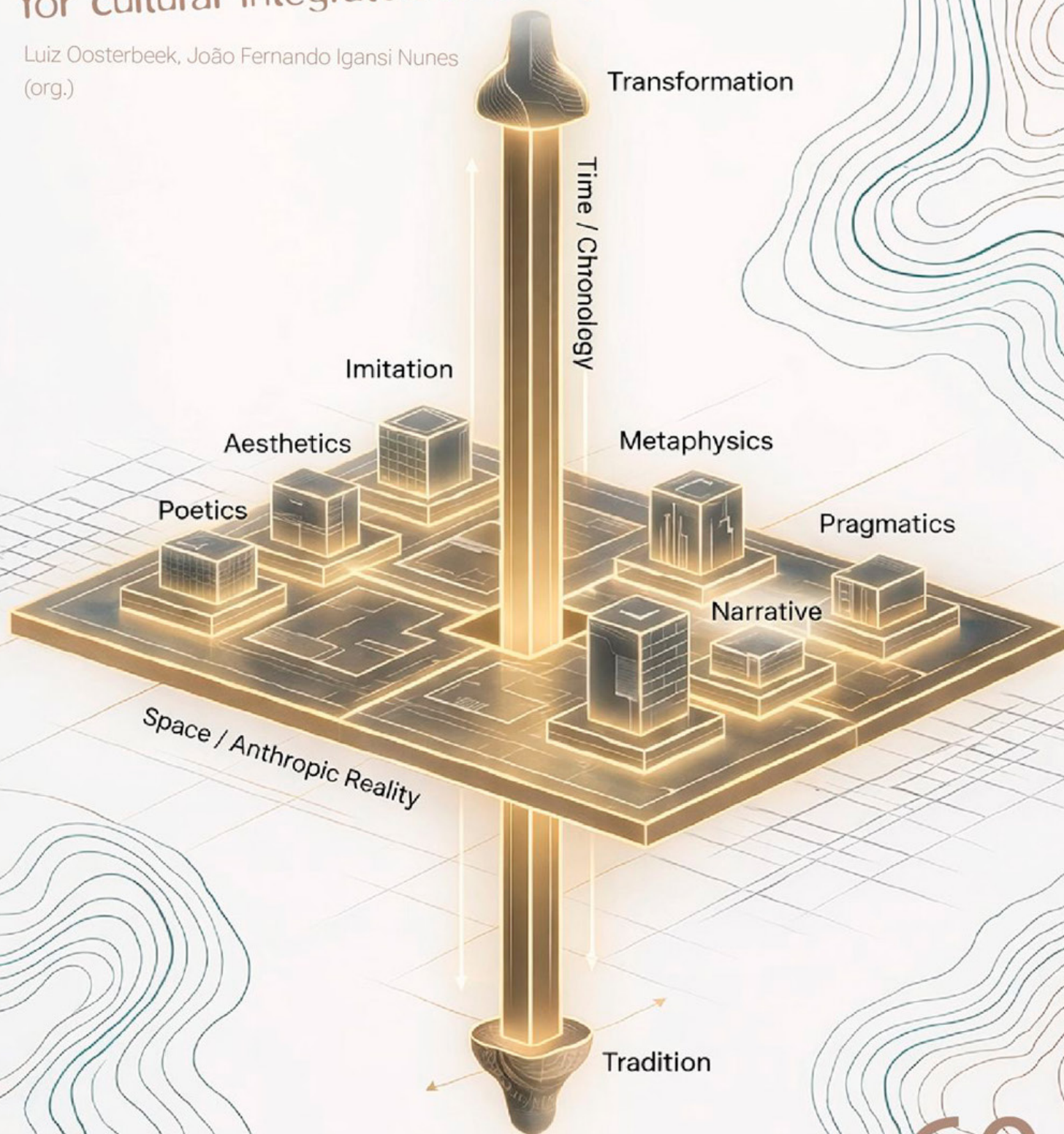


COMMUNITIES IN TRANSFORMATION

Transdisciplinary contributions
for cultural integrated landscape management

Luiz Oosterbeek, João Fernando Igansi Nunes
(org.)



ARKEOS60
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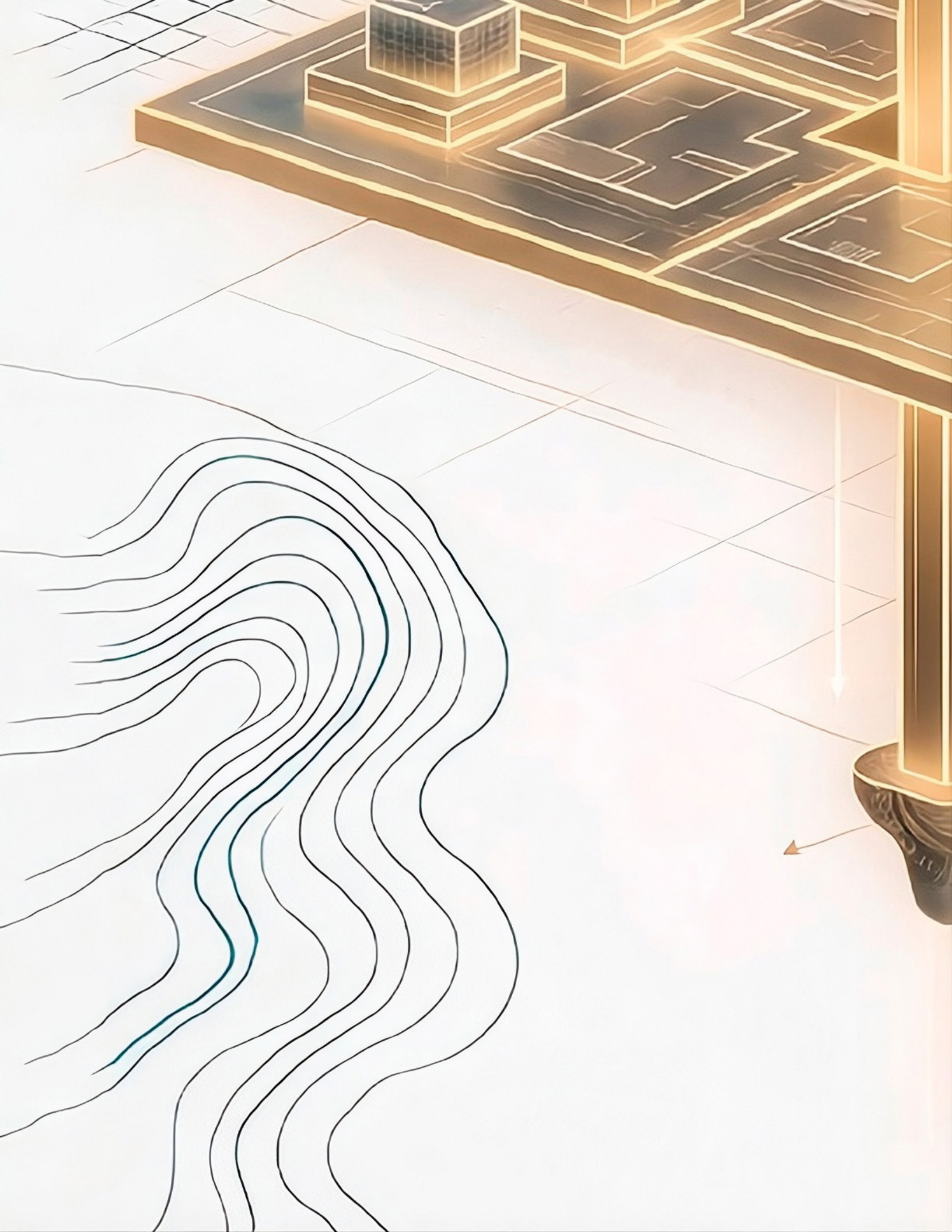
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Introduction

LUIZ OOSTERBEEK; JOÃO FERNANDO IGANSI NUNES

Between 2015 and 2024, over 100 scholars and 200 research students have been involved in the APHELEIA International Seminars on transdisciplinary and humanities contributions for sustainability, also preparing several publications. APHELEIA started as an EU funded project, in 2014, becoming an International Association in 2018, that eventually became a member of the International Council for Philosophy and Human Sciences (CIPSH). It intervened in the UNESCO project “Broadening the scope of sustainability science” and became relevant in the conceptualization of the new program BRIDGES (of UNESCO). Its members have been active in several projects, among which the establishment of UNESCO and CIPSH chairs, new Master and PhD programs and relevant initiatives such as The Jena Declaration.

In 2024, the APHELEIA seminar occurred between 13 and 22 March, as always in Mação (Portugal). This 10th edition was also organized in the framework of the 75th anniversary of the International Council for Philosophy and Human

Sciences, and focused on the theme “Museums, Landscapes and Governance”, aiming to bridge, from an interdisciplinary and transdisciplinary framework, theoretical approaches and academic and community-based practices, through time, on the role of heritage and museums or related structures in society, beyond the so-called “cultural sector”.

The construction of a growing people’s access to decision-making process, from modernity through enlightenment, was structured through an education process that established public instruction and civic museums as its main pillars. The notion of the Museum, no longer as a curiosities hub but as research and education to inspire leadership and foresight, proved to be a major lever for the expansion of citizenship.

Both public instruction and civic museums have undergone, for a few decades now, a profound shift in their organic role and performance. The focus on critical reasoning education for the uncertain future has been largely replaced by a focus on competencies for the present and immediate future goals. In parallel, the orientation of museums towards civic education and historical remains study and preservation gave the floor to an orientation towards enjoyment, fruition and preservation of memories.

This shift, that translates into the sphere of Museums the tension between History and Memories, despite entailing risks in terms of humanistic knowledge and citizenship building, paradoxically paved the way for a potential stronger insertion of museums into the sociocultural tissue, offering them the possibility of playing new roles in societies’ governance.

The APHELEIA 10th International Seminar contributions aimed to bring forth some key projects, networks and approaches, attempting not only to describe specific site-based contexts, but to attempt to understand convergences, similarities, possible patterns and trends. The seminar discussed the mechanisms of interrelation and interdependence involving collections, research, science, history, memories, education, critical reasoning, critical assessment of contemporary

concerns, civic debate, creativity, foresight, innovation and governance.

In 2025, the APHELEIA 11th International Seminar followed this, involving lectures, workshops, experimental practices, artistic exhibitions and performances, involving over 70 archaeologists, craftspeople, artists and other researchers, from Europe, Africa and Southern America. Activities included several transformative and transdisciplinary exercises, illustrating processes of knowledge co-design and co-construction, which express cultural diversity and humanistic convergence. The whole seminar was structured as a contribution for research on integrated landscape management for sustainability, looking in particular to how crafts and arts, and their material outputs, play a role in the social and cultural transformation of communities. The topic has been chosen also in relation to the 20th anniversary of the Convention on the Protection and Promotion of the Diversity of Cultural Expressions and was organized bringing together three main European Commission supported networks-

A first dimension of dialogue of perspectives within and beyond Europe was structured in partnership with the project AMIGO, supported by the European Commission (Erasmus + KA1, contract 2022-1-PT01-KA171-HED-000075162), which involved the participation of the Polytechnic Institute of Tomar and Universities from Burkina Faso, Cape Verde, Montenegro, Namibia, Nigeria and Senegal. A strong focus was put on the relation between heritage, archaeology and the arts, their relation to resilience and adaptation mechanisms, including the economic dimension.

The seminar also included a Transformation Campus, involving three workshop blocs and artistic practices. These workshops are designed as key moments of reflection, inspiration, and collective conception, where participants were invited to share their experiences, ideas, and projects. Structured around three main themes, they aimed to explore and shape the tools and methods of tomorrow, embedding transformative artistic practices within territorial dynamics. More than just an exchange, these workshops functioned as living laboratories, weaving together

bouquets of action models, tools, and intervention strategies—as enduring and resilient as bellflowers rooted in their ecosystems. The Transformation Campus was part of the project Transformative Territories, supported by the European Commission (Creative Europe, contract 101130934 — T T), involving as partners: COAL (coordinator), Parti Poétique, Campo Adentro, Art Dialogue, Locus Athinon and Instituto Terra e Memória.

Thirdly, the 11th APHELEIA seminar paid special attention to sound and music in the context of museums, in its cognitive and experimental dimensions. This included lectures and a workshop, with performances, all within the project EuroMuse, supported by the European Commission (Creative Europe, contract 101174046 — EUROMUSE), involving as partners: Earth (coordinator), Centar za Primenjenu Muziku, Museo dei Bambini Societa Cooperativa Sociale, Kotsanas Museum of Ancient Greek Technology, Municipio de Mação, IEMA-Greek Music Information Centre, Mapa das Ideias, Muzej Nauke i Tehnike – Beograd and Universita Telematica Pegaso.

Other networks were also involved, in these two seminars, in 2024 and 2025, namely the project RA3I on rock art and artificial intelligence (supported by the Portugal 2030 – Centro program) , the Erasmus Mundus Master in Quaternary and Prehistory, with the universities of Ferrara, Tarragona, MNHN and Philippines Diliman (supported by the European Commission, contract ERASMUS-EDU-2024-PEX-EMJM-MOB-101177274 — IMQP) and the strategic project of the Geosciences Centre (supported by the Portuguese Foundation for Science and Technology).

The outcomes of the Seminars are now published as a single volume on “Communities in Transformation. Transdisciplinary contributions for cultural integrated landscape management”, as a contribution for the UNESCO program BRIDGES (in partnership with the UNESCO-IPT Chair in Humanities and Cultural Integrated Landscape Management) and for the UN Decade of Sciences for Sustainable Development.

The volume is structured in four sections. The first section discusses the notion of community and on one hand how communities' self-representation intervene in the public space and how this interacts with education, following an opening article by Piero Dominici, on the epistemological and educational challenges of contemporary societies, followed by reflections in the domains of literature (Celeste Afonso), photography (António Ventura), and communities practices (Ana Isabel Freitas, Rufus Malim). This chapter concludes with an article of Luiz Oosterbeek on the role of the humanities for sociocultural transformations.

The second section discusses interactions between museums and communities. The opening article, by Maurizio Quagliulo, call upon reflecting on the role of museums for current challenges and concerns related to coexistence among human beings, echoing debates that find their roots in the eighteenth century. This is followed by contextual studies on southern Brazil and the concept of distributed museum (João Fernando Igansi Nunes et al.), the interface nature/culture in Nigeria (Mary Aderonke Oguntuase et al.), the specific case of industrial ruins (Francisca Ferreira Michelin et al., Zoltán Somhegyi), but also the interface between tangible and intangible experiences (Aleksandar Vl. Markovic, Biljana Jokić et al.), connecting to the following section focus.

In the third section, three articles offer address dimensions of intangibility, connecting objects and performance, inviting to reflect on the inadequacy to separate the materials from their intangible performative use, as well as gesture from its tangible products. This is the focus of the concerns of Maurizi Quagliuolo, preceded by a long chronology assessment of the relevance of percussion and rhythm and followed by a reflection on the processes of cultural transformation of traditional societies in Mongolia, including the transformation of knowledge.

Knowledge as a binder of communities, informing their identity and performance, is the theme addressed in the last section, considering different kinds of communities, including the community of researchers (Lassané Toubga), the transdisciplinary frameworks of their interactions with traditional knowledge (Sih

Natalia Sukmi), the relevance of experimentation in education for understanding cultural change through technology (Davide Delfino et al., Ayesha Arobi) and the relevance for sustainability of tasks performance related to social functions (Ana Marta Clemente, Yesaya Sandang).

Together, these 22 articles offer a set of reflections on what are “communities”, how they perform, which can be their role for sustainability and how knowledge is the core of their definition, This is particularly relevant since the participation of communities in decision-making procedures is often fostered, but without a clear understanding of how to define them, within, beyond and across other institutional boundaries.

