

## BEYOND THE BUILDING'S PHYSIOGNOMY

*A dictionary definition of the word 'physiognomy' is 'the study of the face or outward appearance to discover the inward qualities or character of a person or object'. The theme and its relation to religion was explored in Gorringer's *Earthly Visions* (2011), most specifically in his development of Jenkins' seminal *Bampton Lectures*, published as *The Glory of Man* (1966), about portraiture and "the significance of the incarnation".*

*Similarly, although the architectural qualities of a building, that we witness and have the privilege to work with, encompass years of weathering and alterations that are externally visible to the naked eye, perhaps, more importantly, their significance is that they embody generations of know-how, construction technologies and building traditions. The latter are all intrinsic to the historical fabric and lie latent in the materiality of the building. With this in mind, how are we to deal with the historic fabric of the monument and the values it represents, and what are the conservation strategies to be implemented?*

*The initial commission for the restoration of St Paul's Anglican pro-Cathedral in Valletta, envisaged interventions that would address obvious external signs of deterioration of the building fabric and that would remedy general conservation issues. Early visual inspections of the external and internal elevations, combined with in-depth archival research, however, highlighted signs of masonry distress consistent with deterioration of the historical structural building assembly which were atypical of regular ashlar masonry assembly in Malta.*

*This paper discusses the significance of working with an integrated trans-disciplinary team in heritage projects to ensure appropriate response to the conservation programme. It also describes methodologies necessary to anticipate issues of building pathologies. They are derived from the collaborative process of archival research, investigation and intervention. Whereas the face of the building may carry the signs of inwards qualities or defects, relying on trans-disciplinary expertise at early stages allows for a more accurate understanding of the conservation issues at hand.*

---

## Introduction

The role that architectural heritage plays in the promotion of memory and in guaranteeing continuity between past and present is vital for the creation of an identity that satisfies man's primordial need for a sense of belonging. What defines a monument is therefore not only its tangible properties, its architectural form, or its qualities and physiognomy. A monument is also the container of an immeasurable store of intangible cultural heritage, defined, according to the UNESCO Convention on the Safeguarding of Intangible Cultural Heritage (Paris, 2003), as the "practices, representations, expressions, knowledge, skills—as well as instruments, objects, artefacts, and cultural spaces associated therewith — that communities, groups and, in some cases, individuals recognize as part of their cultural heritage" (Article 2).

The intangible cultural heritage of a monument must therefore participate in and determine a holistic approach to the documentation, restoration, and promotion of monuments and monumental sites. This emergence of an extended methodology for the restoration of monuments is linked with the word “monument” itself which has been re-contextualized many times in the wake of the evolution of the concept of “heritage”. The main reason for this semantic transfer was the need to put tangible heritage into a broader context and to connect it with its intangible aspects whether spiritual, political, social or cultural (Chatzigrigoriou et al., 2021). In the end, the idea that intangible cultural heritage co-exists with the creation of tangible heritage, advocates the need to consider elements like technology, economics, politics, and culture in the drawing up of restoration methodologies that consider aspects of the building that extend beyond its immediate physiognomy.

The word ‘physiognomy’ is defined as the study of the face or outward appearance to discover the inward qualities or character of a person or object. The theme, and its relation to religion, was explored in Gorrings’s *Earthly Visions* (2011), most specifically in his development of Jenkins’ seminal Bampton Lectures, published as *The Glory of Man* (1966), about portraiture and “the significance of the incarnation”. Similarly, the architecture that we witness and have the privilege to work with, encompasses years of weathering and alterations, but perhaps more importantly their significance is that they embody generations of know-how, construction technologies and building traditions, all intrinsically linked to the historical fabric. At its core, the historical fabric expresses the urban, social, and political context of its construction era, serving as an imprint of the local and global contributors at the time, from a political or national macro-level, all the way to the mason’s carving of each decorative motif at a micro-level. Moreover, while the material part of a monument may leave its mark over time, the intangible element most closely associated with its creator may not always survive. The survival of the intangible element, however, can be the carrier of an invaluable transmission of knowledge, whether oral, archival, or even in-situ, that contributes to the understanding of old, or even obsolete practices, knowledge, and skills. This is a form of memory, embedded, both physically and metaphorically, in the material manifestation of the building itself, that provides evidence of the relationships people have developed with the monument over time through a shared system of ideas and beliefs, in the form of social and cultural structures in particular.

