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**From the Fabricae of Augustus and the Workshops of Charlemagne: A compositional study of corroded copper-alloy artifacts using hand-held portable XRF**

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Stellingen - behorende bij het proefschrift van Marcus A Roxburgh

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A compositional study of corroded copper-alloy artifacts using hand-held  
portable XRF.**

1. The alloys used for standard Roman military types of brooches found in The Netherlands were considerably different to late Iron-age alloys, permitting an argument to be put forward that their composition can be considered a real 'Roman' alloy.  
This thesis chapter 3
2. The production of Carolingian/Ottonian period disc brooches was most likely organised on a regional scale by the church.  
This thesis chapter 5
3. The copper-alloy mounts recovered from Viking age Walcheren were most likely intended for personal equipment rather than horse harness.  
This thesis chapter 6
4. Early medieval copper-alloy pins on both sides of the North Sea may well have been mass produced, but they were most likely made at several different production events.  
This thesis chapter 8
5. Portable XRF is an appropriate device to use on corroded copper-alloy surfaces, to address questions needing an initial alloy classification.  
This thesis chapter 2
6. Portable XRF is an appropriate device to detect ancient surface treatments such as tin coating, on corroded copper-alloy surfaces.  
This thesis chapter 4
7. Interpretation of portable XRF analysis results requires some form of scientific background or training. It is hazardous to leave it to untrained archaeologists.  
This thesis chapter 1
8. The relationship between an objects typology and its composition can be useful in identifying geographic and chronological changes to a regions trade links and economy.  
This thesis chapter 1
9. Viking-age reenactment groups are creating new myths in their search for 'authenticity'.
10. Gods, angels, dwarves and women folk are long forgotten actors in interpreting early medieval metalworking.