



## **The concept of cultural layer as an object of study in geology, geography and soil science**

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Cultural layer (CL) is one of the key notion in archaeology. This is a special formation created by men at a place of their settlement with the contribution of various natural processes. It can be defined as a holistic natural-historical body (formation) represented by artificial material remains such as artifacts and organo-mineral substance (filling material) having a dual natural-anthropogenic origin. CL is the substantial holder and keeper of the information on a history of human activities, interactions and mutual influence of a nature and a society. From this point of view CL acts as a basic element of the anthroposphere.

Due to joint efforts of archeologists and geologists the most investigated are the CL of the late Paleolith sites. The interdisciplinary science named geoarcheology appeared. Holocene CL are under the active investigation of the geographers and soil scientists. Hydroarcheology, pedoarcheology and archeologic geomorphology also develop actively. Various paleoecological reconstructions can be presented on a base of the properties of CL, character of their interactions with soils and lithological layers.

There is a large variety of CL - from weak traces in geological material disturbed by men or weakly changed soil up to the thick anthropogenic layers, transforming the micro- and mesoforms or creating new forms of relief. The thickest CL of the long-term settlements (tels, villages) includes soil horizons or profiles, which indicate the restoration of the natural soil-forming process. CL of the settlements in forest-steppe, steppe and especially subtropical zones become considerably complicated since Eneolith and Bronze Age comparing with earlier CL. The processes of social and economic differentiation sharply increase in different landscapes at that time together with the related processes of settling. A variety of settlements and engineering constructions appear at that time: short- and long-term settlements, breeding centers, fortification and sacral monuments. As a result CL became very different in properties and spatially variable.

Settlements are allocated to different water sources. Ancient civilizations were tightly linked to river valleys, and ancient settlements occurred on high floodplains, terraces, and valley slopes. Later, they appeared on interflaves. They were also common on coasts of lakes and rivers. Shifts in the position of coastlines led to shifts in the position of settlements. Catastrophic floods could completely destroy ancient settlements, so that only their CLs were preserved.

CLs are surface formations. They may be included in the profile of fully developed soils replacing some of the soil horizons; they may be altered by the subsequent soil formation with the creation of the new horization of the profile.