In this way, the physiognomy of a building can become more than just its physical fabric or appearance. This concept supersedes the perception of the physiognomy of historic cities, for example, as being mainly visual and kinaesthetic, as described by most scholars from Sitte to Lynch (Chatzigrigoriou et al., 2021). It emphasises the manifestation of values and memory that transform a set of stone walls, metals, and timber structures into a monument, a structure that acquires historical significance and becomes a “memorable” asset of the intangible heritage of the society that created it.

“Heidegger uses the word “bewahrung” which means “preservation” but has the same root as the word “wahrheit” which means “truth”, giving to “preservation” the onus of preserving the “truth” of the monument” (Chatzigrigoriou et al., 2021). The intangible cultural heritage of a monument reinforces the recognition of its “truth” and demands conservation strategies that analyse the multi-layered composition of both tangible and intangible elements, to ensure that they are preserved for present and future generations.

## **A Transdisciplinary Approach**

Recent years have seen the development of conservation decision-making strategies through the setting-up of multi- and interdisciplinary teams. The complexity of these comprehensive strategies and the wide knowledge and skill sets required to ideate and implement them, require collaborations from multiple disciplines that are essential for their elaboration. Della Spina explains that “choosing among different alternative scenarios of reuse, valorisation and conservation of cultural heritage is generally a complex decision-making process, given the multi-dimensional nature of the decisions and the wide set of values they represent” (2019). In order to ensure that the conservation process benefits from collective knowledge and analysis, it is essential that a broad set of disciplines are brought in from the beginning of the project, in an open approach that brings to the fore its complexity.

Although widely favoured and extensively researched in recent years, the shortfalls in dialogue between multi- and interdisciplinary teams has been highlighted time and time again. Gaps often result from an attempt to combine knowledge from various disciplines. Heritage describes how “[c]ommunication gaps in multidisciplinary dialogue are a chronic issue within conservation. While multi- and even interdisciplinary action is generally championed in contemporary society, it is not easy to effect in practice. Professional roles are challenged and stretched when working in more interdisciplinary ways. [...] The problem of balancing between multiple disciplines is encountered in many sectors, and conservation could advocate for and become a model for how this can be achieved.” (2018, p. 4).

A study by Curran and Zimmermann highlights the issues with such interdisciplinary methods which often stem from language barriers or from the proffering of differing priorities (2021). This, combined with the erratic nature and dynamics of communication, often leads to misunderstandings that effect the project negatively (Curran & Zimmermann). A transdisciplinary approach therefore requires added focus on communication, both internal to the team, and externally with owners and stakeholders. This aspect is probably best described by Jakobson in what he terms as intersemiotic translation; the act of discussing “translations between different systems of signs” (Bertucci, 2017). Each discipline within the team having its own sign system, written reports, CAD drawings, 3D surveys, frequency readings, historical documents etc., all require translation into a common and accepted language in order for knowledge across the team and the stakeholders to be transferred.

In the post-expert era, increased challenges have been imposed on the scientific community. The need to mitigate the effects of the digital age by opening new lines of communication, cannot be underestimated (Luers & Kroodsma, 2014). A transdisciplinary approach differs to other disciplinary approaches since it operates ‘across the disciplines, between the disciplines, and beyond and outside all disciplines’, bridging gaps to create a new knowledge through the formation of a ‘new intellectual space’. The latter, although forming part of the individual, encompasses greater richness and wholeness (Figure 1) (McGregor, 2004). The methodology opens up the interdisciplinary approach to participants from both the academic and non-academic spheres, to create a ‘cross-fertilization resulting from the convergence of different paths in the spirit of conviviality and celebration’ (Lattanzi, 1998).

