

SUMMARY

In the climatic sequence of the recent loess soils in the SE part of Central Europe the Brown Forest soil (Braunerde, without clay illuviation) as an independent soil-type, is situated between the Chernozem and the Gray Brown Podzolic soil. (Braunerde-Lessivé). Gray Brown Podzolic soils are rarely to be found under the paleosols of the numerous loess-profiles in the Central and Eastern Danube region (fig. 1); against that, Braunerden are relatively frequent. The (rubefied) earthy Braunlehms of middle and lower pleistocene age are more developed Braunerden in consequence of the similar type of weathering (the same kind of pedochemical formation of clay minerals. This, moreover, is proved by the micromorphological statement arguing that in this period there are transitions between both soil types ranging from Braunlehm-Braunerde to Braunerde-Braunlehm.

The trifling formation of mobile plasma in conducting channels, indicating a clay illuviation not worth mentioning, in the earthy Braunlehms can be explained by the relatively high montmorillonite portions of the soils (cf. tab. 1, fig. 1). Their high swelling-capacity and in connection with that, their swelling pressure effect conditioned argilliturbation preventing the formation of oriented mobile plasma again and again respectively preventing it from going beyond The stage nascendi. The argilliturbation can be recognized macroscopically by the appearance of stresscutans, micro-morphologically by the oriented birefringence which is visible in many parts of the fabric. Oriented mobile plasma, however, once formed, is an extremely stable fabric element so that Braunlehm-Lessivés might have been developed from Gray Brown Podzolic soils.

Clay illuviation in the shape of mobile plasma is mainly caused by the soil forming factor climate whereas "clay illuviation" based on argilliturbation is a lithogenetic process preponderantly determined by the parent material. Therefore one should differentiate a soil horizon whose clay accumulation originated from clay illuviation in the shape of mobile plasma in conducting channels as a B_t -horizon (strictly speaking) in the horizon symbolism from a "horizon of clay accumulation" as a e. g. B_x -horizon which only contains oriented birefringence based on argilliturbation but no mobile plasma. When both processes have taken place in the soil a combined symbolism (B_{tx} -horizon) can be used.