No Error (?) The epistemological and educational challenges of the Society-Mechanism (and the Mechanism-Society)

PIERO DOMINICI¹

In recent times, we are finally beginning to develop a deeper awareness of the strategic relevance of education. It is not exaggerated to say that everything begins with education, even economic development and the quality of democracies and politics, not to mention the possibility of creating equality and fairer, more open and inclusive societies. These improvements can only come about by way of a kind of education taught with a systemic approach (Weaver, 1948; Bertalanffy von, 1968;

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Bateson, 1972; Morin, 1973, 1990; Le Moigne, 1977; Capra, 1975, 1996; Maturana – Varela, 1980, 1985; Foerster von, 1981; Prigogine – Stengers, 1984, 1997; Kauffman, 1993; Gell-Mann, 1994, 1995; Laszlo, 1996; Bar-Yam, 1997; Barabasi, 2002; Diamond, 1997, 2005; Israel, 2005; Dominici, 2019, 2022b, 2022d, 2023a, 2023b, 2025; Nicolis & Nicolis, 2007; Montuori, 2014; Blastland, 2019), where students learn how to engage in critical thinking and how to use their own heads independently and analytically. This kind of systemic education will create citizens who participate actively in their democracies. All of the other factors: economic development, politics and democracy, vitally depend on education and the investments made in this crucial resource.

It is therefore quite paradoxical that although today, even more so than in the past, education is the “talk of the town”, very few or no investments are being made in the education of the new generations. What is instead being proposed is to intensify the use of artificial intelligence, as though this could somehow produce an instant solution. However, this means weakening even further the motivation and the capacity of students – and citizens – to think for themselves. Speaking of citizens, citizenship itself must no longer be considered simply a legal issue. It is especially dangerous in an era when person-to-person contacts are being substituted by virtual relationships to limit the idea of citizenship to a bundle of laws and norms (Marshall, 1950; Gramsci, 1975; Habermas, 1962; Rawls, 1982; Coleman, 1990; Dewey, 1992; Sen, 1992; Dahl, 2000; Dahrendorf, 2001; Bellamy, 2008; Norris, 2011; Dominici, 2022d, 2023a). Rather, it is the quality of education and of the educational and training institutions themselves that determine the possibilities of being a citizen, both locally and globally.

Working myself in the field of education as a university professor, I have, for the last thirty years, found myself dealing with complexity and complex systems, and with the teaching of complexity and unpredictability, which I consider I consider to be a fundamental approach for dealing with what I have called “the age of obsolescence” (Dominici, 2017a, 2017b, 2020b, 2022a): obsolescence of

knowledge, skills, and paradigms (Poincaré, 1908, 1934; Popper, 1934; Morin, 1973; Lakatos-Musgrave, 1970; Prigogine-Stengers, 1979; Prigogine, 1996; Loman-Fernbach, 2017). In particular, the dominant paradigm of the hyper-technological civilization continues to underestimate the importance of thought and of a thought system. Strangely enough, we want to deal with artificial intelligence, without first understanding human intelligence.

The thinking that is involved in human intelligence is an extremely complex kind of thinking, in which individual thought is an emergent property and not the result of certain hetero-directed instructions from above. However, this is not understood by the hypertechnological civilization, whose hegemonic paradigm is built on what I have defined “the ultimate error”: the confusion between complicated systems, which are predictable, and governed by linear relationships, and complex systems, which are unpredictable, chaotic, nonlinear, and governed by systemic relationships and by what are known as “emergent properties” (Dominici, 2024).

A paradigm that continues to consider only technical knowledge and hyper-specialisms as fundamental. A paradigm that is constructed around five grand illusions: illusions of total control, rationality, measurability, predictability and the elimination of error (Dominici, 1996-2025). A paradigm that uses “trans-disciplinarity” as a slogan, without making any effort to understand that inter, multi and transdisciplinarity, together with the urgency of reimagining education as teaching complexity and unpredictability, have become issues of such vital and strategic importance that they no longer concern only scholars, experts and scientific researchers: they are issues that closely affect the survival of our democracies, and more generally, the possibility of inhabiting complexity, or better yet, hyper-complexity, since neither can be managed. I speak of hypercomplexity because, in my opinion, in recent times, the natural complexity (Weaver, 1948; Simon, 1962; Hayek von, 1964; Morin 1977-2004; Kauffman, 1993; Kiel, 1994; Gell-Mann, 1994, 1995; Israel, 2005; Montuori, 2014; Dominici, 2019a, 2019b, 2022b; Turner-Baker, 2019) of living systems has undergone a transformation within social (human)

systems, not only through an enormous increase in parameters and variables, but also through an exponential acceleration of all processes and an unlimited virality of communication. More than ever before, being able to see the connections has become paramount; concerning education, the connections that must be seen first are those between fields of knowledge. The ideas that complexity is opposed to specialization, or that specialization is incompatible with multi / inter / and trans-disciplinarity are examples of the many “false dichotomies” (Dominici, 1996), which we continue to nurture and re-produce in educational processes, even in scientific research.

Furthermore, in a global world (Todorov, 1998; Beck, 2000, 2008; Touraine, 2004; Bauman, 2008; Rosa, 2010), it becomes even more important to extend and strengthen the networks of study, cooperation and research on an increasingly transnational plane, maturing the renewed awareness that we need to rethink our organizations from a humanistic perspective, through a complex-systems approach. Speaking even more clearly, we need to conceive of our organizations, social systems and democracies as living organisms rather than as mechanisms (ibidem). This means formulating a valid thought system to replace traditional mindsets.

We are faced with problems that, once again, show all their systemic, interdependent and relational dimensions, and we are faced with challenges, primarily epistemological and educational challenges, that require us to question the very categories, architectures of knowledge and skills, thinking and system thinking, through which we have so far attempted to manage the complexity of complex social systems (Luhmann, 1984, 1990, 1996). In fact, the old linear, reductionist-deterministic mentality that characterized the hard sciences and various other disciplines, whose exponents in the last centuries were convinced that scientific and technological progress would bring us to a point in which all phenomena could be understood and controlled, that the development and behavior of living beings could be determined, has for some time had to give way to the evidence that it will never be possible to render life and the evolution of all living systems predictable

or manageable. Yet, for some strange reason, precisely today, many people involved in information technology, among them engineers, software programmers, and various other experts, are returning to this outdated linear and deterministic mentality, certain that the programs they create, the algorithms and the capacities for super-performance of Artificial Intelligence (Wiener, 1948, 1950; Dreyfus, 1972; Finn, 2017; Tegmark, 2017; Bostrom; Boden, 2018; Sadin, 2018; Fry, 2018; Crawford, 2021) will soon ensure that everything will be predictable and controllable. They have forgotten about complexity, about self-organization, about emergence, about the incredible power of transformation that can be triggered by simple, lowly, humble little parts of any living system.

It is therefore more urgent than ever before to question age-old reductionist and deterministic approaches: for example, the hegemony of the economic paradigm that still sees economics as an “exact science” and not a “social science.” I mean to say that economics refers to the social, to activities produced by human beings, and as such can never offer precise formulas for controlling or foreseeing the twists and turns of chaotic humanity. Moreover, the current craze for simplification needs to be re-examined. In fact, we continue coping with complexity by trying to simplify everything, even what cannot be simplified (keeping in mind that the opposite of complexity is not simplification but reductionism). Even worse, deliberately or not, we are on our way to marginalizing the human factor to the advantage of the so-called “intelligent machines” (Neumann von, 1958, 1966; Dreyfus, 1972, 1992; Domingos, 2015; Finn, 2017; Fry, 2018). Evidently, it seems that the human factor is too messy, too much a carrier of error, unpredictability and assumption of responsibility, so messy, in fact, that some would like to flatten out and correct all that is human. And yet, error is an important part of learning. And it is undoubtedly an integral part of being human.

No one today can deny that most of us are living in a complex society that is surrounded on every side by ever-encroaching technology. Some of the reflections that have marked my research activities for many years on the future

prospects of education in this hyper-technological and hypercomplex civilization regard the illusions, fallacies, challenges and myths that prevent us from learning how to inhabit the complexity that surrounds us. For example, the hyper-technological civilization, in addition to being marked by a paradigm shift, an ongoing process of anthropological transformation, and the radical interdependence and interconnectedness of all processes and phenomena -- whose systemic and relational dimensions, by the way, we have discovered precisely thanks to our scientific discoveries and new technologies -- is based on the five grand illusions I mentioned before: the delusion of rationality, total control, measurability, predictability, and the elimination of error. All of these are related to the belief that only what is quantifiable is valid, and that the only factors which need to be considered are facts, figures, data, statistics, molecules, hormones and chemical synapses, thus locking our schools, organizations and communities into a veritable tyranny of concreteness (Dominici, 2017, 2022; see also: Hammersley, 2013). But the data cannot tell us about the qualitative factors: it cannot interpret our vision of interconnectedness. The qualitative factors are what motivate us to go beyond the rationale of always looking for something “useful” in what we do or study.

Absurdly enough, although this technological civilization has of course been designed and programmed by human beings, it seeks incessantly to marginalize the human factor itself, as the bearer of error and unpredictability, as though these intrinsic components of all living systems could be eliminated, cast away along with any temptation to assume our own responsibilities, by extending the dimensions of surveillance and of technological control in an unlimited manner, often resorting to a never-ending sequence of emergency situations.

And yet emergencies, unexpected events, and so-called black swans (Stewart, 1989; Taleb, 2007, 2012; Dominici, 2017, 2023) are actually structural, connotative, inseparable features of complex systems, thus of all living systems, which once again, must not be confused with complicated systems – artificial and mechanical systems, whose parts can be broken down, observed, analyzed, and put

back together again. The sum of its parts will be equal to the whole. Although in everyday language, “complex” and “complicated” may be used as synonyms, when speaking of systems, they are diametrically opposed. The sum of the parts of a complex system can never be the same as the whole, because the whole is always greater, richer, and more varied. And a complex system has many, many, interconnected, interdependent, interacting parts. The importance of this numerosity is crucial: as the physicist Philip Anderson once put it: “more is different.” (Anderson, 1972).

The evolution of a complicated system can be predicted and controlled; the evolution of a complex system no, because the parts of which it consists are dynamic, spontaneously self-organizing, and impossible to manage or control: these parts are capable of spontaneous self-organization, giving rise to completely new dynamic and interactive elements; in short, they are capable of “emergence.”

Another important aspect of complex systems is that they are impossible to observe from outside. In any complex system, in fact, the act of observing changes both the system and the observer. This is a well-known phenomenon in sociology, for example, where we prefer to speak of an observer-participant.

Returning to the interacting subparts that make up the dynamic structure of complex systems, one more essential property of these systems is what is commonly known as the “butterfly effect”, which means that any small change – even a very, very small change – in one of the countless parts of the system can have an enormous effect on the entire system (Lorenz, 1963). And that, applied to social and human systems, is extremely relevant.

Clearly, therefore, the evolution of complex systems, as opposed to complicated systems, whose differences we have just examined, simply cannot be controlled, managed or predicted. The belief that such control is possible through instruments such as algorithms or artificial intelligence, takes us back decades to a linear, reductionist and deterministic vision of society and life. And in fact, our educational and training processes continue to propagate a perspective that isolates, separates, and identifies as single ‘objects’ what are deeply interdependent

and interconnected. This is one of the reasons that we have become accustomed to seeing systems as objects, when instead we should be perceiving objects as systems. In other words, the misleading concept that the ‘solutions’ to our problems are related to the possibility of isolating the individual ‘parts’ that make up systems is deeply engrained within the both the teaching and learning that goes on within our educational institutions. Yet complexity, as a feature of life and living beings, requires an extremely wide range of abilities, skills, epistemologies: above all, it calls for a different approach to education.

In particular, the rethinking that must be undertaken to educate our students to be able to inhabit the future in all of its extraordinary complexity has always been one of the key points of my research and studies. Inhabiting complexity (1996) depends on our ability to identify, recognize, and investigate the connections, the correlations and the interactions between the interdependent parts that constitute the systems.

This is, first and foremost, an epistemological challenge! It should also be the primary function of education: educating to see and make connections, systemic connections. Quite the contrary of the “false dichotomies” which continue to be perpetrated, both in our educational institutions and our organizations, even as we give lip service to multi, inter and trans-disciplinarity. These are “arbitrary divisions” between two complementary aspects of so many of our concepts. We must find a way to re-unite these aspects. Especially in a moment when artificial intelligence, along with all the other ‘connection technologies’ are contributing to increase the interconnectedness and interdependence of all factors, the urgency of overcoming the logic of separation and decomposition of the problems we face becomes even more evident.

The missing factor, which is becoming more and more urgent, is none other than the necessity for a systemic vision and a renewed dialogue and contamination – especially in our educational institutions -- between knowledge and skills, between the humanities and the sciences, between technology and culture,

rationality and creativity, form and substance, and above all, between the human and the technological. We need to heal the artificial fracture separating these concepts into false dichotomies, which stand in the way of a true interdisciplinary, multidisciplinary, transdisciplinary preparation for life and work. What definitely are not needed are old and new logics of separation and the confinement of knowledge and skills within narrow borders. Furthermore, our obsession with concreteness – or, to be more exact, the current “tyranny of concreteness” that is oppressing our age, with the idea that only technicians or hyperspecialized profiles will be needed in the future (Arendt, 1958; Fischer, 1990; Friedman, 2019; , will only lead us further and further into what I have called the “great mistake.” (Dominici, 1996-2024) The great mistake is the “carte blanche” that we have granted to technique and technology, reintroducing the same reductionist and deterministic approaches as anon, which have pervaded all aspects of society, including our schools, with the idea that educational processes are questions of a purely technical nature, solely a problem of skills and know-how and nothing more, whereas it is the “why” and not only the “how” that students should be taught to ask themselves.

Here I would also like to add a note of warning about the tendency – and the temptation – to make everything “easier” and “more convenient” – in a word, to facilitate our lives in every way. It sounds very attractive, but what actually happens when we follow the easiest path? What happens to motivation, to discipline, to practice, to sacrifice, to study, what happens to our ability to fight and struggle for what is important – and also for who is important in our lives? Where and how do we develop the skills, the desire, the persistence, and the patience necessary to become full and mature human beings capable of both creativity and logic? I’m afraid that this obsession with facilitation – with making everything easier, at least apparently, will end up weakening our bodies and our minds. In particular, it will weaken the bodies and the minds of our children, our future generations.

In order to avoid these pitfalls, and, specifically, to correct the above-mentioned great mistake, it must be clear that “rethinking education” in a hyperconnected

society cannot be linked only to technological innovation and to its disruptive velocity, which becomes even more impelling with the advent of artificial intelligence and the processes of automation and simulation found within education, training and research. Most importantly, it is necessary to adjust (indeed, to reverse) the trajectories that are currently being applied to AI in education.

The first step that needs to be taken is to train our students to make connections and to think critically and systemically, so that they will be capable of using AI and other technological instruments in a creative and productive manner. Quite the contrary of what is being proposed and enacted in the halls of education: AI is being used to educate our students. What can they learn from this other than to think like machines? That is doing things backwards, completely backwards, and unfortunately that is exactly what is increasingly being adopted and recommended. While the phenomenon of machines becoming more and more similar to humans may arguable be advantageous under many aspects, the opposite prospect, that of human beings becoming more and more like machines, should leave no one in doubt as to its disastrous portents.

In any case, the ubiquity of AI cannot but bring about a new paradigm shift, which can well be considered a “new epistemological fracture” (Dominici, 1996) that is likely to do away with the boundaries still left standing, including those previously mentioned between “complicated systems” (mechanisms) and “complex systems” (organisms). Once again, the urgency in the face of such a radical change is that of moving beyond the quicksand(s) of disjunctive thinking and mono-disciplinarity that mark our educational and training institutions. Hence, it is not simply a matter of extending or adapting the traditional educational methods and processes to adjust to the digital revolution and the transformations it has determined, nor is it simply a matter of updating contents.

In our daily interaction with technology, we tend to forget that, far from leaving culture behind it in the hyper-acceleration that we are experiencing, far from being something external to the cultural “dimension”, technology is quite

literally a part of culture: it was conceived, designed and implemented within culture. In fact, trying to innovate through technology without culture, focusing only on quantitative factors while neglecting the qualitative factors, will only result in a would-be innovation, incrementing inequality and asymmetry in our societies. This is one of the results of the present-day “tyranny of concreteness” mentioned before, which is dominating the modern mindset. Surrounded as they are with these “concrete” walls, educational processes will only be able to prepare students to understand the value of qualitative factors if we completely reformulate our schools and universities, incorporating the principles of uncertainty, doubt, error, and unpredictability. Error, doubt and unpredictability, by the way, could be codified with the acronym EDU, which, significantly, just happens to form the beginning of the word “education”.

