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Natural Science meets the Humanities - The study of Roman bronzes found in Switzerland by the combination of different methods

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Many Bronzes of archaeological relevance found in Switzerland are from Roman origin. Their uniqueness means, in most cases, any investigation of samples must be performed as good as possible non-destructively.

Transmission experiments performed either with X-rays or neutrons, depending on the structure and size of the objects, can help to identify inner structures, composition, defects or the manufacture process. Furthermore, in some cases the treatment by conservators and restorers also becomes visible.
Second, the composition of the alloy used for the Bronzes can be obtained with non-invasive analytical tools, which means by X-ray fluorescence (XRF) and atomic absorption analysis (AAS).

This report describes three examples from such investigations, pointing the archaeologist in the direction of which conclusions can be drawn from such experiments whilst highlighting the problems in interpretation which still exist.

The combination of these methods together with a classical archaeological analysis can deliver best possible results in the investigation of Roman Bronzes.

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