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The principle subject of this study was the orientation and the abrupt bends of the river pattern in the area of the river Grote Nete. The problems of the origin of the great plains and the residual reliefs were treated as well.

As introduction the author gives a picture of the morphology of the area with the accent on the hydrology and the orientation of the rivers. A review of the literature specific to the area is given as well as a discussion on the methods used during the research.

In the first chapter the author describes the topography and the nature of the Tertiary substratum in relation to the morphology. Physical investigations were made, because of the lack of open sections. These physical methods; geoelectrical, refraction-seismic and gravimetric methods are extensively described with a detailed discussion and drawing from each obtained profile. Each method used is commented with a conclusion concerning the method and the results. As second part the author gives a description of the Tertiary sediments with a rough granulometric composition, as well as their occurrence (shown on a geological map). A special paragraph is dealing with the structure of the Boom clay. The evolution of the top of the Tertiary under influence of the Quaternary erosion (which results in the occurrence of levels, incisions and a fossil "paracuesta", found by means of geophysical investigations) is given with a reliefmap of the top of the Boom Clay.

The Quaternary erosion and accumulation are investigated in chapter II. A first part is dealing with the resistant and structural hills with as general conclusion that two Tertiary formations are responsible for the residual reliefs: the Boom clay and the Diest Sands. The Upper-Pleistocene accumulation and a morphological description of the very flat plains is treated in a second part. Afterwards the important morphological units are described, namely the channel-fills, coversand- and dunemorphology, the Grote Nete valley and the small Holocene valleys. These investigations are elaborated with profiles - some of which are rather small and not very clear -, numerous granulometric-, sediment-, gravel-, peat- and pollen-analyses and illustrated by means of pictures. As conclusion of this chapter the Quaternary Stratigraphy, limited to the last glacial and few considerations about the Holocene in the area is established. The origin and age of the levels, fluvial accumulation and fossil paracuesta are treated as well. In his interpretation the author refers to the literature, whereby unfortunately the Alpine and N.W. European nomenclature are used at the same time.

The last chapter shows the palaeogeographical evolution. The general evolution of the streampattern in function of the Tertiary subsoil is discussed with reference to the literature. The evolution of the Flemish Valley has been reconstructed. The fossil gully that was found in the region of the Grote Nete and Dijle-Demer is the prolongation of the Flemish Valley. Finally the evolution of erosion and accumulation of the fossil valleys between Dijle-Demer and the Grote Nete are reconstructed in a geomorphological way with a vague chronological situation in the Quaternary which still remains hypothetically.

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