn one might point out that he has made some reference to the resemblance in the stratigraphic conditions obtaining in Irak-Iran? and dissimilarities in the Central Europe with their respective counterparts in Turkey.

The subject of the factors influencing the accumulation of oil has naturally engrossed the geologists from the beginning. Some years ago the American Association of Petroleum Geologists in a two volume symposium on the structure of typical American oilfields considered the problem in an authoritative manner. It will not be out of place to repeat here the

conclusions arrived at the end. The factors to be considered are: Source rocks, structure, porosity, cover, hydrostatics, degree of metamorphism, tectonics, migration character of sedimentation, periods of folding, unconformities, paleogeography, faulting, fracturing and genesis. It will be noted a great majority of these are the results of local conditions.

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