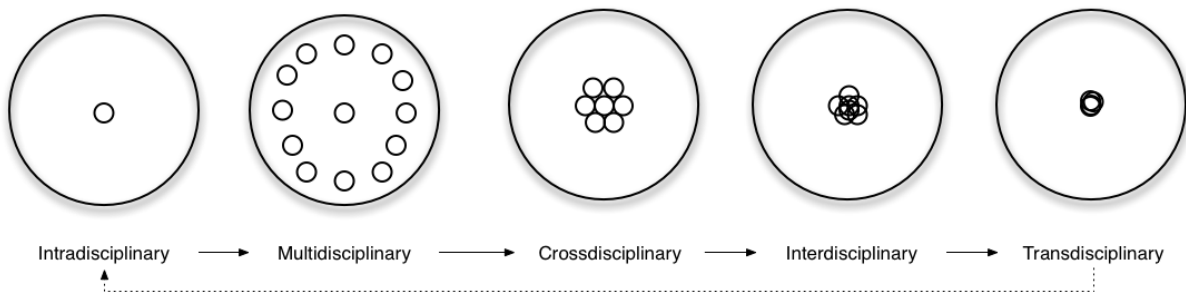


Figure 1: A graphical description of the various disciplinary approaches (Source: Jensenius, (2012))

Applied in research-based conservation strategies, the consequential porosity of this system for conservation decision-making, results in the interdependence between the different participants and leads to a stronger approach that focuses on the preservation of much more than the merely physical historical fabric. The method brings with it an unfolding of perspectives and visions across multi-dimensional planes, to allow for a better understanding of the conservation issues. This was the case with St Paul's Anglican Pro-Cathedral.

In 2017, the initial commission for the restoration of St Paul's Anglican pro-Cathedral in Valletta envisaged interventions to address obvious external signs of deterioration of the building fabric and that would remedy general conservation issues. The conservation programme began with the analysis of the external and internal historic fabric through visual inspections, architectural surveys and photogrammetry. The initial exercise highlighted signs of masonry distress consistent with deterioration of the historical structural building assembly which were atypical of regular ashlar masonry assembly in Malta. This was confirmed through the historical research carried out in parallel.

A transdisciplinary approach was adopted by the conservation team from the onset, not only involving individuals with technical expertise (historians, conservation architects and conservators, structural engineers, mechanical and electrical engineers and project managers), but also individuals from non-technical backgrounds (masons, clergy men, church wardens, caretakers and the neighbouring community around the cathedral), with their contribution being treated as equal to input of a more technical nature. This approach resulted in the merging of multi-layers of knowledge to form one coherent whole (McGregor, 2004), that acknowledged that the multiplicity of initial viewpoints could only be comprehended through the porosity of the project's team and that a dynamic response was necessary to incorporate any incoming information provided. This approach, however, necessitated enhanced communication between the team members, as well as between the technical team and the client's team and the neighbouring community. It also required a planning process – both internal and institutional – that could react to the ongoing discussions and be rapidly updated as new data came in. In essence, this resulted in an iterative planning process with feedback mechanisms included in the system.

### **An Iterative Process**

AP Valletta was awarded the commission for the restoration of the external and internal fabric of the cathedral and bell tower at St Paul's Anglican pro-Cathedral in 2017. The pro-Cathedral,

a 19th century masonry building designed in the neo-classical style by William Scamp (1839 – 1846), is an emblematic and iconic reminder of the British presence in the Maltese Islands. The cathedral rises to a height of 24.5m and the bell tower rising to a height of 67m (Dreyfuss et al, 2019). The pro-Cathedral sits above the fortifications on the northern side of the capital city, Valletta, 60m away from the sea.

Following initial observations on the pro-Cathedral, further focused studies revealed that the deterioration patterns exhibited on the historic fabric were not common of typical local masonry assembly. Historical research, particularly in the 19th century architectural context, confirmed that the pro-Cathedral's original design team may not have been privy to the local construction methodologies. A report, prepared by Scamp in 1844, included a reference to iron chain bond and lead, the latter to be applied as a covering to the iron. This was identified by the project team as a strong indicator of possible concealed elements which could be contributing to the deterioration pathologies identified visually. In the meantime, several records traced through comprehensive archival research shed further light on the day-to-day practices of the Anglican community in Malta. These included bills of quantities for workmanship, materials and labourers, covering the entire execution period of the project. While none of the records indicated the possible locations or final dimensions of these extraneous materials, they confirmed, both from their documentation of materials brought on site and skills of the workers employed, that the building assembly included techniques which at the time were novel in Malta.

These records, combined with the initial analysis indicating possible structural distress, served as a preamble to a series of non-invasive site investigations, including ground penetrating radar scanning at different frequencies and video endoscopy. The results confirmed the presence of rectangular shaped wrought iron bars embedded within grooves cut on the top surface of the stone blocks (Dreyfuss et al, 2019). As a result, the archival research was extended to a study on the construction technologies of the era, combined with an analysis of the existing masonry structure through structural modelling.

