

**Master in
Geography and
Spatial Planning**

—
Master académique

Spatiality and materiality of remembering the dead

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A methodological example to detect and analyse patterns of spatial association in a micro-scale environment

Submitted by

Graas Alain

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Supervisor: Associate professor Caruso Geoffrey

Co-supervisor: PhD Streb Christoph Klaus



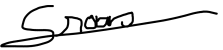
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Statutory Declaration

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Abstract

Cemeteries are the special sacred burial grounds where the living and the dead are separated and, at the same time, symbolically joined as one people through the performance of transition and memorial rites (FRANCIS 2003). The materials used to create a grave possess an important meaning. Cemeteries, in this regard, are physical ensembles of objects that should guarantee continuing bonds with the deaths and embody their and the bereaved families' social status. Material culture is used as the framework to define the importance of memories and mourning, reflected in the materials and design of the graves used.

The methodology of this master thesis consists principally of performing spatial analysis and spatial (data) statistics to capture the changing layouts in materiality throughout selected cemeteries. In combination with tools from an exploratory spatial data analysis (ESDA) and point pattern analysis, it is possible to detect spatial patterns in the collected data, leading to the formulation of possible hypotheses based on the geography of the data, and in assessing models for future cemetery research. This mining throughout the collected data allows the research to identify potential clusters, and spatial associations in cemeteries. Furthermore, when linked to graphical visualization, this allows answering questions about the concentration of certain attributes and the relations between them. The visualization and statistical procedure will be done entirely in Open source programs such as R and QGIS, to guarantee reproducibility. The results should offer a toolset to detect spatial patterns in the data of cemeteries (and other forms of burial grounds) and show the possible usage of spatial analysis in cemetery research. The thesis suggests a methodology for a topic that is currently sparsely or not at all present in the literature about the spatiality of materiality in cemeteries. Results suggest that clustering of characteristic grave features can be ruled out in every of the three cemeteries. They are distributed randomly across the respective cemetery areas indicating that graves are simple containers whose physical objects transmit meaning in space but at the same time keep the essential emotions and feelings locked for individuals or only a small group of people. The findings, however, represent only a snapshot of the current situation. Cemeteries are continuously changing and will eventually change their layout multiple times in the long run. This will lead to different result. Hence the outcomes of this thesis do not provide an absolute answer but rather insists on the need to continuously analyse cemeteries in order to detect interesting new patterns and formulate new hypotheses based on data.

Key Words: Material Culture, Spatial analysis, Spatial (data) statistics, exploratory spatial data analysis, Point pattern analysis, cemetery research.

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1 Introduction

In 1612, Lord Francis Bacon wrote in his essay *Of Death*: “*It is as natural to die as to be born*” (FRANCIS in SCOTT 1908). In fact, regardless of race, religion, geographical area, or time-period, the one fate every living creature on earth will eventually face is death. It is, however, not that simple to characterize it. Death is an institutionalized phenomenon which can be attended in numerous ways. Diverse customs, rites, and beliefs which range from specific proscriptions concerning the corpse to highly elaborated conceptions regarding immortality and rebirth surround it (FAUNCE & FULTON, 1958). Different mythologies and theologies have tried to explain the nature of death, ranging from total annihilation to immediate life after death (c.f. REYNOLDS & WAUGH 1977; ELIADE 1977; PRIORESCHI, 1990). Some allow their dead to “work off” their sins, committed during their life, while others envision life after death filled with a never-ending abundance of the pleasures of earthly life. Others teach about earthly reincarnation based on the deeds of the previous life. Nevertheless, death is a pain mainly felt by others, namely the former social environment (family, friends, etc.) and is therefore considered a negative or bad event (BRUECKNER & FISCHER, 1986). However, in some circumstances, death isn't a "bad thing" or an "evil" for the individual in question. For instance, if a person has a terminal and very painful disease, he might rationally regard his own death as a good thing, as the suffering ends (BRUECKNER & FISCHER, 1986). He may regard it as “*something whose prospective occurrence shouldn't be regretted*” (BRUECKNER & FISCHER, 1986:213).

When death strikes in society, certain events and rituals are automatically undertaken. The decaying of the corpse and beliefs about death make the presence of the dead person among the living unacceptable. Throughout history different practices for disposing and commemorating the deceased were employed (REIMERS, 2018). One such practice is burying the dead body in a cemetery.

A cemetery is defined as an area set apart for burial, which is not necessarily consecrated, and, initially, was situated on the outskirts of a municipality (e.g. RUGG, 2000). The term comes from the Greek word *koimeterion* meaning “sleeping place” or “sleeping room” (LIDDELL & SCOTT, 1901). The concept is closely related to burial ground, graveyard, churchyard, and necropolis. However, the boundaries between these designations are not clear-cut. The term burial ground (consist of one or several graves) is more often employed than the term graveyard to designate unplanned or non-consecrated places for burial (REIMERS, 2018). A churchyard is a consecrated graveyard owned by the church and attached to church buildings (RUGG, 2003). Death and spaces to bury the corpse have inseparable.

Although attitudes towards death change (c.f. FRIEL 1982), the following processes often remain the same. Bereaved families and friends regret the loss, mourn and commemorate their lost ones by enshrining the deceased personality through memory processes. The latter have been imagined and communicated through a variety of metaphors that construct memory places (HOCKEY & HALLAM 2001:77). Disposing physical objects on the grave is a common reaction to the loss and should store the identity of the deceased as well as emotions and memories stuck to the person in a specific material or shape.

Historical research usually focusses on the analysis and interpretation of verbal texts. Art, photography, and historical maps are subjects of historical study in and of themselves (KNOWLES, 2008). The chronological classification will always remain at the heart of a discipline that seeks to explain change over time (WHITE, 2010). In this regard, quantitative analyses in historical and cemetery research are quite rare.

Whereas most spatial analyses focus on the broader picture and look at spatial associations on the macro-scale, this thesis looks at the physical objects and grave materiality on the micro-scale. Geography provides the necessary toolkit to combine the historical aspects with quantitative enquiries. Prior to the visualisation and statistical analysis, the data was collected in two cemeteries located in Thil in France. The data for a third cemetery in Walferdange (Luxembourg) was already collected. The used methods combine techniques from spatial analysis, spatial statistics, exploratory spatial data analysis and point pattern analysis. More precisely, Ripley's K function, kernel density estimation, join count analysis and Moran's I statistics were used in order to describe the spatial distribution of point patterns.

The results will indicate if grave characteristics are clustered, randomly distributed or dispersed over cemetery areas and thus might add interesting insights to the question of place-making and material culture in cemetery research. They will, however, only scratch on the surface of the exploration of relationships between distinctive features in cemeteries. The thesis aims at providing a methodology and guide to analyse these patterns and generate, based on the outcomes, new hypotheses about the spatial distribution of grave characteristics and the associated meanings, social practices and commemoration. What makes, after all, changing commemorative and funeral practices so intriguing, are the similarities in the cemeteries over broad geographical and chronological frameworks while simultaneously each individual cemetery retains its own character. Each cemetery thus must be examined separately, and the specific external influences have to be determined. Comparing cemeteries, in this regard might make in the first instance no sense but allows the researcher to

detect differences, which in return possibly lead to new hypotheses about the internal organisation and different usages of the cemetery by human beings.