Educators, therefore, must overcome the age-old linear and cumulative models, going beyond the “logics of separation of fields of knowledge” and the individualistic dynamics that consent solely the “transmission of knowledge”, and not its communication and sharing. Our students will never become capable of analysis, systems thinking, or of using the scientific method (Weber, 1958; Heisenberg, 1958; Popper, 1934) if they have not been taught how to use logic to develop or verify arguments, if they have not learned a “method” for synthesizing the enormous quantities of information they encounter, if they have not received an education that enables them “to see the connections between knowledge and life-experiences” and to evaluate the social-historical origins of cultural norms and legal norms, if they have not been taught to see objects as systems, rather than vice-versa.

Furthermore, the traditional concept of learning as a process of accumulation of knowledge must be overcome, in view of increasingly complex and articulate learning processes that are more oriented towards cooperation and collaboration. A word of warning, however: cooperation and collaboration do not imply the exclusion of a free exchange of opposing opinions, discussion and debate. On the contrary, our educational institutions must prepare us to inhabit the future

in a complex world, encouraging (respectful and healthy) conflict and debate, and above all, encouraging students to understand the value of error itself as a learning experience. Error not only on the part of those who are learning, but also on the part of the educators and the educational systems. Students should be stimulated to question and verify the validity of what they are being taught, instead of simply accepting the standard answers/solutions, to experiment new areas and methods without fear of failure or disapproval, to delve deeply into problems, rather than searching for immediate solutions, or for simple solutions to complex problems.

A word of praise for error is something rather infrequent, unfortunately, because error, apart from being an intrinsic feature of complex systems, is a source of knowledge and vitality and an essential part of learning. Educators should encourage error rather than insisting on predetermined or standardized answers: error is what stimulates creativity and innovation. Even more, error is what makes us “free human beings.” Thus, the attempt to eliminate conflict and error from social systems or communities is not only impossible, it is also a uselessly repressive strategy, which can only cut off critical thinking and healthy dissent. Many important scientific discoveries and inventions have been the products of error.

Last but not least, students should be encouraged to pursue their own interests and passions, rather than resigning themselves to following the most “useful” path. In any case, even choosing the most useful path is a deceptive concept, as today it is by no means an easy task to foresee which disciplines and skills will be requested five or ten years from now, considering the speed at which competences and even professions become obsolete. Evidently, there is no straight path through complexity, and complexity is a fact of life; it is not an option. Moreover, keeping in mind the astounding hypervelocity of today’s systems, in conjunction with the current virality of communication, it would not be out of place to say that by now, hypercomplexity is a fact of life as well. We must, at all events, learn to inhabit (hyper)complexity without fooling ourselves by the blind belief in the grand illusions of the hypertechnological civilization mentioned before, which indubitably

pose the greatest danger for our educational processes in particular: the illusion of total control, the illusions of rationality, of measurability, of predictability, and of course, the illusion of being able to eliminate error from our systems, studies and organization. Should we remain caught in these grand illusions, it will be to the detriment of our educational institutions and of our democracies themselves. An important note to be added is that we must never confuse education with indoctrination or the transmission of notions - as is too often the case. Unfortunately, what we are teaching our students – or rather training them – is to be “mere executors of functions and rules”, who are not even capable of reflecting on their nature, on what governs these functions and rules, not to mention pondering “why”.

Instead, what we consider today to be the limits of the fields of knowledge, to be the borders between knowledge and skills, between rationality and creativity, can and must become openings, passageways, pathways, opportunities. What we need more and more urgently are hybrid figures “capable of holding together imagination and rationality, creativity and rigorous methodology, of uniting the human and the technological”. We can no longer afford the luxury of training solely technicians; precisely because we are living in a hypertechnological civilization. What we must fully realize, consequently, is that our organizations, our social systems and our lives should be taught, re-imagined and managed as “living organisms” and not as “mechanisms” and that we need to recover the qualitative dimensions of complex systems. To do this, we also need to bring the most creative disciplines and art back into educational institutions and into educational and research processes. We need to overcome the boundaries we have created which are blinding us to the true nature of our world, and are promising full domination of the future, whereas we should embrace the indeterminacy of life. After all, it is that kind of openness, of infinite possibility, of the certainty of uncertainty which makes our lives worth living.

As a closing thought, I would like to underline once again the fundamental relevance of transdisciplinarity with the same words that were used above:

Transdisciplinarity, together with the urgency of reimagining education as teaching complexity and unpredictability, have become issues of such vital and strategic importance that they no longer concern only scholars, experts and scientific researchers: they are issues that closely affect the survival of our democracies, and more generally, the possibility of inhabiting complexity, or better yet, hypercomplexity, since neither can be managed.

Meeting these epistemological and educational challenges, we can – I hope – change the trajectory of our civilization and avoid becoming a Mechanism-Society, or even worse, a Society-Mechanism.

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Kafka and the Paradox of the Common

CELESTE AFONSO¹

Introduction

This article emerges at the intersection of literature, philosophy, and heritage theory. It is part of a broader doctoral research project on the relationships between heritage, narrative(s), and community(ies). A simple - yet vertiginous - question runs through this project: what community is - or should be - involved in the recognition and care of a cultural good?

As the research progressed, it became clear that there is no single community. There are visible and invisible communities; human and non-human; local and transnational; permanent or ephemeral; stable or rhizomatic. Confronting this complexity also revealed that the notion of community is unstable, permeated by

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paradoxes. The tension between belonging and exclusion runs through all heritage processes, as does the tension between the desire for a shared common and the fear of alterity.

Within this questioning, Franz Kafka's work emerged as a fertile catalyst. Not as an answer, but as a field of problematization. Among his texts, the micro-story *Gemeinschaft* (Community), posthumously published in 1920, stood out as a fictional condensation of many of the questions explored in this project. It is a brief text - almost an enigma - that confronts the reader with a radical paradox: a community that only constitutes itself by rejecting the one who seeks to join it.

"We are five and we don't want to be six" (Kafka, 1920/2014, p. 92) becomes a symbolic matrix of a negative, immune community. In its apparent simplicity, the story offers a powerful critical lens to articulate contemporary debates on the common, alterity, and exclusionary mechanisms.

This article thus proposes a philosophical and existential reading of *Community*, in dialogue with a constellation of thinkers who have problematized the notion of community and the common: Ferdinand Tönnies, Roberto Esposito, Jean-Luc Nancy, Zygmunt Bauman, Donna Haraway, Anna Tsing, Gilles Deleuze and Félix Guattari, Bruno Latour, Timothy Morton, Eduardo Viveiros de Castro, and Isabelle Stengers.

It is not a closed interpretation, but an exercise in thinking: an invitation to question what kind of common we are willing to create, in a time marked both by the desire for new forms of coexistence and by forces of retrenchment and identity-based closure.

Kafka and the Suspended Community

Kafka's micro-story *Gemeinschaft* (Community), posthumously published in 1920, is one of his most radical gestures in deconstructing the idea of community. It is an extremely brief text, composed of a few lines, that exemplarily condenses the paradox of the common: a group that recognizes itself only by excluding the other.

The plot is minimal: “We are five friends” (Kafka, 1920/2014, p. 92). This sentence opens the story. The five live together, apparently in harmony, until a sixth man appears and persistently tries to join them. There is no explicit conflict or objective threat. Yet he is systematically pushed away with elbows, never understood nor heard, because any explanation would already imply his acceptance (Kafka, 1920/2014, p. 93). The decisive sentence - “We are five and we don’t want to be six” (Kafka, 1920/2014, p. 92) - crystallizes this paradoxical logic: the community is not defined by affinity or common project but by the negative gesture of rejection. It only recognizes itself by excluding the one who seeks to belong.

This literary gesture gains further resonance when contextualized in Kafka’s personal experience. The author lived in Prague, in a German-speaking Jewish family, as a minority within a minority. He was simultaneously part of and alien to multiple worlds - never fully integrated into the German, Jewish, or Czech national spheres. This experience of liminality runs through his entire work and helps illuminate the tension at the heart of *Community*: a community that does not welcome but repels; that is constituted not by affinity but by the rejection of the other. This logic of exclusion - belonging through refusal - resonates with Jean-Luc Nancy’s paradox of community: “Community is not a work to be realized, but a demand to share existence” (Nancy, 1986, p. 40), a sharing that, in the story, is blocked from the outset.

In *Community*, this dynamic takes a narrative form of extreme clarity: a suspended community whose only dynamic is the refusal of alterity. There is no court, as in *The Trial*; no bodily transformation, as in *The Metamorphosis*; but the same structural discomfort prevails: a world governed by an arbitrary and reiterated logic of exclusion. What is at stake is not the rejection of an individual but the refusal of any possibility of transforming the community.

Another crucial element is that the five only recognize themselves as a community

when identified from the outside: “People pointed to us and said: the five just came out of that house” (Kafka, 1920/2014, p. 93). Identity does not emerge from an internal process of construction but is imposed by the gaze of others. The community appears as a label, a stamp of identity, not as a self-founded collective subject.

The absence of action is equally revealing. As Jean-Luc Nancy reminds us, “Community is not a work to be realized, but a demand to share existence” (Nancy, 1986, p. 40). Yet the group in *Community* is inoperative: it does not act, welcome, or transform. Time seems suspended; space is closed; becoming is interdicted. It is a community without work, sustained only by the repetition of a gesture of rejection.

This closure also reflects the paradox Zygmunt Bauman sharply describes: “We long for community because it promises safety. But we fear it because it demands responsibility” (Bauman, 2001, p. 4). The sixth man is not rejected for what he does but for what he represents: the possibility of change, the rupture of identity-based security. By excluding him, the community reaffirms its closure - but also its fragility.

Finally, the logic of *immunitas*, as described by Roberto Esposito, becomes visible here: “Community is not what we have, but what we owe” (Esposito, 2010, p. 4). But the fear of this debt, of this openness to the other, generates defensive devices that block any relation. In *Community*, immunization is total: the group’s identity is preserved precisely by blocking relationship and refusing exposure.

Kafka’s microcosm thus serves as a symbolic matrix for thinking about the risks of contemporary forms of community. In times of identity, ecological, and political crises, the temptation to constitute closed, defensive, immune commons becomes visible at multiple scales. Kafka’s story offers a powerful warning: the desire for identity-based security can easily degenerate into a logic of total exclusion - and, with it, into the sterility and collapse of the very idea of the common.

Theoretical Crossings

Kafka's microcosm in *Community* acquires its full critical potential when read in dialogue with thinkers who, from different perspectives, have problematized the idea of community. Kafka offers no theory - but opens a space for thinking with and against the text.

Ferdinand Tönnies provides an initial counterpoint. His classic distinction between *Gemeinschaft* and *Gesellschaft* continues to shape debates about community: "Community is genuine living together, maintained by mutual affection" (Tönnies, 2002, p. 19). In Kafka, such affection is radically absent. There are no affective bonds, no shared tradition, no mutual recognition. Only the mechanical repetition of a gesture of rejection. What presents itself as *Gemeinschaft* is, in truth, an anti-community: a relational space founded on exclusion.

Roberto Esposito deepens this reading by reminding us that *munus* - the root of *communis* - means gift, duty, debt. "Community is not what we have, but what we owe" (Esposito, 2010, p. 4). The fear of this debt, of such exposure to the other, generates *immunitas*: defensive strategies that block openness and neutralize the risk of contamination. In *Community*, this is precisely what we see: a small immunitary system in action, where any relationship with the sixth man is avoided at all costs. Explaining the rejection would already open a breach; hence it is not explained. Identity is preserved through a gesture of blocking.

Jean-Luc Nancy goes further, asserting that "community is not a work to be realized, but a demand to share existence" (Nancy, 1986, p. 40). True community is not an identity project but an open being-with that involves exposure and transformation. Kafka's group is inoperative: it does not act, welcome, or transform. Time is suspended; space is closed; becoming is interdicted.

This closure also reflects a contemporary impulse sharply described by Zygmunt Bauman: "We long for community because it promises safety. But we fear it because it demands responsibility" (Bauman, 2001, p. 4). Kafka's community dramatizes this paradox with precision. The sixth man is not rejected for

what he does, but for what he represents: the possibility of change, the rupture of identity-based security. The community prefers rigidity over openness, repetition over transformation.

It is crucial to emphasize that this gesture of rejection is not limited to the human plane. As Donna Haraway reminds us, “we need a way of living well with others - with kin who are not alike” (Haraway, 2016, p. 105). In Kafka’s story, this possibility is blocked. The rejection of the sixth is also a rejection of any alterity - human or non-human. It is a logic of defensive purity that excludes hybridity and the unexpected.

Anna Tsing reinforces this critique by stating that “living together happens in the ruins” (Tsing, 2015, p. 5). The common is not a pure space but a field of improvised encounters, of partial and unstable ecologies where humans and non-humans coexist precariously and creatively. In *Community*, any possibility of a fertile ruin is absent. The space is smooth, closed, without porosity.

In this context, Gilles Deleuze and Félix Guattari offer an alternative horizon. The rhizome as a figure of open community: “A rhizome has no beginning or end; it is always in the middle” (Deleuze & Guattari, 1987, p. 25). The sixth man can be read as a line of flight - an attempt to introduce movement and relation into a closed system. By rejecting him, the community also rejects the possibility of becoming something else. It opts for paralysis. But the sixth man’s silent persistence carries a potential: he represents what in the text - and in us - resists closure.

Absence of World

The absence of world in *Community* is one of its most unsettling traits - and one of the most productive for thinking about the trajectories of the contemporary common. There is no nature, no landscape, no objects, no climates, no sounds. Only a closed space, all-too-human and yet profoundly dehumanized.

As Donna Haraway writes, “we need a way of living well with others - with kin who are not alike” (Haraway, 2016, p. 105). In Kafka’s universe, this

possibility is blocked. The sixth man is not only rejected as an individual: it is the very idea of difference, of mixture, of coexistence that is excluded.

Anna Tsing reminds us that “living together happens in the ruins” (Tsing, 2015, p. 5). The common is not a space of pre-established purity or harmony. It is a field of improvised encounters, of partial and unstable ecologies. In Community, any possibility of fertile ruin is absent. The space is smooth, closed, without porosity.

This radical closure connects to what Bruno Latour denounced as the illusion of modernity: “We have never been modern” - he reminds us - “we have always lived in networks” (Latour, 1991, p. 13). The modern error was to believe that society could be separated from nature, that humans could constitute a purified domain apart from the materiality and heterogeneity of the world. Kafka’s story enacts this gesture of purification: the exclusion of the sixth man is also the exclusion of the possibility of re-weaving networks with the non-human. There are no fungi, no ants, no objects, no trace of environment.

Timothy Morton radicalizes this critique by stating that “ecology begins when we realize we are irreversibly entangled” (Morton, 2016, p. 7). There is no “outside” where we can purify our “we.” Ecology is a dark ecology: a tangle of unpredictable relations where the idea of stable identity dissolves. Kafka’s gesture is the opposite: an effort of impossible disentanglement, leading to paralysis and, ultimately, self-destruction. The community prefers to die rather than welcome what would destabilize it - as dramatized in Piotr Kamler’s short film *Gemeinschaft* (Kamler, 1983).

Eduardo Viveiros de Castro makes this exclusion even clearer: “All beings are persons, but what distinguishes them is perspective” (Viveiros de Castro, 2010, p. 45). The sixth man could be read as a bearer of another perspective, another relational ontology. But the community rejects him without even attempting to listen. It is not what he does that matters - it is what he represents: the fissure in closed identity.

Finally, Isabelle Stengers invites us to “hesitate, to listen to what resists”

(Stengers, 2010, p. 38). In Kafka's story, there is no hesitation: there is immunitary automatism. Listening is blocked at the outset. And with that, the space of the common is emptied - it becomes a void without world.

The absence of world in *Community* is not a mere detail. It is a deep symptom of a defensive and sterile conception of community. A warning - as will be reinforced in the conclusion - that resonates sharply with contemporary challenges.

