



STUDY OF NEOLITHIC AND BRONZE AGE MONUMENTS IN WESTERN SCOTLAND

**A THESIS SUBMITTED FOR THE DEGREE OF DOCTOR OF PHILOSOPHY AT THE
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Abstract

The aim of this work is to contribute to the quantitative analysis and development of testable hypotheses concerning archaeological sites in the landscape.¹ The initial intention was to ensure that valid and reliable outcomes regarding the original use of the freestanding megalithic monuments of western Scotland were possible through its use of appropriate spatial and statistical analyses. Whilst this objective remains, it is no longer the sole objective. Rather, more complex theories regarding the nature of the cosmology of those who built the monuments and the possible cosmological connections between them, other monuments and the environment are considered. Based upon the methodologies and outcomes of the initial investigations, further development of sound hypotheses and robust experimental designs that could be used in conjunction with GIS data and applications was then possible for those more complex considerations.

This project attempts to incorporate systematic project design and quantitative analysis in archaeological investigations.

Keywords: landscape archaeology, archaeoastronomy, cosmology, methodology, GIS, viewshed, orientation, spatial analysis, visibility, directionality, Scotland, megaliths, Bronze Age, Neolithic Age.

¹ Fisher, P., Farrelly, C., Maddocks, A. & Ruggles, C. (1997). "Spatial analysis of visible areas from Bronze Age cairns of Mull." *Journal of Archaeological Science*, 24: 581.