concept of olistostrome played a significant role in other, important scientific debates, such as the origin of mélanges, being paradigmatically assumed as indicative of sedimentary processes (olistostromal mélanges).

We will briefly discuss what happened to the terms during the 50 years of their history and how this lead to the following points:

1) Are the terms olistostrome and olistolith still to be used, and, if yes, with what meaning?

2) Olistostromes have been considered markers of either phases of basin instability and regional-scale tectonic events, or of peculiar geodynamical or tectonic stages. Are these assumptions true, or are olistostromes merely related to a specific condition of slope instability?

3) Olistostromes have been only seldomly studied from sedimentological point of view. Therefore, their translational and depositional mechanics, as well as the internal processes of stratal disruption and dispersion leading to their breccia-like, block-in-matrix fabric, are still poorly known.

4) The two previous points concern the genetical and regional relationships between the bodies defined as olistostromes and the more general category of mass-transport complexes (MTC), with a particular emphasis on the basin-wide ones.

In the sedimentary record of collisional chains, the majority of fossil MTC, including olistostromes, originated during the stages of intracontinental deformation, having been deposited in foreland and wedge-top basins. In some cases, collisional orogeny has allowed MTC related to extensional tectonics and passive margin to become exposed.

This contrasts with the observed abundance of present-day MTC, which prevail in passive and divergent margins and along the flanks of volcanic islands atop the oceanic crust. The present-day submerged contractional margins, however, do not show a significantly high concentration of MTC, apart from the erosional margins off the coasts of Peru. Moreover, basin-wide MTC are only present when catastrophic events occur, as in the case of the subduction of seamounts and volcanoes.

Some, possibly concomitant, solutions to these discrepancies will be discussed in this communication, with a special emphasis on the origin of mélanges in the accretionary wedges and relations between mass-transport processes, slope tectonics, contractional tectonics and mud diapirism.

Deterioration Processes of Travertine Monumental and Contemporary Stonestructures

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Architectural decorative elements as well as monumental stone structures made of travertine are subject to complex deterioration processes, which cause morphoses and strength reduction depending on climatic conditions.

Deterioration susceptibility was compared for travertine from boundaries of Mediterranean area (Hierapolis, Turkey) and from Lowland Polish area (Raciszyn, Poland). The comparison outcome is the observation that wall surface colours turn gradually to grey, become rough, and weather-exposed structure fragments crack irregularly and fall off.

For both travertine varieties, macroscopic analysis, microscopic analysis, scanning (SEM) analysis, and strength and strain tests indicated that younger Hierapolis travertine were more porous and lighter than Raciszyn travertine. Besides, Hierapolis travertine featured a lower strength as a result of a significantly stronger leaching out of organic debris, and of a lower crystallization extent level for the carbonate skeleton structure.

Comparative porosity tests made for new Hierapolis travertine (HO) and for ancient quarry Hierapolis travertine (HA) provided with a conclusion that since the ancient time until presently, the material porosity increased by range of 60%, while the strength decreased by range 50%. At the same time, accelerated deterioration tests under lab conditions proved that a further deterioration of this weathered and porous material gave reason for an entire decomposition of structure to irregular rubble chips.

As determined in further tests, the reason for travertine deterioration was mainly the structure weakening due to the leaching of carbonate compounds, organic fragments in particular. Located in the voids created that way, the secondary material was removed at a later time by eolian action or by infiltration. This process developed dynamically because travertine featuring a low resistance to varying temperatures in both climatic environments was exposed to temperature imact. The frost action caused a strength reduction by approx. 20% of the fresh materials, and in case of advanced weathering (HA), material is decomposed very soon. Similarly, above-zero temperatures reduced the fresh material strength by range 20% and even more than 60% for advanced weathering (HA). In those case for the weathered material integrity factor I_{Rc} = 0.12% for the weathered material. Laboratory tests of deterioration processes with application of ultrasonic methods and strength tests indicated that thermal changes were the major factor for a slow destabilisation of travertine structure in both climate zones. Sunlight operating at daytime combined with cooling down at night for surfaces of ancient structures over centuries - that was the reason for a significant loosening of inter-grain bonds and the strong eolian erosion, which was made even more serious by biological weathering, and which led to falling apart to irregular pieces due to absence of any maintenance work.

Travertine rocks feature a relatively significant resistance to salt solutions. In highly porous materials, salt can freely crystallize inside voids without any damage to the structure. This positive feature is significant, in particular under moderate climate conditions where travertine used as an elevation material is exposed to adverse winter weather factors.

K/Ar mineral geochronology of the northern part of the Sithonia Plutonic Complex (Chalkidiki, Greece) and implications for its thermal history

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The Sithonia plutonic complex (Chalkidiki, Greece) occupies the greater part of the Sithonia Peninsula intruding the Circum Rhodope Massif to the west and the Serbomacedonian Massif to the east. It comprises an Eocene pluton and so far, its origin and evolution has been studied by many researchers. The subject of the present study is the K/Ar mineral geochronology of the northern part of the pluton which consists of three main bodies, the Two-mica Granite (TMG), the Porphyry Leucogranite (PLG) and the Leucogranite (LG).

The systematic K/Ar study of the pluton along with existing Rb/Sr mica and U/Pb zircon ages are used to investigate the thermal history of the pluton and shed light on the process that affected it and resulted in discordant Rb/Sr and K/Ar mineral ages. Thirty-nine samples of muscovite biotite and K-feldspar samples were selected according to the lithological characteristics and spatial distribution. These samples yielded K/Ar ages ranging from 38 to 49 Ma for muscovites, 32 to 47 Ma for biotites and 37 to 43 Ma for K-feldspars respectively.

The K/Ar geochronological results indicate that the mineral ages of TMG and PLG are in accordance with the principles of the isotopic closure temperatures of the K/Ar isotopic system, but the geochronological results of the LG indicate disturbed behaviour.

The processing of the geochronological data with the K/Ar isochron method, in association with the Rb/Sr data, indicates that a reheating event took place and disturbed the isotopic systems of biotite and K-feldspar but did not manage to disturb the isotopic system of muscovite. Regarding the thermal evolution of the LG, it is considered that the voluminous