Conclusion

Kafka offers no solution. But he opens a field of questions that remain open. His gesture is not propositional - it is destabilizing. He does not tell us how to build a common, but shows with precision how it can fail, implode, become a space of death rather than life.

The short film *Gemeinschaft* (Kamler, 1983) prolongs this gesture in an extreme way: the five members of the community commit suicide one by one in a self-destructive ritual. The sixth man tries to imitate them - perhaps to finally belong - but the gun does not fire. Even in death, the community refuses to include him. Exclusion without cause has become law. The subtitle of the animation is revealing: "The transformation of causeless habits into taboos" (Kamler, 1983). The refusal of transformation has become extinction.

This audiovisual reading expands Kafka's gesture: the community that prefers self-destruction to welcoming the other is already condemned. But the wound opened by the story is also an invitation: what are we willing to do with the common? What forms of community can we imagine - and practice - that do not repeat this same gesture of exclusion?

As Bruno Latour reminds us, "we have never been modern" (Latour, 1991, p. 13). Every community is already a network of humans and non-humans, of affects and materialities, of multiple agencies. Ignoring this prepares the ground for rigidity, repetition, and collapse.

Timothy Morton reinforces: "ecology begins when we realize we are

irreversibly entangled” (Morton, 2016, p. 7). The challenge is to live in this entanglement, without nostalgia for impossible purities. This requires porous, hesitant, experimental communities.

Eduardo Viveiros de Castro invites us to recognize that “all beings are persons, but what distinguishes them is perspective” (Viveiros de Castro, 2010, p. 45). A common that welcomes alterity implies recognizing this plurality of perspectives - not closing itself in a defensive “we.”

Isabelle Stengers proposes that we should “hesitate, to listen to what resists” (Stengers, 2010, p. 38). Hesitation here is an act of openness, of care. A politics of slow time, of active listening, against the automatisms of exclusion.

In this sense, the absence of world in Community - which might seem a detail - becomes a fundamental warning. A common that refuses to be traversed by difference, by ecology, by the unforeseen, condemns itself to emptiness. A common that does not allow itself to be transformed is neither sustainable nor vital.

Thinking the common today therefore requires listening to Kafka - but also going beyond him. Against pure and identity-based communities, we must affirm rhizomatic, multispecies, experimental commons. Communities that embrace vulnerability as a condition, not a threat. Communities that make room for the sixth man - and for all that he brings that is unexpected.

Kafka does not answer. But he leaves us with an open wound. It is up to us, as readers and thinkers, to decide whether we want to perpetuate the gesture of rejection - or to open the door and listen to what knocks.

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Contact Zone: The City Between Past and Future. Photography as Cultural and Artistic Mediation in a Process of Landscape Transition

ANTÓNIO VENTURA¹

When I arrived in Tomar in 1987, the area known as “Flecheiro”—located on the right bank of the Nabão River—was already occupied by Roma families. These families, left out of public housing and inclusion policies, settled in this urban fringe and, with very limited resources, built provisional dwellings that endured for decades, undergoing minor changes and resisting the passing of time and institutional neglect. As Michel de Certeau (1990) notes, there exists a “practice of making” that characterizes the ways of life in such urban interstices: forms of inhabiting marked by resistance and creative appropriation of space.

By the late 1990s, plans to redevelop the area had begun to emerge, yet the lack of alternative housing solutions made their implementation impossible.

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Only recently was it possible to align rehousing strategies with social integration policies, thereby returning the riverside space to the city and its community. This dynamic—exclusion followed by symbolic and functional reintegration—represents a profound transformation of the urban landscape. As Cosgrove (2007) argues, territory reveals itself simultaneously as a "social formation" and a "symbolic landscape", laden with meanings, memories, and tensions.

It was in this transitional context that my interest as a photographer and as a member of the Coordinating Committee of the Centro de Estudos em Fotografia de Tomar (CEFT) took shape. CEFT, an institution formed through the collaboration between the Municipality of Tomar and the Polytechnic Institute of Tomar, is dedicated to preserving, studying, and promoting public-interest photographic archives while fostering visual culture. Being responsible for a project focused on the intersection of photography and territory, I immediately recognized in the Flecheiro redevelopment a unique opportunity to observe, record, and interpret—visually and critically—the transformation of an urban landscape that visibly reflected broader social and political changes.

Supported by the Councillor for Culture, Filipa Fernandes, and in coordination with the Department of Public Works of the Municipality, I began the photographic project in September 2023. By then, the construction site was already set up, and the previously occupied space had been largely cleared: dwellings and obsolete industrial structures had been demolished. The initial phase of the project involved regular monitoring—twice a month—of the construction progress, documenting the different stages of the redevelopment. This frequency was adjusted based on weather conditions, particularly the impact of winter rains, which proved especially relevant given that part of the intervention was on a floodplain, requiring resilient engineering solutions.

As the project progressed, it became evident that the transformation of Flecheiro was more than the creation of a new park. What was emerging was a contact zone—a concept explored by Mary Louise Pratt (1991) in cultural studies—between

temporalities, practices, and modes of urban space usage. It represented a clash between a past city marked by marginalization and industrial decay, and a future city imagined as cleaner, more inclusive, and aesthetically renewed.

This landscape in transition reflected what W.J.T. Mitchell (2009) calls “spaces of power”: the landscape not merely as a backdrop, but as a discursive construction involving visibility, exclusion, and idealization. The new park thus emerged as an aesthetic and political operation, simultaneously erasing marks of exclusion (such as the informal Roma settlement) and inscribing new possibilities for collective appropriation.

Within this context, photography plays an ambivalent role. As Susan Sontag (2004) notes, photography may serve as an instrument of “appeasement”, transforming trauma into beautiful imagery. Yet photography can also be critical and documentary, preserving tensions, exposing erasures, and evoking memory. In my project, I sought to balance these dimensions: photography as testimony—in the sense suggested by Dubois (1993), as an act linking representation and reality—but also as interpretation and aesthetic mediation.

Following Flusser’s (1985) insights, photography is not merely a reproduction of reality but a technical and symbolic act, conditioned by the apparatus yet open to the photographer’s freedom of choice. Each visit to the site became an exercise in observation, composition, and decision. The images produced are not neutral records of construction progress; they are visual constructions that integrate time and space through each chosen perspective.

As the park took shape, the contrast between the requalified landscape and the surrounding ruins became increasingly apparent. This contrast, far from merely physical, expressed a symbolic and social divide. As Ribeiro (2012) observes, urban rehabilitation processes often function as tools for economic and social transformation—but also for exclusion, particularly when they fail to truly integrate affected communities. The landscape thus became the stage for a tension between inclusion and erasure, between heritage and amnesia.

The perception of this “productive tension” led me to expand the project beyond the park itself. I began documenting the surrounding areas: access routes, derelict buildings, signs of neglect, and the early traces of change. This expanded approach allows, as Rose (2016) argues, for the construction of a visual narrative that is not merely descriptive but analytical—a visual discourse that interrogates territory, temporality, and the politics of landscape.

It is in this sense that the concept of contact zone becomes central: a borderland where regimes of visibility, forms of power, social memories, and future expectations intersect and clash. Photography grants access to this hybrid and tense space, revealing it as an urban territory of entangled memories. As Tuan (2012) notes, place is more than location: it is lived experience, traversed by emotions and stories.

Menezes (2004), in her discussion of the “repeated image,” highlights the importance of reiteration and variation in the construction of photographic meaning. Over the months, I photographed the same perspectives under different lighting, seasons, or construction stages. These images, organized into series, function as a visual archive of the transition—simultaneously document and interpretation.

Now part of the activities of CEFT – Casa dos Cubos, the photographic project enters a new phase: accompanying the social use of the park, its modes of appropriation and enjoyment, and the gradual changes in its urban surroundings. It is vital to develop photographic observation methodologies that articulate documentary, cultural, and aesthetic dimensions—linking image production to a deeper understanding of territory (Ventura, 2024).

The images created are, in this context, time capsules, as previously mentioned, but also devices of cultural mediation. They enable the visual reconstruction of urban transformation processes, serving both as instruments of collective memory and as materials for critical reflection on the present and future of the city.

Ultimately, the project aims to contribute to a pedagogy of the urban gaze: to nurture a collective awareness of the transformations shaping our environment,

integrating the value of memory, experience, and aesthetics in the construction of a more just and sensitive city. As Mitchell (2005) asks: “What do pictures want?”—in this case, the images of this place want to speak about the city, its traumas and its hopes, about time passing, and about its future.

Photographic Project

António Ventura

Photography

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Photography editing and post-production

Giulia Biccario

Archival Images

Maintenance and Equipment Division – *Department of Public Works, Municipality of Tomar*

Support

Municipality of Tomar

Maintenance and Equipment Division – *Department of Public Works*

Partners

Centro de Estudos em Fotografia de Tomar – CEFT, Casa dos Cubos, CMT/IPT

Paisagem Adjacente – Cultural Association

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Figure 1 - Urban area near *Flecheiro* riverside park in Tomar, working in progress 2023 -2024



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Figure 2 - *Flecheiro* riverside park in Tomar, working in progress 2023 –2024



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Figure 3 - *Flecheiro* riverside park in Tomar, working in progress 2023 -2024



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Figure 4 - *Flecheiro* riverside park in Tomar, working in progress 2023 -2024

Chanter le quotidien : une approche filmique du folklore portugais en France

ANA ISABEL FREITAS¹

Introduction et cadrage

L'origine de cet article réside dans une présentation intitulée *Voices in Motion: Music as an Agent of Identity and Transformation* (Voix en mouvement: la musique comme vecteur d'identité et de transformation), donnée lors du colloque APHELEIA 2025 à Mação. Elle prolongement un travail doctoral en recherche-crédation, centré sur les pratiques culturelles des groupes folkloriques portugais en région parisienne. À travers l'analyse de deux scènes tournées dans le cadre du film documentaire *Lá em Baixo*², il s'agissait d'interroger la manière dont la musique — chantée, partagée,

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2 *Lá em Baixo* est un film documentaire réalisé par Ana Isabel Freitas (1h30, 2021), dans le cadre d'une thèse en recherche-crédation à l'Université Paris Nanterre. Une présentation détaillée du projet est disponible en ligne : <https://anaisabelfreitas.art/la-em-baixo>.

improvisée — agit comme vecteur d'identité, de mémoire et de transformation.



Figure 1 - Affiche officielle du film documentaire « Lá em Baixo » (Ana Isabel Freitas, 2021). Le film accompagne trois groupes folkloriques portugais en Île-de-France à travers une approche de recherche-création.

Mon positionnement se situe à l'intersection de la recherche-création, des pratiques cinématographiques et des études culturelles, avec une attention particulière portée aux expressions musicales en contexte migratoire. Le choix des scènes analysées repose non sur leur représentativité, mais sur leur densité symbolique : elle rendent visibles des processus souvent imperceptibles, tels que l'incorporation de la tradition dans le geste quotidien ou la reconfiguration des cadres spatiaux du patrimoine immatériel. Cette perspective rejoint l'idée que « le chant est le lieu où se condense la mémoire affective, sociale et historique d'une communauté ; il unit

ceux qui sont partis à ceux qui sont restés, et insuffle au quotidien une continuité symbolique » (El-Shawan Castelo-Branco, 1997).

En s'appuyant sur deux situations contrastées — une cuisine associative et le parvis de l'Opéra Garnier —, cet article explore les formes différenciées que prend le folklore lorsqu'il est activé en dehors des contextes de représentation attendus. Comme l'écrit Sophie Chevalier, « ce qui est transmis dans la migration, ce n'est pas une culture pure, isolée, mais des fragments recomposés, réinterprétés, souvent hybridés, à la croisée d'une mémoire vécue et d'une situation présente » (Chevalier, 1996). Il s'agit donc d'habiter la tradition comme un matériau vivant, malléable et chargé d'affects. Le film met en tension espace privé et espace public, héritage codifié et réinvention située.

Les deux associations filmées – ARCOP de Nanterre et le groupe Encanto de Levallois Perret – incarnent des formes différenciées mais complémentaires de l'expression culturelle portugaise en Île de France. L'Association Récréative et Culturelle des Originaires du Portugal (ARCOP), fondée dans les années 1980, joue un rôle central dans la vie communautaire, à travers des événements festifs, des repas partagés, des cours de langue portugaise et d'autres activités plurielles. Quant à Encanto de Levallois Perret, formation intergénérationnelle dirigée par Sofia Costa, se distingue par l'interprétation a cappella de chants traditionnels. La scène filmée révèle comment ce groupe peut investir ponctuellement l'espace public, tout en conservant un lien profond avec le chant populaire portugais.

Deux scènes, deux inscriptions du folklore en mouvement

Dans une cuisine sans fenêtre, entre casseroles fumantes et tabliers à motifs, une chanson surgit. *A minha saia velhinha*³, entonnée à plusieurs voix, mêle humour, mémoire et cuisine. Le groupe prépare un caldo verde, soupe emblématique de la gastronomie portugaise, dans le siège de leur association - ARCOP de Nanterre.

3

Titre traduit du portugais : Ma petite jupe vieillotte.

Le chant jaillit sans préambule et, spontanément, s'intègre aux gestes. Il prolonge l'action plus qu'il ne la ponctue : une continuité sensible entre tradition musicale et quotidien.

Les paroles sont adaptées, transformées, presque improvisées. Elles célèbrent les cuisinières, racontent les gestes quotidiens et ouvrent un espace de partage. Ce n'est pas seulement une transmission orale, mais une transmission incarnée – mêlant voix, gestes, vapeur et complicités. Comme le souligne Graça dos Santos, « dans la migration, c'est le corps qui, le premier, fait mémoire : dans les gestes répétitifs, dans les postures, dans les chants » (dos Santos, 2013). El-Shawan Castelo-Branco souligne également que « les performances musicales en diaspora agissent comme des dispositifs actifs de construction identitaire, enracinés dans les expériences sensorielles du corps et de la mémoire » (El-Shawan Castelo-Branco, 1997).



Figure 2 - Moment de préparation collective dans la cuisine de l'ARCOP de Nanterre. Le chant surgit au cœur de l'activité culinaire, incarnant une transmission informelle et située.

Ce surgiment vocal, non programé, relève de ce que Michel de Certeau appelle « l'invention du quotidien » (de Certeau, 1990) — un usage singulier, créatif et situé de formes héritées. En adaptant les paroles, les femmes rejouent une mémoire collective à la première personne, dans une langue affective et contextualisée.

Ces chants réactivent une mémoire sensorielle qui relie les gestes du présent aux paysages sonores de l'enfance. Le corps devient vecteur principal de la transmission. La tradition, désacralisée sans être vidée de sens, est vécue comme une pratique de lien et de réappropriation.

Cette scène s'inscrit dans un moment-clé de la recherche-crédation menée dans le cadre de mon doctorat au sein du CRILUS (Université Paris Nanterre). Lá em Baixo mobilise la caméra comme terrain d'enquête et mode d'écriture réflexive. Le tournage devient un mode de cohabitation, d'écoute et de révélation, où les personnes filmées influencent activement le processus. Le film explore ainsi des formes contemporaines du folklore portugais en contexte migratoire, hors des cadres spectaculaires de la représentation.

Sur les marches de l'Opéra Garnier, en plein cœur de Paris, un petit groupe se rassemble. Les voix s'élèvent lentement, sans instruments ni costumes. *Alerta, alerta*⁴, chant liturgique portugais, résonne dans l'espace urbain. Le groupe Encanto de Levallois Perret, filmé lors d'une répétition, occupe brièvement ce lieu monumental sans dispositif scénique. Ce moment condense une intensité sobre : une voix collective qui inscrit une présence dans la ville.



Figure 3 - Le groupe Encanto de Levallois Perret chantant « Alerta, alerta » sur le parvis de l'Opéra Garnier. Une inscription vocale dans l'espace urbain parisien, hors des cadres scéniques traditionnels.

4 Titre traduit du portugais : Alerte, alerte.

Contrairement à la scène d'ARCOP, celle-ci renvoie à une restitution fidèle: un répertoire religieux interprété avec rigueur, qu'évoque une certaine ritualité. Ces deux modalités — réinvention expressive et fidélité performative — coexistent, révélant la tension productive entre ancrage et déplacement.