An exercise of mapping of the deterioration exhibited on the external and internal elevations of the pro-Cathedral began shortly after the surveys and photogrammetry exercise was concluded (Table 1). This was followed by the studying of surface intervention and its mapping during the initial stages of the analysis.

|  |                     |  |   |
|--|---------------------|--|---|
| <b>A. BASELINE:<br/>INITIAL ANALYSIS</b>   | Historical Research | Visual Inspections   | Surveys &<br>Photogrammetry                           |
| <b>Commencement of Design of Interventions</b>   |                     |  |   |
| <b>B. FURTHER<br/>ANALYSIS</b>   | Archival Research   | Ground Penetrative Radar (GPR) Scanning & Video Endoscopy (Dreyfuss et al, 2019) | Mapping of<br>Deterioration & Surface<br>Intervention |
| <b>Feedback Mechanism &amp; Iterative Process from B to A within Transdisciplinary Team for the Design of Interventions</b>      |                     |  |   |
| <b>C. FURTHER IN-<br/>DEPTH ANALYSIS</b>   | Structural Research | Drone Inspection &<br>Graffiti Report  | Structural Modelling                                  |
| <b>Feedback Mechanism &amp; Iterative Process from C to B to A within Transdisciplinary Team for the Design of Interventions</b> |                     |  |   |
| <b>D.<br/>COMMENCEMENT<br/>OF SITE WORKS</b>   | -                   | Mortar and Surface<br>Coating Analysis   | -   |

Table 1: A description of the iterative process between analysis and design of interventions, resulting from the transdisciplinary approach.

The interdependence and porosity of the transdisciplinary approach created a multi-layered body of knowledge with a consistent stretching of paradigm and with a fascinating intertwining of research and analysis. Moreover, the contribution of the different members of the community shifted perspectives constantly and widened areas of analysis and study, both through sharing of memories and through archival records. Consequentially, the design of interventions became an iterative process, adapting as the ‘new intellectual space’ transformed itself. (McGregor, 2004);

Today, as the conservation intervention proceeds, it is expected to change in response to the results of materials’ investigation and differences in approaches. At these times, conservation principles and practices may need to be questioned, tried out and elaborated in a social process of consultation (Eastop, 2011, p. 427)

As outlined earlier, the importance of inter-semiotic translation is particularly highlighted in a transdisciplinary approach, with participants communicating in languages of different technical or non-technical natures. In this respect, the conservation team does not only allow the co-existence of several discourses, it must also record, interpret and mitigate the possibly conflicting narratives to produce a coherent approach to the building that incorporates all the knowledge available at the time.

Armed with a more in-depth knowledge of the construction techniques of the masonry structure, a closer live visual inspection of the building fabric was carried out using a drone camera. The collaboration between the drone operator and the team present during the inspection allowed for the newly discovered areas of concern, particularly in the spire, to be studied in greater detail, revealing more deterioration patterns than initially envisaged. The closer inspection further identified possible previous repairs carried out on the spire. This

discovery confirmed information relayed by members of the community in the earlier stages of the analysis. The exercise proved to be an example of the power of the interdependent relationships created through the transdisciplinary approach, with a broader knowledge of the building being developed through the interaction between the collaborators who fed into the iterative process consistently.

The design of interventions within the conservation strategy for the pro-Cathedral was as a result rooted in a wider and deeper context of understanding, ensuring that the decision-making process catered for the preservation of the monument in its entirety. The iterative process allowed for the restoration methodologies to continue to evolve as the initial restoration works progressed on site, with any new discoveries carefully documented and recorded. As an example of the multifarious elements that came into play during the iteration, several graffiti uncovered on the internal tower and spire masonry walls are currently being studied through a combination of documentation and archival research. Furthermore, the analysis of several layers of superficial deposits on the masonry surface, together with the study of the composition of the original mortar is on-going through a collaboration with a team of chemists at the University of Malta. Thus, iterative mechanisms provide an understanding of the monument that transcends the initial implementation of the conservation strategy in a process that continues to develop even after the restoration project itself is achieved.

