Radiocarbon dating of mortar: Case study of the Aqueduct in Skopje


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About the Aqueduct
- One of the landmarks of Skopje, FYR Macedonia
- More than 380 m long; it was a part of a water-supply system with a length of about 10.0 to 10.5 km
- In the northwestern part of Skopje
- Has two access ramps, 53 pillars, 54 base vaults and 42 smaller vaults on the closed and open discharging openings above the pillars

Presumed dates
- 6th c. during the urbanization of Skopje by the Byzantine Emperor Justinian I
- 15th c. by Mustafa Pasha (known by the Mosque in Skopje)
- 16th c. Isa Beg’s water supply system

Sampling
- 6 mortar samples from the eastern facade
- By use of hammer and chisel from the ruined parts of the construction
- Weight of each sample was 150 – 200 g

Conclusions
- 14C points to the reliability of the radiocarbon results
- Inclusions are a good material, but ALWAYS need to be compared to the other fractions
- CRYOSONIC method (in two cases): a13C of SUSP were lower than a14C of inclusion fractions but within 3 sigma range

The most plausible date of the Aqueduct is 15-16 cent. The analyses ruled out the Byzantine times.