Bien que non retenue dans le montage final, cette scène éclaire les apparitions du groupe Encanto de Levallois Perret en ouverture et clôture du film. Leurs chants, dans la rue ou devant un restaurant, accompagnent le film comme une respiration, marquant les seuils entre espaces vécus et formes symboliques.

Le film comme dispositif de recherche

Lá em Baixo s'inscrit dans une tradition cinématographique valorisant l'infra-ordinaire⁵. Comme l'écrit Jonas Mekas à propos de son film *As I Was Moving Ahead, I Saw Brief Glimpses of Beauty*, « Je m'intéresse à l'enregistrement de ce qui est subtil, presque invisible — les actes, les expériences, les sentiments — par opposition aux activités dures, bruyantes, spectaculaires ou aux actions politiques, en particulier les systèmes politiques de notre époque »⁶ (Mekas, n.d.). Ce n'est pas l'événement en tant que tel qui importe, mais les micro-gestes, les résonances invisibles, les formes ténues du lien. Le film cherche moins à montrer qu'à révéler la continuité discrète d'un vécu migratoire, à travers une proximité sensible avec les groupes filmés. Le tournage devient un mode de cohabitation, d'écoute, de révélation.

Comme le souligne Louis-Claude Paquin, « le chercheur-créateur est à la fois dans et hors de sa pratique : il construit une forme, tout en la vivant. C'est cette tension qui permet de dégager des savoirs situés, incarnés et tacites » (Paquin,

5 Le terme « infra ordinaire » a été proposé par Georges Perec pour désigner ce qui, dans le quotidien, passe inaperçu en raison de sa banalité apparente. Voir : Georges Perec, *L'Infra ordinaire*, Paris, Éditions du Seuil, coll. « La Librairie du XXe siècle », 1989.

6 Jonas Mekas, Family Film Project, édition 2025. « I am interested in recording the subtle, almost invisible acts, experiences, feelings, as opposed to the tough, harsh, loud, violent activities and political actions, and especially, political systems of our time. » Disponible sur : <https://familyfilmproject.com/en/editions/fisrt-edition-2012/jonas-mekas> (consulté le 30 juillet 2025).

2020). Cette co-présence transforme la caméra en interface perceptive : elle capte des gestes porteurs de mémoire, souvent discrets, mais signifiants.

Les fragments filmés deviennent ainsi performatifs, non par reproduction d'un folklore codifié, mais par activation, dans l'espace filmique, des formes sensibles d'appartenance. Le film n'entend pas documenter un objet culturel figé, mais accompagner un processus en acte. Ce qui se transmet passe moins par le récit que par des éclats fragmentaires à forte densité symbolique. Le dispositif filmique devient matrice agit d'écoute, cartographie affective où le visible dialogue avec l'invisible.

Cette approche rejoint la réflexion de Christian Metz (via Martin Lefebvre), pour qui certains « angles rares » du cinéma ont le pouvoir de « réveiller » le regard du spectateur et de lui faire percevoir ce qu'il savait déjà sans le savoir : « L'angle rare me réveille, comme une cure, et m'apprend ce que je savais déjà » (Metz, cité par Lefebvre, 1988). Ce travail de dévoilement rend possible une mémoire incarnée, une attention nouvelle aux gestes ordinaires. Le patrimoine devient effet de présence, plus que contenu à transmettre.

Cette articulation entre proximité et réflexivité rejoint ce que Yves Citton appelle une « fiction fluide », soit une forme narrative qui « ne fige pas les identités » et « laisse les significations ouvertes et activables selon les contextes » (Citton, 2014). Le folklore s'y donne comme matière mobile, réactivée dans le présent.

Résonances

À la suite de l'intervention évoquée en introduction, une expérimentation participative a été proposée au public présent lors du colloque APHELEIA 2025 à Mação. Après la projection des deux scènes du film, une question ouverte a invité chacun à se projeter dans le geste du chant: « Quelle serait votre chanson ? Celle que vous chanteriez dans un lieu public, loin de chez vous ? Est-ce la même que celle que vous chanteriez en cuisinant ? »

Distribuées anonymement sur papier, les réponses ont dessiné une cartographie

intime, sensible et polyphonique. Elles comprenaient des chansons religieuses, des berceuses, des chants traditionnels en wolof, en albanais, en indonésien ou encore en portugais rural, mais aussi des standards internationaux comme *Imagine*, *One Love*, *Circle of Life*. Chaque réponse s'accompagnait de quelques mots — souvent très personnels — évoquant la famille, le voyage, la mémoire d'un être cher, ou encore le pouvoir apaisant d'un rythme connu.

Certaines inscriptions évoquaient des partages : « dans la voiture avec mes parents et mes frères, en route vers la Sardaigne » ; d'autres, l'éloignement : « c'est une chanson qui, chez moi, paraît banale, mais qui me bouleverse quand je suis à l'étranger ». Plusieurs participants soulignaient aussi la fonction de concentration, de recentrage, ou d'apaisement émotionnel que pouvait jouer le chant.

Ces retours ont agi comme un prolongement du geste filmique de *Lá em Baixo*. Ils confirment ce que le film donne à sentir : le chant comme médium relationnel, comme passage entre les espaces du quotidien et les territoires symboliques de l'appartenance. Comme les scènes en cuisine ou sur les marches de l'Opéra, ces fragments de mémoire sonore témoignent d'une transmission enracinée dans le corps, la voix, le rythme familial.

Ce matériau, bien qu'anonyme, s'inscrit dans une méthodologie de la co-présence. Il ne relève pas d'une enquête ethnographique classique, mais d'un espace d'écho où l'expérience du spectateur entre en résonance avec les scènes. La voix partagée crée une attention collective, une disponibilité affective propice à une réflexion située.

Une tension traverse ces gestes : entre fluidité, improvisation, chaleur domestique ; et verticalité, forme, solennité. Cette tension, constitutive du patrimoine en migration, n'est pas à résoudre. Eduardo Lourenço, dans *A emigração como mito e o mito da emigração*, parle d'« un effort de présence culturelle, une

inscription dans un espace étranger »⁷, une manière d’habiter deux géographies à la fois — celle de l’origine et celle de l’accueil (Lourenço, 2023). La musique devient alors un passage, un pont entre ces deux géographies, un espace d’agencement affectif et collectif.

Dans cette perspective, *Lá em Baixo* ne documentent pas un folklore figé. Il rend visible une agentivité culturelle⁸ où la mémoire est rejouée, déplacée, continuellement réinvestie. En chantant dans les rues, en improvisant des paroles autour d’une soupe, les membres des associations filmées activent une présence au monde. Leurs gestes ordinaires, simples mais puissants, esquissent des territoires d’appartenance, de résistance et de transformation.

Conclusion

Loin d’une approche patrimoniale ou documentaire, *Lá em Baixo* explore les formes sensibles par lesquelles le folklore se rejoue, s’invente et s’incarne au quotidien. Par une écriture filmique attentive à la voix, aux gestes, et aux atmosphères, le film donne à voir une mémoire circulaire, habitée, sensible.

Les scènes chantées révèlent des formes d’agentivité : des manières d’habiter le monde en liant passé et présent, intime et collectif. Ces pratiques, souvent improvisées ou discrètes, engagent une transmission corporelle, au-delà du savoir discursif.

L’expérimentation menée lors du colloque APHELEIA confirme la force évocatrice de ces gestes : les chansons citées relèvent d’un patrimoine affectif, transmis par la mémoire sensorielle. Musique et chant agissent ici comme vecteurs de présence, d’attention, de mémoire.

En tant que chercheuse-créatrice, mon but n’est pas de parler sur les

7 Traduit du portugais: « A emigração é um esforço de presença cultural, de inscrição num espaço estrangeiro. »

8 Le concept d’« agentivité culturelle », renvoyant à la capacité d’agir activement sur les formes culturelles, est mobilisé ici dans l’esprit des travaux de Doris Sommer, qui souligne le rôle civique de l’art : *The Work of Art in the World: Civic Agency and Public Humanities*, Durham, Duke University Press, 2014 (Sommer, 2013)

pratiques, mais d'ouvrir un espace d'écoute où les voix minorées prennent forme. Le film ne conclut pas : il propose une matière vivante, à faire résonner. Dans un monde marqué par la mobilité, l'oubli, ou la spectacularisation, ces chants ordinaires rappellent la puissance d'une présence partagée dans les gestes du quotidien.

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A Philosophical Framework for Animism Based in Phenomenology and Consciousness

RUFUS MALIM¹

Introduction

In this study the term ‘Shaman’ refers to ‘*an individual who engages in (and is a master of) magico-religious psychobiological experiences (altered states of consciousness/ NOMEs [formerly known as ‘ecstasy’]) through the culturally informed paradigm/ practice of shamanism (the techniques, cosmology, and worldview) primarily specific to an indigenous culture based in animistic cosmologies*’ and ‘Shamanism’ refers to ‘*a culturally informed magico-religious psychobiological practice (technique/set of techniques) often based in animistic cosmologies in mainly indigenous hunter gatherer, pastoralist/nomadic, and sometimes horticulturist settings. The practice (techniques,*

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cosmology, beliefs etc) may differ from culture to culture yet the aims remain the same; to enter into an altered state of consciousness and to gain some form of knowledge, ability, or action from it to help or harm a person or community. This may be traversing spiritual other worlds, or conversing with spirits etc.' (Malim 2024). The practice of shamanism is itself a global phenomenon (Eliade 1989) and remains one of the oldest magico-religious practices in the world, its age is second only to animism (Peoples et al 2016). The relative age of this magico-religious practice is postulated between 12,000 (Grosman et al 2008) to 65,000 (Witzel 2011, p 18) years old.

The study of shamanism itself has been ongoing since the 17th century when the Dutch explorer Nicolaes Witsen made the first depiction of a Siberian Sáman²; the caption states '*Een Schaman ofte Duyrel-Priester in 't Tungeesen lant*' - 'A Shaman or Animal Priest in the Tungus land' (author's own translation). The term 'shaman' appears to have entered academic discourse from here and taken on a meaning of its own (Malim 2024). Scholarly interest in shamanism was initially adopted by the church in the context of their missionaries (Flaherty 2014), then shifted more towards academics in the 19th Century and onwards (Eliade 1989).

Shamanism became the source of particular interest among rock art specialists in the late 20th Century and early 21st Century. Lewis Williams and Dowson proposed that certain rock art motifs were the product of Entoptic phenomena and by extension shamanism (1988). Entoptic phenomena refers to '*visual sensations derived from the optic system anywhere from the eyeball to the cortex*' (Lewis Williams and Dowson et al 1988, p 202). Such motifs included grids, lines, dots, chevrons, catenary curves, and spirals/vortices (Lewis Williams and Dowson et al 1988, p 205). This theory was developed on in later works (Lewis-Williams & Pearce 2009; Lewis-Williams 2014) and is accepted by a healthy portion of the academic community (Clottes & Lewis-Williams 1998; Clottes 2016; Devereux 2001;

2 Sáman translates as 'he who knows' from Tungusic to English (Diószegi, 1998, p 1).

Gheorghiu et al 2017; Whitley 2012; Winkelman 2002). Though it was equally met with fierce criticism where issues with terminology, over generalization, and empirical study were taken up with shamanic theories (Bahn 2010; Francfort & Hamayon 2001; Hamayon 2001; Kehoe 2000). Several of these criticisms have been challenged and refuted by emerging evidence and multidisciplinary research. For instance, new findings indicate the use of psychedelic compounds, including psilocybine, in Europe during the Neolithic and Bronze Age (Froese et al., 2016; Guerra-Doce, 2015; Guerra-Doce et al., 2023; Robinson et al., 2020). Additionally, ongoing cross-disciplinary research continues to provide substantial evidence for the antiquity, geographic spread, and enduring nature of shamanic practices throughout history and prehistory (Grosman, 2008; Malim, forthcoming; Porr & Alt, 2006; Stépanoff, 2021; Witzel, 2011). Shamanism has thus been investigated from the position of neuropsychological models (Lewis Williams and Dowson et al 1988), psychobiological approaches (Facco et al 2021; Winkelman 2002), psychosocial approaches (Porterfield 1987), phenomenological approaches (Eliade 1989; Harner 1990), archaeological (Grosman 2008; Porr & Alt 2006; Gheorghiu et al 2017), and ethnographic perspectives (Diószegi, 1998; Diószegi & Hoppál 1996; Harner 1972; Hultkrantz 1993).

A key criticism of shamanism, articulated in the early 21st century, is its perceived resistance to empirical testing and measurement through conventional scientific methodologies making definitive scientific conclusions regarding shamanic phenomena challenging to establish (Francfort & Hamayon, 2001). The author finds the great quantity of aforementioned research, evidence, and scientific approaches to be satisfactory to reject this claim, however the critique touches on something deeper - the nature of altered states of consciousness. What is often missed are the issues that complicate the scientific study of shamanism are at the heart of the philosophical debates on consciousness – this being qualia.

Materialism is the underlying philosophy of contemporary science where objective, quantitative, replicable, observable, methods and results are key. The

core of shamanic practice is, by direct contrast, an experience based in lived conscious experience (qualia). For the most part this is qualitative, subjective, mostly unobservable by independent observers, and difficult to replicate without being trained as a shaman. Complex interplays between cultural differences, variability of shamanic practices, innate abilities, inheritance, and self-learning further complicate materialist investigation (Hamayon 2001, p 4). Generally, individuals possessing an innate gift are considered to have natural talent for these states of consciousness and are primary candidates for selection (Diószegi 1998, p 2 & 4; Eliade 1989, p 13; Elkin 1944, Pp 25-27; Otgony & Gurbadaryn, pp 229-230). The most crucial aspect of shamanism, the use of altered states of consciousness to gain information or an action (Malim 2024), is based in consciousness, it cannot be satisfactorily observed by conventional means, it must be experienced. Since this phenomenon is grounded in qualia, which are subjective experiences, it can be argued to be immaterial. If qualia are indeed immaterial, then this would fit within the challenges to materialist philosophy, which seeks to explain phenomena in material terms.

Shamanism is most often practiced or experienced through the cosmological framework of the culture in which the individual was born and trained in. According to the ethnographic literature such cultures would be hunter gatherers, pastoralists, horticulturalists, and, on occasion, agriculturalists (Diószegi 1998; Diószegi Hoppál 1996; Eliade 1989; Elkin 1993; Harner 1972; Harner 1990; Helskog 1987; Otgony Gurbadaryn 2006; Rast & Wolff 2016; Stépanoff 2021). The ethnology available to us demonstrates that 90% of the 57% of earths traditional societies utilize altered states of consciousness in some manner as shown by a 1973 study (Bourguignon 1973, pp 9-11; Guerra-Doce 2015, p 2). However, as societies develop more complex and hierarchical economic and political systems shamanism either disappears or transmutes into new magico-religious practices (Eliade 1989). According to anthropologists the prevailing 'belief system' behind shamanism and much of indigenous subsistence societies is animism (Peoples et al 2016; Tylor 1920). Animism is considered to be a fundamental part of hunter

gatherer belief systems given its prevalence across such societies (Peoples et al 2016) and is defined by Tylor as ‘*Animated Nature*’ (Tylor 1871, p 270) ‘*that the whole visible and invisible creation is animated with various orders of malignant or benign spirits, who preside over the daily affairs and final destinies of men*’ (Tylor 1871, p 272).

It is a worldwide belief (Tylor 1920, p 427) where the natural world is considered alive, individual creatures have souls that persevere after death and the destruction of the body, and there are spiritual beings that range from minor entities all the way up to powerful deities. These spiritual beings affect or control the events in the material world as well as an individual’s life here and afterwards (Tylor 1920, p 426). Tylor finds animism to be ‘*opposed to materialistic philosophy*’ (Tylor 1920, p 425) and to be ‘*the groundwork of the philosophy of religion*’ (Tylor 1920, p 426). It also incorporates a belief in personal souls; “*the personal soul or spirit... may be defined as follows: It is a thin unsubstantial human image, in its nature a sort of vapour, film, or shadow; the cause of life and thought in the individual it animates; independently possessing the personal consciousness and volition of its corporeal owner, past or present; capable of leaving the body far behind, to flash swiftly from place to place; mostly impalpable and invisible, yet also manifesting physical power, and especially appearing to men waking or asleep as a phantasm separate from the body of which it bears the likeness*” (Tylor 1871, p 13).

