

Archaeomagnetic investigation of bellfounding sites in Belgium

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Abstract: In the absence of artefacts suitable for archeological dating, archaeomagnetic investigations may contribute significantly to the better understanding and rescue of our past and cultural heritage. Bellcasting places are rarely found in archaeological sites because of their location. They were installed in the churchyards to facilitate reassembly in the bell tower of the church. The floor of the bellfounding site is in general lined with thick slabs arranged in such a way as to maintain a main heating channel, with smaller transverse ducts between the slabs, so as to better diffuse the heat in the channel. This kind of bellfounding places was found in three archaeological sites in Belgium: Sint Lievens Houtem, Rebécq and Liège. The first was discovered during the archeological excavation by the archeological service SOLVA at the market place, near the church of Sint Lievens Houtem, the second was at the market place of Rebécq near the church St. Géry built in 1632 and destroyed in 1865 and the last one was in the cloister of the St Jean church in Liège. The last two bellfounding places were undertaken during a systematic rescue excavation by the archaeological service DGO4-SPW. An archaeomagnetic investigation of the baked clay allowed dating the last firing of the three bellfounding places based on the present knowledge of the secular variation of the geomagnetic field direction during the last three millennia in France (Gallet et al. 2002) and applying RENDATE software (Lanos et al. 2005). The possible age intervals obtained at the 95% confidence level indicate that the last cooling of the bellfounding places was between the 15th and 17th century.

Keywords: bellfounding places, archaeomagnetic dating, Earth magnetic field, direction.