EROSION OF THE NAMURIAN DURING THE WESTPHALIAN B-C IN THE ZONGULDAK COAL FIELD (TURKEY)

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Summary: Some facts are given about the resedimentation of Namurian coal during the Westphalian B-C, most likely caused by a tectogenesis during the Westphalian A and B-C.

The Kozlu district of the Zonguldak coal field is situated on the Black Sea coast of Turkey. Kozlu lies about 4 km. to the SW of Zonguldak.

The Carboniferous is represented here by:

The Visean : The oldest formation, with limestone facies.

The Namurian: With shales and fine grained sandstones as most important components.

The Westphalian: Which can be subdivided in A, B and D. The productive coal seams occur in the Westphalian A (Kozlu series), which is formed mostly by coarse sandstones, fine conglomerates and some shales. The Westphalian B-C is characterised by coarse conglomerates and sandstones. It seems, that the conglomerates of the Westphalian D a r e not as coarse as those of the Westphalian B-C.

The Carboniferous is intensively faulted and folded, so that the structure of the Coal field is rather complicated.

The Carboniferous is covered by Cretaceous, the lower part of which consists of limestones. The Cretaceous is only slightly folded and the faulting took place partially along already existing faults, and is considerable in some places.

The above mentionned facts contaiıı nothing new and can already be found in RALLİ : «Le bassin houiller d'He"-raclee» 1933. There can be found also, that RALLI believed that the conglomerates of the lower Westphalian B-C represented a transgression. There exists however no stratigraphic hiatus, not is there an unconformity between the Westphalian A and B-C. This has already been proven by me by a detailed study.

It is my opinion, that it is not necessary that a conglomerate be restricted to a transgression.It might as well be formed for instance as a result of increased erosion caused by an uplift of the borderland of the sedimentation basın. The following facts are of interest in relation to this: In 1951 a small coHglomeratic coal seam was found in a gallery in the Westphalian B-C. The sporologist Kâzım Yahşıman found spores of the Namurian in this coal seam (verbal communication). In consequence of this-amazing finding a detail survey was carried out, which revealed the same seamlet of conglomeratic coal of 1 30 cm thickness at several other places at the same stratigraphic level, to such an extent, that this seamlet can

be used as a marker in the northern part of the Kozlu anticline.

In 1952 a conglomeratic seam of Namurian coal (10 cm coal, 20 cm sandstone, 13 cm coal) was found in the uppermost Westphalian A in an unbroken core of a drilling. This means that during the sedimentation of the Upper - Westphalian A and the Westphalian B-C somewhere the Namurian was eroded, which is only possible when there existed an uplift of the borderland, in--cluding a part of the Namurian sedimentatian basin - a tectogenesis during the Westphalian A -.

That also Westphalian A was eroded may be concluded from the following:In 1947 the sporologist Dr. S. J. Dijkstra made the analyses of two small solitary lumps of coal, found in sandstone in a drift in the lower half of the Westphalian at Kozlu. These analyses revealed Westphalian A spores (verbal communication). It is remarkable that these lumps contained spores, that is to say, that they did not represent carbonisations of solitary pieces of wood (which would not have contained spores and which would have been flattened if carbonisation had taken place at all and not complete decomposition), but transformations into coal of Westphalian, let us say, lignite.

It is my opinion, that in view of the above mentionned facts we may attribute the erosion of the Namurian (and Westphalian A) and the resedimentation of coal with Namurian spores during the Upper - Westphalian A and the Westphalian B-C to a tectogenesis during the Westphalian A.It will be of interest to make a more elaborate study on this subject, in order to establish when for the first time Namurian coal was resedimented in this region, as well as when for the first time coal of the Westphalian A was transported.