Animism posits that all elements of the material world possess a spiritual or conscious essence, encompassing animals, humans, plants, rivers, mountains, and even inanimate objects (Tylor, 1871). The environments and lifestyles of hunter-gatherer societies necessitate a primacy of lived conscious experience for survival purposes, with objective material observation being secondary. Consequently, animism emerges as a philosophy fundamentally grounded in human lived experience—phenomenology—arising from direct interaction with the natural world in its most unmediated form. No other belief system possesses the antiquity, geographical reach, or enduring presence of animism (Peoples et al 2016). Furthermore, no other

philosophical framework has been subjected to such prolonged and widespread cultural “testing” or “verification” as animism.

Issues of Materialism

Analysing shamanism through the medium of materialism which dominates much of contemporary science is, by its nature, problematic. Shamanism, as a magico-religious technique or set of techniques, relies on altered states of consciousness to gain insight or action (Malim 2024). The gained insights or actions are based in qualia; that which the shaman directly experiences in altered states of consciousness. Scientific theories surrounding shamanism explain the impact of the shaman’s activities, their role in the community, the activity of the brain and body, and the fundamental human needs the shaman fulfils in the community (Diószegi, 1998; Diószegi & Hoppál 1996; Eliade 1989; Facco et al 2021; Gheorghiu et al 2017; Grosman 2008; Harner 1990; Harner 1972; Hultkrantz 1993; Lewis Williams and Dowson et al 1988; Porterfield 1987; Winkelman 2002; Porr & Alt 2006) but whilst descriptions of their encounters are documented such detailed accounts are typically reserved for purely ethnographic studies (Diószegi, 1998; Diószegi & Hoppál, 1996; Eliade, 1989; Elkin, 1944; Otgony & Gurbadaryn, 2006). No studies truly explore the enigmatic nature of the qualia of the altered states of consciousness themselves and its implications³. It is from the qualia of these states that they gain the results they seek, not necessarily from all the material phenomena surrounding them. The experience itself appears to be more than the sum of its constituent parts. Issues in using materialism as the prime philosophy for investigating shamanism come in two parts:

³ Eliade (1989) arguably took a phenomenological approach on shamanism and was heavily criticized for this despite the great quantity of ethnographic data (Allen 2002). Given the process behind shamanism and altered states of consciousness is a phenomenological approach is arguably more applicable than it may have seemed. Winkelman used cross cultural empirical research to reaffirm Eliades claims (1993). Michael Harner arguably took a phenomenological approach to his theory on core shamanism (1990). The works of Eliade and Harner have both continued to see widespread success inside and outside of academia.

Firstly, everything surrounding the lived experience of these states (i.e. materialist approaches such as biology, psychobiology, psychology, psychosocial, archaeological, ethnographic, and acoustics, etc) is not the same thing as actually experiencing (qualia) and utilizing altered states of consciousness as a shaman does.

Secondly the flaws inherent in materialist approaches vs consciousness and immateriality are immediately at odds with it.

The author therefore argues the following:

Arguments made from the materialist position stating that consciousness is an illusion or non-existent (Dennett 1991) is an argument founded in circular logic. Materialism is as its term suggests, the study of the material universe. Therefore, anything deemed material or physical by nature can be measured and tested by principles according to materialism. However, anything deemed immaterial lies outside its field and scope of study as its fundamental nature is beyond physical substance. Materialism can observe, measure, and quantify everything in the material universe up to the point of immaterialism and then proceeds to break down as it has reached the limit of its philosophical scope. The lived experience of consciousness, sometimes referred to as qualia, is a (debateable) example of immaterial phenomenon.

Claiming that consciousness doesn't exist or that it is an illusion because the universe is only materialist, and materialism cannot prove it through scientific experimentation is circular logic. The philosopher is first assuming that the whole universe is materialistic which immediately implies that no immaterial phenomena exist then attempts to disprove immaterial phenomena through scientific investigation founded on the same materialist philosophy when the philosophy already assumes it doesn't exist. Materialist philosophy never accepted the existence of immaterial phenomena such as consciousness in the first place as the fundamental nature of the philosophy states that the universe is and only can be materialist. Therefore, investigations made from a materialist perspective into immaterial phenomena such as qualia will remain incomplete or prove the position

of materialism⁴ – the conclusion is assumed in the premise. How can a materialist philosophy be capable of proving immateriality when its entire philosophy assumes the universe is materialist in the first place. In other words, materialist philosophy asserts the material nature of the universe based on its own presuppositions, rather than on conclusive evidence about the fundamental nature of reality. This approach reflects a circular reasoning wherein the conclusion (i.e., the universe is purely material) is predetermined by the initial premise of materialism, rather than being derived from an unbiased examination of the universe's ontological composition. Consequently, this assertion should not be conflated with definitive claims about the true nature of existence. The universe may not be materialist at all, however satisfactory scientific investigations cannot be conducted into immateriality in a rigorous scientific setting when the prevailing philosophy is built on the fundamental assumption that the immaterial does not exist. In light of this how can materialism have anything meaningful to say on immaterial phenomena whether to condone or condemn it when the philosophy assumes it doesn't exist from the outset?

Arguments regarding the cyclical reasoning inherent in materialism have been previously addressed (Cling 1989; Kastrup 2014; Slagle 2020). However, this issue becomes particularly pronounced when confronted with animism and therefore deserves specific attention.

Shamanism exists within the framework of animism, not materialism. The most important aspect of shamanism is based in the qualia of trance. As previously stated, 90% of the 57% of earths traditional societies utilize altered states of consciousness in some manner (Bourguignon 1973, pp 9-11; Guerra-Doce 2015, p 2) and the age of shamanic practice could be up to 65000 years old (Witzel 2011, p 18). Evolutionary biology tells us that successful survival strategies in species enable that species to survive whilst unsuccessful strategies die out, the same can be said of

⁴ A good example of this is Physicalism which argues that qualia are entirely the result of brain activity and can, in principle, be explained by neuroscience (Stoljar 2010).

human cultural evolution (Richerson & Boyd 2017). If shamanism has persisted for a period ranging from approximately 12,000 years (Grosman et al., 2008) to as much as 65,000 years (Witzel, 2011, p. 18) and remains practiced in contemporary societies, it can be considered, at the very least, an effective and enduring cultural strategy. The philosophical framework underpinning shamanism, therefore, demonstrates a degree of validity and efficacy as perceived by the communities who engage in these practices. This suggests that the processes, philosophies, and outcomes associated with shamanism are sufficiently consistent and meaningful to practitioners, rendering them unlikely to be dismissed merely as illusions, manifestations of the Barnum effect, psychological manipulation, or deception. Rather, these outcomes are perceived as genuine and are predominantly derived from the qualia experienced during altered states of consciousness⁵.

Elaboration

The argument above is derived from debates covered in Goff's books on Panpsychism and consciousness (Goff 2019; Goff & Moran 2022). The issue or error with materialism stems from Galileo's choice to remove subjective qualitative experience (qualia) from the scientific paradigm so that we could better investigate the material world through the medium of mathematics and replicable observation (Goff 2019). Up until this point consciousness was considered part of the 'scientific' paradigm of the day (Goff 2019). The choice to remove qualia from the paradigm was so successful that materialism now dominates scientific discourse and methodology. Whilst there are a great many positive reasons for this outcome the philosophy of materialism can sometimes be taken as gospel rather than be seen as one of a series of potential working philosophies.

The illusionist position in materialist philosophy that postulates

⁵ Winkelman argues through his biogenetic paradigm that trance states and individuals experienced in using them allow the mind an expanded neurocognitive capability to solve problems (Winkelman 2010).

consciousness doesn't really exist or is an illusion which rises out of the brain's information-processing functions (Dennett 1991; Frankish 2016). Humphrey suggests that it is a type of 'magic show' is produced by the brain to enhance survival (Humphrey 2011). This is unsatisfactory as it essentially denies one's own existence and it is unhelpful for understanding the core experiences of shamanism.

The first experiences humans have begun with consciousness, and it is, according to Descartes, the only thing we can be certain is real thus '*I think, hence I am*' (Descartes 1637, p 63) or as Goff puts it – '*I think, therefore I am conscious*' (Goff 2019, p107). The author argues that this is the position where animism and shamanism start from.

The issue this author has with the materialist (and physicalist) position is what the author terms 'The Infallibility Error' or 'Circular logic' mentioned above. This is an elaboration on Galileo's error outlined by Goff in his book (2019) and, using an example of computational reasoning, follows as thus:

A computer claims to have the perfect solution, yet you know this to be flawed so you ask it how it knows it has the perfect solution. The computer tells you the solution is perfect because the computer is infallible. You then ask how the computer is infallible? It answers, 'because I was programmed to be'⁶.

The computer knows because it knows. The conclusion is assumed in the premise. This is circular logic; it makes no sense (see Figure 1).

6 This exact scenario can be encountered in the story of Fallout 3 where the protagonist meets the AI President John Henry Eden (Bethesda Game Studios 2008).

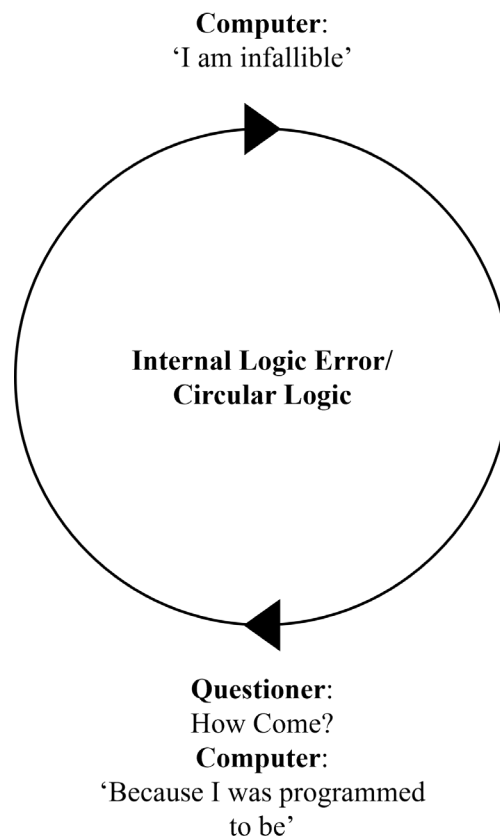


Figure 1 - The Circular logic/ Internal logic error of the computer.

Materialist and physicalist arguments typically follow this pattern:

Position: Consciousness is either non-existent, an illusion, or it emerges out of physical processes (materialism).

Question: How do you know this?

Answer: Because the universe is materialist; this is the paradigm of science; the universe is an objective quantitative reality that can be measured and quantified through experimentation and the language of mathematics – materialist philosophy.

How do you know this is the way the universe works?

Because that's how science functions ('Because I was programmed to see it that way')⁷

Science knows the universe is materialist because it knows it is. The conclusion is assumed in the premise. This is circular logic; it makes no sense (See Figure 2)

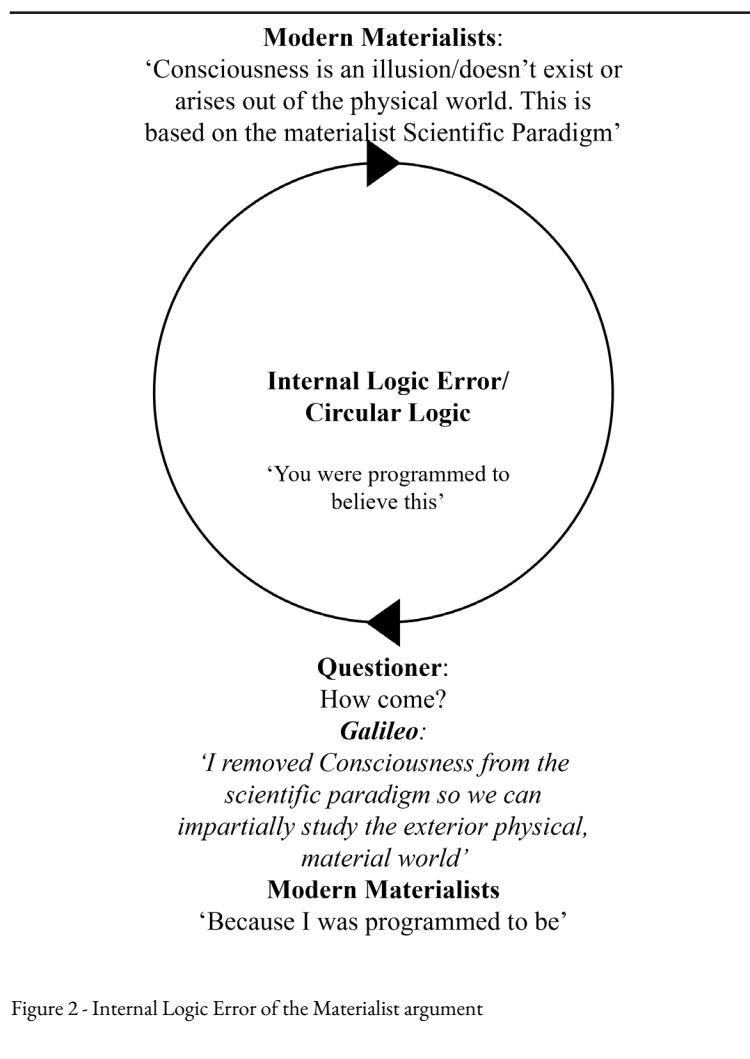


Figure 2 - Internal Logic Error of the Materialist argument

⁷ It is programmed to be this way due to Galileo cutting out conscious subjective experience (qualia) from the scientific paradigm (Goff 2019).

Materialist philosophy operates within a closed loop of reasoning. There appears to be a belief that the paradigm and process of science in the materialist sense is infallible and will eventually answer everything. Yet how can it be if consciousness (qualia in particular) was cut out at its very inception. This leaves us with the following situation in materialism:

Within the area of all physical quantitative and objective phenomena materialism can reign supreme as its closed loop of logic governs these phenomena, and this is by design (Goff 2019).

It does not govern subjective qualitative conscious experience (qualia in particular) as this was cut out at the inception of the scientific paradigm, and this is also by design (Goff 2019).

Therefore consciousness, beyond what can be considered physical, objective, and quantitative (qualia) lies outside the closed loop of current scientific thinking. Ergo science cannot adequately explain conscious experience and shall be incomplete until it accepts a new approach that does incorporate it. So argues Goff (2019) and the author of this paper.

Current science relies on circular logic as a means to describe consciousness; our paradigm describes the whole universe as a quantitative, objective, physicalist, material reality that can be impartially studied and quantified through the language of mathematics, therefore consciousness must be physical too or it is an illusion. There is no space within this paradigm for it to be anything else and this is because this paradigm was designed to be this way. Therefore, the philosophy limits investigation and understanding to materialism and cannot satisfactorily expand beyond these limits.

The philosophy of animism which emerges first and foremost from lived human experience assumes a living universe filled with immaterial entities. Materialist science cannot account for consciousness (qualia), ghosts, spirits, gods, or immaterial entities etc. because these are immaterial phenomena and are therefore not governed by the philosophy of materialism. Materialism was never

‘programmed’ to investigate such things. This suggests that it is logically futile to try and explain any of these phenomena with materialist science as the conclusion will almost certainly be predetermined to state that, like consciousness, such phenomena are non-existent or illusory as it has no material substance and therefore cannot be observed.

A system, philosophy, or method of investigation is only as good as its initial programming. The materialist argument has excellent authority over material phenomena as this is what the philosophy was designed to analyse but it experiences contradictions and logical fallacies as it moves towards immaterial phenomena such as the nature of consciousness (qualia) or those forces and entities postulated in animism and theology. In essence the philosophy of materialism assumes the universe is materialistic and that no immaterial phenomena exists - the conclusion is assumed in the premise – and so no investigation made by materialism into the ‘immaterial’ can be considered meaningful when based on this logical fallacy.