Sustainability in conservation interventions is particularly crucial in the context of this combination of transdisciplinary approach and iterative process, and the understanding of the building does not come to an end when the restoration is concluded. Restoration interventions attempt to prolong the lifespan of the monument, giving an opportunity for a further understanding of the tangible and intangible elements of the building which continues to exist, paradoxically, in a state of anachronism, a fold between history and time which Didi-Huberman described as to “move across the depths of multiple memories, weave together the fibres of heterogeneous time, recompose rhythms in disconnected tempi” (2003). The focus on the process rather than on the object has indeed allowed to encompass layers of history and meaning that transcend a linear and homogeneous reading of a building’s history.

## **Conclusion**

An integrated transdisciplinary team may be considered critical in developing an appropriate response to any conservation programme. The collaborative processes of the transdisciplinary approach favour methodologies that are necessary to anticipate issues of building pathologies, sustaining the decision-making process and encouraging it to select the most compatible interventions to preserve both tangible and intangible elements. A transdisciplinary approach also allows all concerns to be voiced, in turn facilitating an unfolding of all historical paradoxes (Didi-Huberman, 2003). This contributes to a holistic conservation project. Whereas the face of the building may carry the signs of inwards qualities or defects, relying on transdisciplinary expertise at early stages allows for a more accurate understanding of the conservation issues at hand.

## References

Bertucci, P. (2017). *Artisanal Enlightenment. Science and the Mechanical Arts in Old Regime France*. New Haven and London: Yale University Press.

Chatzigrigoriou, P., et al. (2021). “Is Architecture Connected with Intangible Cultural Heritage? Reflections from Architectural Digital Documentation and Interactive Application Design in Three Aegean Islands”, *Heritage* 2021, 4(2) <https://doi.org/10.3390/heritage4020038>

Curran, K., & Zimmermann, N. (2021). “The Dynamics of Collaboration in Heritage Science”, *Studies in Conservation*, DOI: 10.1080/00393630.2021.1875175 [Accessed 28th June 2021].

Della Spina, L. (2019). “Historical Cultural Heritage: Decision Making Process and Reuse Scenarios for the Enhancement of Historic Buildings”. In: Calabrò F., Della Spina L., Bevilacqua C. (eds) *New Metropolitan Perspectives. ISHT 2018. Smart Innovation, Systems and Technologies*, vol 101. Springer, Cham. [https://doi.org/10.1007/978-3-319-92102-0\\_47](https://doi.org/10.1007/978-3-319-92102-0_47)

Didi-Huberman, G. (2003). “History and Image: Has the “Epistemological Transformation” Taken Place?”. In M. F. Zimmermann, *The Art Historian. National Traditions and Institutional Practices*. New Haven and London: Yale University Press

Dreyfuss, G., et al. (2019). *Interdisciplinary and Non-Invasive Approach to Building Pathology Diagnosis in a Historical Masonry Structure*. Frontier in Heritage Science, Scientific Symposium 14-15 February 2019

Eastop, D. (2011). “Conservation as Enacted Ethics”. In J. Marstine (ed.), *The Routledge Companion to Museum Ethics. Redefining Ethics for the Twenty-First Century Museum*, pp. 426 – 444. London and New York: Routledge.

Gorringe, T. J. (2011). *Earthly Visions. Theology and the Challenges of Art*. New Haven and London: Yale University Press.

Heritage, A. (2018). “Current Issues and Future Strategies in Sharing Conservation Decisions. Findings of the ICCROM Seminar held in Rome, 4-8 July 2011”. In A. Heritage & J. Copithorne (eds.), *Sharing Conservation Decisions: Current Issues and Future Strategies*. Rome: ICCROM.

Jensenius, A.R. (2012). *Disciplinarity: intra, cross, multi, inter, trans*. Available at: [www.arj.no/.2012/03/12/disciplinarity-2](http://www.arj.no/.2012/03/12/disciplinarity-2) [Accessed 25<sup>th</sup> June 2021].

Lattanzi, M. 1998. *Transdisciplinarity at UNESCO*. Available at: <https://unesdoc.unesco.org/ark:/48223/pf0000114694> [Accessed 25 June 2021].

Luers, A., & Kroodsmas, D. (2014). “Science Communication in the Post-Expert Digital Age”. *Eos Trans. AGU*, 95( 24), 203. <https://doi.org/10.1002/2014EO240003>

McGregor, S. L. T. (2004) *The Nature of Transdisciplinary Research and Practice*. Available at: <http://www.kon.org/hswp/archive/transdiscipl.pdf> [Accessed 25 June 2021].



