of Father Eustach Tonassini at the end of 18th century. The examination of these chalices took place in the Laboratory for research in conservation at the Centre of collections of the Swiss national museum using only non-destructive methods. More precisely, binocular microscope on a modified stand was used to observe the internal features of the stones, long- and short-wave ultraviolet lamp to see their luminescence, x-ray fluorescence (XRF) for chemical and Raman spectrometer associated with a microscope for spectroscopic/vibration analysis.

After the examination, it is found that all studied gems are natural; neither imitations nor synthetics were identified. It seems also, after studying pearls' chemistry, that all are of saltwater origin. Moreover, comparing our results with those observed by Father Tonassini, it appears that what he had correctly all the rubies, except of some which are dark coloured almandines. He had correctly identified all diamonds too, amethysts (except of two which were dark coloured almandines), sapphires (except of one which is olivine) and emeralds (except for the big stones which are olivines). All the stones that he called "chrysolith" are olivines (the gems quality is a.k.a. peridot), these called "Hyakinths" grossulars and those called "Topaz" are either citrine or grossulars. Finally, Father Tonassini in his manuscript mentioned that the gems are "orientalisch", *i.e.* from oriental countries. Studies of gems inclusions did not exclude this possibility. However, more research is needed in order to study better the possible geographical origin of these stones.

Shear-wave Q determination for the Upper Crust of Western and Central Slovenia

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We have estimated the quality factor, Q_β for shear-waves for western and central Slovenia for five frequency bands centred at 0.8 Hz, 1.5 Hz, 3.0 Hz, 6.0 Hz and 12.0 Hz. We used 150 high quality broadband waveforms, from 15 shallow (depth $\leq$ 8Km) aftershocks of the 2004 (M_W 5.2) krn mountain earthquake sequence in NW Slovenia. Magnitudes (M_L) range from 2.5 to 3.5 and epicentral distances from 16 to138 km. Our results show that Q_β varies with frequency f according to the power law $Q_\beta=83f^{0.80}$ or $Q_\beta^{-1}=0.012f^{0.80}$. Comparing our results to those previously obtained for the region of Friuli-Venezia-Giulia in the Southern Alps, both show high values of seismic wave attenuation that is typical of seismogenic active regions and among all sets of data we can observe a good agreement.

Polygenetic history of the Chasanbali ophicalcite breccias in Thessaly, Greece

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The "ophicalcite" of the Chasanbali area in Thessaly, central Greece is a characteristic element of the Eastern Thessaly ophiolite complex, which is mainly regarded as constituting a segment of the Mesozoic Vardar Ocean overthrust onto the Pelagonian continent during the Eohellenic orogenetic phase of the Hellenides. It is located in stratigraphic contact with the underlying serpentinized peridotites (mostly harzburgites) and is structurally overlain by Upper Cretaceous crystalline shallow-water carbonates. In this study, the formation processes of the "ophicalcite" are thoroughly investigated since various and often conflicting interpretations exist concerning these. Detailed macroscopic and petrographical analysis revealed that the "Chasanbali ophicalcite" in fact comprises polymictic, polygenetic mud- to clast-supported ophicalcite breccias consisting primarily of serpentinite, carbonate and ophicalcite clasts and secondarily of dispersed fragments of block-sized marbles and much smaller gneiss, granite and fossiliferous carbonates originating from the Pelagonian continental basement, as well as of composite clasts from the breccias themselves. Their formation encompasses complex and multiphase sedimentary, tectonic and metasomatic/ hydrothermal processes that operated separately and/or contemporaneously as from their earliest evolutionary stages up until much later, and even during their post-orogenic deformation history. Specifically, the preserved primary sedimentary textures and structures in combination with the spatial distribution of the various constituents clearly reveal the principal resedimented character of these breccias and, furthermore, a diversity of gravitational processes determining their deposition. In total, the Chasanbali ophicalcite breccias comprise exclusively deep-water mass flows that were deposited within a steep and dynamic slope setting at the foot of the eastern Pelagonian continental margin towards the Almopia basin (western Vardar Ocean). However, a prolonged high-angle extensional synsedimentary tectonism, activated after the emplacement of the underlying serpentinites on the seafloor, was the major triggering mechanism for the initiation of the various resedimented deposits, this being strongly indicated by the prevalent resedimented-types (grain flows, rockfalls/talus and olistholiths), while it concurrently and continuously reconfigured the final depositional basin of the breccias, bringing about the gradual denudation and collapse of the latter's margins. Subsequently, the repeated reworking and redeposition of large amounts of the underlying serpentinites and ophicalcites, coupled with the incorporation of the continental allochthons and also of some portions of the newly established breccias, produced these polyphase tectono-sedimentary deposits. On the other hand, the presence of the composite breccia clasts, particularly in their uppermost parts, besides the obvious reworking of the breccias themselves, clearly indicates their rapid and strong lithification from the very early diagenetic stages. This latter, however, also contributed significantly to the creation of the numerous and often complex fissures, fractures and veins, these arising from synsedimentary tectonic/hydraulic fracturing, which took place throughout the duration of the breccias evolution, as this is suggested via the study of the cross-cutting relationships between their multiple-generation infillings. Moreover, the formation of the ophicalcite breccias is effectively connected with the extended phenomena of serpentinization, calcitization and recrystallization, which have brought about substantial textural, mineralogical and chemical alterations in many of their components. Even though the calcitization follows in the main the serpentinization, the abundant serpentinite rims that surround many of the carbonate clasts as well as the characteristic composite rims around some large exogenetic fragments reveal an overlap and/or repetition of these processes. Of all the above, the Chasanbali ophicalcite breccias are of a composite and polyphase tectono-sedimentary origin that has come about through the repetition of the resedimentation, cementation and fracturing processes accompanied by extensive metasomatic alterations, the which further point to, and particularly those of calcitization, considerable contemporaneous low-temperature hydrothermal activity directly linked to the earlier exhumation and alteration of the underlying serpentinized mantle rocks.