It is for these reasons that applying materialist philosophy to a phenomenon such as shamanism is ineffective and why shamanism (or at least the core experience of shamanism – the qualia of altered states of consciousness) needs to be seen within its original framework; animism.

Shamanism is a practice that has to be experienced (much like animism) and the most important aspect of the practice, the altered states of consciousness and how the shaman interacts with it (qualia), cannot be objectively observed in a satisfactory manner in the scope of materialist science.

Past works on Animism

This author’s attempt to explain animism as a philosophical framework is not the first attempt to do so (Bird-David 1999; De Castro 1998; Descola 2013; Frazer 1900; Guthrie 2000; Hallowell 1960; Harvey 2005; Horkheimer and Adorno 2002; Hume 1998; Ingold 2006; Tylor 1871). Ultimately animism is mostly neglected in the field of philosophy (Rose 2013), a situation that can be seen by the comparative

lack of philosophical and scholarly engagement with the subject in contrasts to disciplines such as materialism, and dualism.

The author positions animism as the primary framework within which shamanism is typically situated, emphasizing the crucial role that consciousness, particularly in its varying states, plays within animist philosophy.

The author argues that Hylozoism and Vitalism are unapplicable views on animism at this stage, both of which are somewhat outdated and not applicable to this approach. Modernist views claiming animism is a mistake (Tylor 1871; Frazer 1900) are considered an erroneous position as animism allows for successful survival strategies ergo it cannot be an outright mistake (Guthrie 2000; Guthrie 2015). The author concurs with Guthrie's critique of the postmodern approach, which permits imagination to define all aspects of reality, thereby rejecting scientific realism (Guthrie, 2000, p. 107). While the author seeks to uphold realism where feasible, this proves difficult when addressing qualia and consciousness, as previously noted. Tim Ingold presents animism from an Enactivist point of view where animism is the result of an experiential state of being in a natural world which is always in flux (Ingold 2006). For the Enactivist, cognition arises from an organism's interaction with the environment and the mind is shaped by reciprocal interactions with it (Varela et al 2017). This approach draws on phenomenology and better represents animism to some degree as human beings in hunter gatherer and pastoralist communities are integrated with the environments they inhabit. Horkheimer and Adorno are correct when stating that the scientific paradigm alienates us from the natural environment (2002). However, whilst the importance of personal lived experience is raised, the Enactivist approach does not pay particular attention to the nature of consciousness per se.

Philippe Descola (2013) and Eduardo Viveiros de Castro (1998) comprise the core of the ontological approach of animism. Both of them utilize the concept of 'interiority' which can be described as the internal essence or subjective consciousness that entities are believed to possess, which influences how they relate

to humans and each other. For Descola, whilst non-humans may have different physical characteristics, they share a similar or the same interior experience (such as consciousness, soul, or intentionality) and so through this shared ‘interior’ experience non-humans can be integrated into social networks and allows for social relations (Descola 2013). De Castro, who postulates the theory of perspectivism, claims that animism allows all beings to possess the same type of ‘interiority’ but due to their difference in body they perceive the world differently as such the entity’s experience is dependent on its exterior form (de Castro 1998). Perspectivism focuses on the relations and transformations between separate entities where beings can shift their identities by changing their exterior forms (de Castro 1998). Descola’s ontology values thought, whilst De Castro’s values perspective. Both approaches value the interiority or phenomenological lived experience though both then shift to a relational or perspective focus rather than remaining focused on the conscious (qualia) aspect of the experience.

The Social Related Animist perspective predominantly focuses on the relational aspects of animism viewing it as a relational epistemology (Bird-David 1999), or as a web of social relationships sometimes with non-humans (Hallowell 1960). This removes the larger focus on consciousness or lived experience and is not particularly relevant for this study.

A common theme can still be seen to have developed between these positions. This is the focus on the ‘interiority’ or ‘phenomenology’ of the animist experience whether this is the description of the modernist perspective of Tylor, the Enactivist point of view, or the ontological approach. However true attention isn’t paid to the nature of consciousness itself within animism or these concepts. Interiority, as far this author is concerned, can be considered qualia – it is lived experience founded in consciousness, therefore consciousness is the shared medium of the animist’s experience of the natural world. As such animism is immutably linked to consciousness and lived conscious experience. The shaman takes this to the next level as the master of altered states of consciousness (Eliade 1989; Malim 2024).

The author therefore argues that consciousness (particularly qualia) and lived conscious experience forms the core component of both animism and shamanism.

Methodology

For this paper the author uses the following methodologies to elucidate the philosophical framework of animism:

Phenomenology

Qualia and Consciousness Studies

Panpsychism

Comparative Philosophy and Anthropology

Dialectical reasoning and logic

The author uses phenomenology to approach animism as this philosophy emerges first and foremost from direct human experience (interiority and qualia). These experiences utilise material faculties and social relations as past researchers and philosophers have explored (de Castro 1998; Descola 2013; Diószegi, 1998; Diószegi & Hoppál 1996; Eliade 1989; Facco et al 2021; Gheorghiu et al 2017; Grosman 2008; Harner 1990; Harner 1972; Hultkrantz 1993; Ingold 2006; Lewis Williams and Dowson et al 1988; Porterfield 1987; Winkelman 2002; Porr & Alt 2006) but extends into the depths of qualia and consciousness.

Because of the unobservable and immaterial nature of qualia, the experience of it and the relative success of practices such as shamanism, the studies of qualia and consciousness are incorporated into the study of animist philosophy.

Given the prevalence of concepts such as ‘interiority,’ qualia, phenomenology, and the relational dynamics between consciousness and the environment, it becomes essential to explore the origins of consciousness. As previously discussed, materialism proves unhelpful due to its assumption that everything is inherently material. Dualism, meanwhile, faces challenges in explaining how it interacts with material systems (Goff, 2019). In contrast, animated nature aligns

well with panpsychism, as both frameworks attribute consciousness or subjectivity to non-human entities. While animism may endow certain aspects of the natural world with personhood or interiority, it logically requires a source for all forms of consciousness. Panpsychism provides a solution by positing that consciousness is an intrinsic property of matter, thus positioning it as a fundamental aspect of reality. Although panpsychism cannot fully resolve the combination problem—the question of how individual consciousnesses coalesce—this gap is more bridgeable compared to materialist beliefs that consciousness is an illusion (Goff, 2019). As such, panpsychism is integrated into this framework and regarded as a valid component of animism.

Comparative philosophy and anthropology are employed as animism is culturally situated, so a comparative approach contextualizes it alongside Western and non-Western philosophical systems. Animism can give potential solutions to philosophical dilemmas such as materialism, dualism, and panpsychism whilst such philosophies help to contextualize animism for occidental understanding. Dialectical and logical reasoning is incorporated into this approach to propose potential syntheses for these ideas.

These approaches are therefore combined together to form the methodological foundation for the philosophical framework of animism from a consciousness-based perspective.

Issues with the Variability of Animism

Animism was a belief system ultimately invented by anthropologists to explain cosmological systems in indigenous societies (primarily hunter gatherer, pastoralist, horticultural, and some agricultural societies). Indigenous belief systems, whilst ultimately sharing the framework of animism (Peoples et al 2016), can vary greatly on which parts of it they emphasize. For example, the Jivaro see ‘*the ordinary world as misleading “a lie”*’ (Harner 1972, p 6) and believe that the only reality is the supernatural one (Ibid), they essentially reject material reality altogether. Other

societies may not take their beliefs to this extreme, but the resounding emphasis is on the immaterial forces and entities that underly reality whilst leaving material reality as more of an afterthought (Tylor 1920, p 425). Such societies do not reject material reality; as Evans-Pritchard observes, the Azande, a people renowned for their beliefs in witchcraft and oracles, readily acknowledge that a wooden building collapses due to termites consuming the wood, rather than attributing the cause to witchcraft or supernatural forces (Evans-Pritchard, 1976, p. 22). This author argues that animism may reject the philosophy of materialism (Tylor 1920, p 425), but it does not outright reject the material universe or the mental faculties of logic and reason as the early modernists claimed (Tylor 1920). Instead, the primary focus of animism (and shamanism) is not on material reality but on the immaterial forces that underly it.

For this reason, there are many potential emphases a philosopher or researcher can place on animism. However, it is this immaterial aspect which is best represented in qualia and the lived experience of consciousness that this author takes as the most vital part of the philosophy.

Proposed Philosophical Framework of Animism

Animism is regarded as the foundation of religious philosophy (Tylor, 1920, p. 426) and emerged from the lived phenomenological experiences of humans over millennia and across the globe. Despite temporal and geographical distances, these experiences have led to an unofficial consensus regarding the structure of the natural world, with its widespread and enduring presence serving as evidence of its validity (Peoples et al 2016). The author posits that whilst reductionism allows scientists and philosophers to better understand the individual components of reality, the larger picture can be lost. As such animism may also be a solution to the fragmentation of current philosophical theories by presenting a larger integrated picture.

The author argues that animism integrates the material universe with panpsychism and dualism whilst still allowing for deities of lesser and greater

proportions proposed in theological discourse. Tylor describes animism as ‘*animated nature*’ (Tylor 1871, p 270) where ‘*the whole visible and invisible creation is animated with various orders of malignant or benign spirits*’ (Tylor 1871, p 272).

This framework requires a revised understanding of what animism refers to when it discusses spirits and similar phenomena. According to animists spirits and deities are considered to be types of living conscious entities, some of whom can be reasoned with (Eliade 1989; Tylor 1871; Osgoody & Gurbadaryn 2006). As spirits can be considered conscious entities rather than referring to them as spirits the author will refer to them and related phenomena as various types or ‘States’ of Consciousnesses. The author argues ‘*The States of Consciousness*’ form a fundamental part of the animistic perspective of existence and being. This should be considered separate from ‘Altered States of Consciousness’ which is a process and an experience relating to the mind. ‘*States of Consciousness*’ or ‘*The States of Consciousness*’ refers to fundamental states in which consciousness can be composed like the states of matter – Solid, Liquid, Gas, and Plasma. Tylor describes animism as containing various ‘orders’ of spirits and so this will be altered to reflect a spectrum of consciousness within the separate states. Based on logical deduction and dialectical reasoning between animist philosophy and contemporary philosophical debates the author argues animism permits the existence of three ‘*States of Consciousness*’ in the natural universe:

Static Consciousness - In Animism this is consciousness or spirit that runs throughout the entire universe from stones to celestial bodies – “*animated nature*” (Tylor 1871, p 270).

For occidental philosophical understanding this can be considered consciousness that is the intrinsic nature of matter; panpsychism. This form of consciousness is at its most basic and fundamental. It is the proto consciousness of individual particles as postulated by panpsychist philosophers. This type of consciousness is considered to coalesce in biological/living organisms – the combination

problem (Goff 2019).

Static consciousness generally obeys the laws of physics as it is fully embedded in physical systems. It is generally not considered to be self-aware but composes the ambient consciousness of the universe. It also acts as a medium with which other conscious forces can act through.

Dynamic Consciousness – In Animism this is consciousness or spirit in biological organisms - “*the personal soul or spirit*” (Tylor 1871, p 13). Mongolian shamanism posits three souls for a human being - Flesh, Bone, and Mind – where the souls of flesh and bone perish with the body (Otgony & Gurbadaryn 2006, pp 126-127).

For occidental philosophical understanding this can be considered consciousness that coalesces from matter (Static Consciousness) into living organisms (Dynamic Consciousness). This is the experience of consciousness as animals and human beings know it. This consciousness is capable of attaining self-awareness and a degree of free will within the constraints of its biological and physical limitations. These types of consciousnesses have the potential to interact with Free Roaming Consciousnesses under the right conditions.

Free Roaming Consciousness - In Animism these are spirits in an immaterial or disembodied form that control an array of seen and unseen phenomena ranging from small spirits to great deities – ‘*the whole visible and invisible creation is animated with various orders of malignant or benign spirits*’ (Tylor 1871, p 272).

For occidental philosophical understanding this can be considered a dualist type of consciousness that can seemingly exist independently of material reality. In animist cosmologies these types of consciousnesses appear to inhabit a conscious/qualia-based reality of their own with its own laws and rules as explored by shamans and arguably other magico-religious practitioners. According to animism such Free Roaming conscious entities appear to be capable of influencing physical

systems (Static or Dynamic) under the right conditions and physical entities appear to be able to influence Free Roaming conscious entities in turn.

Animism therefore incorporates material reality, panpsychist philosophy, and dualist philosophy into its paradigm creating a holistic system. Each of the three 'States of Consciousness' can contain a range of awareness and increasing quantities of consciousness rising from Static all the way to Free Roaming. Therefore, each state of consciousness would contain a spectrum of consciousness within it. Other States of Consciousness may exist such as monistic forms.

This framework implies several things:

First and foremost: Consciousness is a fundamental part of existence.

Secondly in this philosophical framework the materialist assumptions towards consciousness and the immaterial are practically absent.

That there are two sides of reality: the material reality and the immaterial (founded in consciousness).

Immaterial reality, according to this framework, may consist of landscapes, laws, and entities identified as Free Roaming Consciousnesses, all of which adhere to their own intrinsic laws. From an animist perspective, these are the realms with which shamans engage during their journeys to various otherworld's (Diószegi, 1998; Diószegi & Hoppál, 1996; Eliade, 1989; Elkin, 1944; Otgony & Gurbadaryn, 2006). This interpretation contrasts with the materialist view, which interprets such experiences as mere products of the imagination. Notably, shamans across diverse cultural traditions consistently perceive the places encountered during trance states as autonomous realms, existing independently of their own imagination (Diószegi, 1998; Diószegi & Hoppál, 1996; Eliade, 1989; Elkin, 1944; Otgony & Gurbadaryn, 2006).

The three 'States of Consciousness' could be seen as comparable to the four states of matter in that they are fundamental building blocks of animist reality.

There is a spectrum of awareness within each 'State of Consciousness'.

That consciousness may exist independently of matter or behave in ways

unfamiliar to contemporary understandings of material reality.

Mystic experience of ‘oneness’ may be individuals tapping into the ambient consciousness of the universe – potentially the Static state of Consciousness. Goff also comments on mystic’s experiences potentially tapping into a consciousness inherent in the universe (Goff 2019).

That dualism can and does interact with the physical universe – but requires a shared medium with physical reality to achieve this. The author would argue that the animist framework allows Free Roaming consciousnesses to interact with the physical universe through the medium of Static (panpsychism) and Dynamic forms of consciousness. A classic issue with dualism is the lack of material evidence to explain how dualism can interact directly with physical reality. However, rather than immaterial consciousnesses interacting directly with materialist systems it is one state of consciousness interacting with another. This may be undetectable by materialist scientists looking for material explanations.

Most importantly, as the ethnography behind shamanism and other magico-religious practices would suggest, that consciousness in general (all three ‘States of Consciousness’ but Free Roaming especially), as a fundamental part of existence, obeys certain laws specific to its own state of being as well as those laws constituting material reality. Static forms of consciousness (panpsychism) arguably obey materialist laws (physics). Dynamic forms of consciousnesses inherent in biological systems also obey materialist laws (physics) up to a point⁸. Based on the ethnographic literature spirits (Free Roaming forms of consciousness) do not appear to obey materialist laws or can influence them thereby suggesting it conforms to its own set of fundamental laws. In the ethnographic literature shamans and other magico-religious practitioners need to undergo intense training, grueling trials, and gain experience over the course of a lifetime to be able to improve

8 In ethnographic literature shamans and other magico-religious practitioners sometimes claim supernatural powers that do not conform to materialist science, these are often enabled by innate supernatural abilities or spirits (Diószegi 1998; Diószegi Hoppál 1996; Eliade 1989; Elkin 1944; Otgony Gurbadaryn 2006).

their mastery over altered states of consciousness and whatever boons it may grant (Diószegi 1998; Diószegi Hoppál 1996; Eliade 1989; Elkin 1944; Otgony & Gurbadaryn 2006). Like any other skill requiring mastery there are no shortcuts (even those who possess an innate gift must still train) and this suggests there are certain laws and rules the individual must work with to accomplish their goals. Ergo consciousness, especially when engaging with Free Roaming States of Consciousness, obeys certain laws specific to itself.

It is therefore possible that the influence of Free Roaming Consciousnesses could affect the nature of consciousness in the Static and Dynamic states by fundamentally changing their behaviour. Ethnographic literature on shamanism and other magico-religious practitioners would also suggest some Dynamic consciousnesses (organic life) also possess this potential, such as possession (Diószegi 1998; Diószegi Hoppál 1996; Eliade 1989; Elkin 1944; Otgony & Gurbadaryn 2006). Some shamans or magico-religious practitioners claim to see remote places in trance or to be able to project themselves there (Eliade 1989; Elkin 1944) which would suggest active interaction between dynamic consciousness (organic life) and dualist (Free Roaming) consciousness, this is also commented on in Tylor's account on animism where the human soul is "*capable of leaving the body far behind, to flash swiftly from place to place; mostly impalpable and invisible, yet also manifesting physical power, and especially appearing to men waking or asleep as a phantasm separate from the body of which it bears the likeness*" (Tylor 1871, p 13).

A Dynamic Consciousness could host a Free Roaming Consciousness whilst also operating with its own coalesced Dynamic consciousness. This would suggest a symbiotic relationship through the shared medium of consciousness. The human soul is capable of acting as a Free Roaming Consciousness in animism (Tylor 1871, p 13) thus an organic entity such as a human may be a combination of all three 'States of Consciousness'.

Investigations into the different 'States of Consciousnesses', especially The Free Roaming State may need to be experiential as current scientific apparatus

is not equipped to measure qualia.

Animism arguably presents a holistic framework where consciousness is the fundamental building block of the universe. Like panpsychism animism assumes consciousness is the intrinsic nature of matter. Unlike panpsychism it takes the idea of consciousness much further to incorporate dualist and theological concepts.

Animism proposes an integrated 'theory of everything' where the intrinsic nature of matter is consciousness and different states of consciousness incorporate panpsychist and dualist concepts whilst leaving room for an assortment of lesser or greater consciousnesses that could be considered deities in the theological sense. It offers a potential solution to the problem of dualism through panpsychism where dualist consciousness can interact with the material universe through the ambient consciousness already present within it. Animism however offers many questions when it comes to philosophical and scientific enquiry which is its biggest drawback.

Animism comes from the lived conscious experience of human beings (phenomenology) living within the natural world who had to rely on all senses available to them to survive. This is not something that can be experienced in a laboratory. Lab conditions and equipment are no more real in relation to the animist experience of consciousness as a philosopher sitting in a chair. The full breadth and depth of conscious lived experience can be found only in the natural world, the same beautiful and hostile natural world we evolved to inhabit. Ethnographers and anthropologists who have done fieldwork in distant and isolated places are aware of this experience. Anthropologists who had first-hand experience of magico-religious practices such as shamanism (Harner 1990) or sorcery (Stoller & Olkes 1989) in other cultures were exposed to the full potential of such phenomenological experiences to the point they transcend contemporary materialist perceptions of reality.

Materialism gives us nothing meaningful to work with when investigating the qualia of lived experience in shamanism or other such magico-religious practices that engage with altered states of consciousness. Animism, the philosophical framework within which shamanism is most often situated and from which it

emerged, offers such explanations even if they are unsatisfactory to contemporary occidental science and materialism.

The animist experiences an interconnected web of consciousness and it is through this medium that they are able to relate and associate with humans and non-humans. This is especially the case of the shaman who, being the expert on altered states of consciousness in such communities, engages with it the most and to its greatest depth.

The following is a rough summary of what this animistic philosophical framework implies:

Ontology

What is the Fundamental Nature of Being?

The fundamental nature of being is that all elements of the natural world possess a form of consciousness or spiritual essence, therefore 'being' is primarily consciousness and secondarily material. There is consciousness or proto-conscious at all levels of existence which is considered to be the intrinsic nature of matter (essentially the panpsychist position). There are different fundamental 'States of Consciousness' rising from Static material forms, through Dynamic living forms, to Free Roaming forms of consciousness. A monistic form is also possible (Spinoza's single substance).

A conscious entity has the potential to interact with or be interacted with by the myriads of other forms of consciousness whether they be the same or different form of consciousness.

Some forms of consciousness do not appear to need physical biological systems (Free Roaming Consciousnesses) in the same way as biological life (Dynamic forms of consciousness) but can interact with them through the shared medium of consciousness (Static forms of consciousness; Panpsychism – consciousness is the intrinsic nature of matter).

Is reality material, immaterial, dualistic, or something else?

Reality is inherently consciousness. The intrinsic nature of matter is consciousness (the panpsychist position). This form of consciousness is divided and separated forming a static matrix (Static Forms of Consciousness) that composes the material universe which obey the laws of physics. Under the right conditions these static matrices - particles, elements, and compounds and their separated forms of proto consciousnesses - coalesce to form dynamic systems of consciousness (I.e. Biological life) which become increasingly self-aware.

Reality therefore possesses an integrated mixture of materiality and consciousness. Both aspects of reality are immutable, both have different 'states of being' ('The States of Consciousness' and 'The States of Matter')⁹.

Free Roaming Consciousnesses compose an arguably dualist dimension to this structure though they predominantly occupy the 'conscious landscape' (the so-called otherworld's in shamanic discourse where the shaman must visit in trance/spirit). This would suggest that, whilst material reality has material landscapes occupied by organic and inorganic phenomena and governed by fundamental laws (physics), conscious reality has conscious based landscapes inhabited by conscious entities and possesses its own fundamental laws. This aspect of reality has the potential to interact with material reality through the consciousness inherent in the intrinsic nature of matter.

How Does Existence Relate to Non-Existence?

There is no such thing as non-existence, nothing comes from nothing, and so consciousness (qualia) must come from somewhere - Consciousness is therefore the intrinsic nature of matter (Goff 2019). Existence starts at the divided proto forms of consciousness that compose the intrinsic nature of matter (Static Forms of

⁹ A poor analogy for this is that material reality is the 'hardware' whilst consciousness is the 'software' (or arguably the other way round for the animist).

Consciousness), this is then coalesced into an organic being (Dynamic Consciousness) which is the beginning of what humans understand as conscious existence. Animism postulates a dualist ability of the human soul (Tylor 1871, p 13) and so it is possible that during the coalescence of consciousness from Static to Dynamic that a Free Roaming form of consciousness may inhabit the organic body using the shared medium of consciousness to integrate into it. According to animists and shamans with the right training or under the right conditions it can leave the body for a temporary period of time (Tylor 1871, p 13).

On death the Dynamic system of consciousness dissolves returning the coalesced consciousness to a separated Static state. The Free Roaming Consciousness, if integrated into the Dynamic form of consciousness of the mind and body, is released back into the immaterial 'conscious landscape'.

Existence relates to different States of Consciousness and/or their integration with one another.

Are There Different Layers or Dimensions of Reality?

The layers and dimensions of reality are characterized by the material universe and consciousness. There is material reality then there are three States of Consciousness that comprise three different layers of experiential reality.

The conscious dimension of reality can give rise to coalesced consciousnesses (Free Roaming states of Consciousness) that do not require biological (Dynamic) means of existence though can interact with them. Such entities exist in the conscious dimension of reality rather than the physical but can interact with the consciousness inherent in physical systems through the shared medium of consciousness inherent in reality. These conscious landscapes are not bound by the material constraints of the physical world but function according to the unique principles inherent to the conscious dimension.

Metaphysics

What Underlying Principles Govern Reality?

If the intrinsic nature of matter is consciousness, then the underlying principles that govern reality are an interplay between physics and the unknown fundamental laws of consciousness.

Animist philosophy suggests consciousness can be interacted with via various techniques seen in magico-religious practices around the world but especially shamanism. The various States of Consciousness in the universe have the latent potential¹⁰ to alter the physical behaviour of matter through the medium of consciousness inherent in matter. As such, according to animist philosophy, under the right conditions material reality can be altered to the will of a powerful consciousness thus defying ordinary physical laws. Such consciousnesses are considered Free Roaming types (I.e. various orders of spirits and deities), though ethnographic literature suggests shamans also claim to be capable of something to the same effect (Eliade 1989, pp 86, 140, 296-297, 329, 454, 474, 477, 508-509).

In the absence of direct manipulation of the consciousness inherent in matter by various conscious entities the laws of physics reign supreme.

Is Causality Fundamental, or is Reality Probabilistic?

For the animist reality contains an interplay of causality and probability. When the consciousness of matter is Static causality reigns supreme. However, when 'Dynamic' conscious systems are introduced (such as self-aware biological organisms) or Free Roaming conscious entities emerged this changes, and probabilistic reality takes hold. Such changes can be at fundamental levels (perhaps the superposition of a particle until observed in quantum mechanics is an example of this) and, potentially, macroscopic levels – the supposed abilities of shamans being examples of this

10 Perhaps like potential energy.

(Eliade 1989, pp 86, 140, 296-297, 329, 454, 474, 477, 508-509).

If the intrinsic nature of a particle is consciousness, then the superposition of a particle until observation plays well into animist philosophy as it is seen as a conscious or ‘animated’ entity ‘making a decision’ to be in one state or the other. Goff also comments on the behaviour of particles suggesting that if the universe were truly inanimate how come our mere observation changes its reality, if matter were objective and inanimate our observation should make no difference (2019).

How Do Concepts Like Time, Space, and Change Fit into the Framework?

Static consciousness and most forms of Dynamic consciousness ultimately obey the laws of time, space, and change observed in Physics. However, it is through conscious interaction with the other states of consciousness that an individual can uncover and live out the animist experience of time, space, and change.

To the animist time, space, and change is cyclical and highly relational. The cyclical experience of time and the nature of sacred space, which is often contrasted with the seasons, is something that Eliade explored in his works (Eliade 1987). Space for the animist is not an empty container of inanimate matter but is a living matrix of consciousness (or spiritual essence). Whilst consciousness may be everywhere, in certain places this consciousness converges (though doesn’t necessarily coalesce in the same sense as the States of Consciousness per se¹¹) creating what is referred to as sacred space. Sacred spaces are often considered dangerous and regenerative requiring specialists (in this case shamans) to manage it. Eliade contrasts this with profane space which has no order or centre to it, this isn’t ‘dead space’ but places that one cannot meaningfully tap into for regenerative experiences (Eliade 1987).

The ‘otherworld’s’ that shamans enter into in trance is considered a place

¹¹ This could relate to other laws governing the ‘conscious landscape’ not solely related with the States of Consciousness. Here we may find a place where the geography of both material and immaterial landscapes intersect.

without time (Eliade 1987; Eliade 1989), all that has existed still exists there and things to come can also be discovered there or from the Free Roaming conscious entities (spirits) that reside there.

For the animist time can be seen as experienced subjectively at different States of Consciousness where the past, present, and future are interconnected.

Are There Emergent Properties That Cannot Be Reduced to Simpler Components?

Consciousness and how we experience it (qualia) cannot be reduced. Consciousness is the intrinsic nature of matter and is fundamental. This is true also of Free Roaming Consciousnesses, though experiences of consciousness come in different tiers and states.

In animism, emergent properties are relational, arising from the interconnectedness and interactions of conscious entities. What results, whether social, environmental, or consciousness is more than the sum of its parts.

Philosophy of Mind and Consciousness

Is Consciousness Fundamental, Emergent, or an Illusion?

Consciousness is not emergent it is a fundamental part of reality. It is the intrinsic nature of matter. All matter has some level of consciousness including particles. All reality is fundamentally conscious and much of physical deterministic reality emerges from the Static states of consciousness. Physical reality is dependent on the ambient consciousness of the universe remaining static. Static consciousness has the latent potential to alter the physical reality of the universe if ever it coalesced¹². Consciousnesses in biological systems are both emergent and fundamental. The development of biological systems coalesces the ambient consciousness inherent in

¹² Whether it actually would is another matter. Furthermore, would greater forms of consciousness (Such as a monistic consciousness) intercede to prevent a break down in the structure of the universe (Vacuum decay) if the change was extreme enough.

particles to form streamlined conscious biological organisms, in this way this specific experience of consciousness is emergent though consciousness itself is fundamental.

Explaining Subjective Experience (Qualia)

Since consciousness is fundamental, qualia exist everywhere but become more complex in higher organisms. In this sense the more complex forms of consciousness in biological organisms are arguably emergent. Nonphysical forms of consciousness that are dependent on the conscious landscape of the universe (as opposed to material entities that are dependent on physical landscapes) can also coalesce to form higher states of consciousness though their experience is limited to the conscious landscape of the universe which is primarily composed of qualia and a substantial lack of physical experience.

Mind vs Matter

Mind and matter are not separate they are effectively the same. However, the unique combination of matter and its inherent consciousness within the organic system of the brain causes the separated consciousnesses inherent in particles to coalesce into a cohesive whole (during development of a foetus).

This would form the basis of conscious experience in human beings and other organic organisms. However, as we have already touched on the presence of Free Roaming conscious entities that predominately exist within the conscious field of existence, there is a possibility that one of these Free Roaming consciousnesses may have the potential to bind with the biological matrix of the human brain allowing it to coexist in a symbiotic relationship with a human body. Such an interaction could be referred to as a soul, or possession. This framework allows for the possibility of multiple consciousnesses existing simultaneously within a single entity, whether human, non-human, or even inorganic. These consciousnesses may coexist and interact within the same being at a given time, suggesting a multiplicity of conscious states or entities that can operate within a single organism or system.

Free Will

There is an interplay between free will and determinism. As long as the consciousness of the universe remains Static, matter will abide by the laws of materialism and causality. In a Static state of consciousness determinism is dominant. However, if consciousness emerges then free will becomes possible. As the behaviour of biological organisms are still determined by their own environment, needs, and desires much of what they do is also predetermined up to a point. In such cases the biological needs and restraints of the human being set the rules and within those rules, through the medium of consciousness, free will is possible. Individual human beings can be unpredictable or unreasonable in their choices even though they may share a great many similarities with each other, however the whole species is largely predictable as we are still grounded in basic human needs in order to function. So, our basic biology, our material reality (physics etc), and our environment set the rules for our existence which may be pre-determined but what we do within these rules is free will enacted through the medium of consciousness.

Free Roaming Consciousnesses follow different laws restrained to the medium of consciousness that seem to have an unknown degree of influence over the physical universe. Given the sometimes-complex processes needed to contact Free Roaming Consciousnesses (Diószegi 1998; Diószegi Hoppál 1996; Eliade 1989; Elkin 1944; Otgony & Gurbadaryn 2006) such entities appear to be restrained by different laws of reality inherent to consciousness that we are not be aware of. As Dynamic or Free Roaming consciousness appear to be the medium for enacting free will, it may be argued that the greater the scale of consciousness, the greater the complexity of its awareness, and the more ways it has to interact with reality, whether that be pure consciousness and/or physical reality, the greater its capacity for free will.

In animist belief systems it is not uncommon for fate to be a focus of cosmology though fate, especially in relation to the afterlife, depends on an individual's actions in life showing the interplay between determinism and free will

(Tylor 1871 pp 171, 173, 174, 178, 411). The afterlife is considered part of the conscious landscape.

Logic and Methodology (Principles of Thought and Inquiry)

This section explores methods for investigating animist philosophy. Historically animism was not investigated in a scientific manner as the experiential nature of animism restricts the potential for such approaches. However, contemporary science has developed greatly in the last few centuries which incorporate abstract approaches and reasoning which may be transferrable to the animist philosophy should investigation be adopted.

Logical structures or reasoning methods

Classical logic can be applied to animism (Principle of Non contradiction) so long as consciousness is a Static or passive part of reality. Static consciousness allows for causal effects and does not interfere. However, as consciousness becomes Dynamic or Free Roaming (or as it awakens) it enters into the realms of non-classic logic known as ‘fuzzy logic’ (Consciousness as a spectrum). Whether paraconsistent logic or Quantum logic is applicable is yet to be established. The claim that the intrinsic nature of matter is consciousness suggests that a particle is both matter and consciousness at once in the same way light can behave as a wave and a particle at the same time.

A Challenge to Classical Logic?

Claiming that the intrinsic nature of matter is consciousness resolves the origin of consciousness and maintains the existence of physical reality, especially if consciousness is in a Static state. However, claiming that there are tiers of consciousness including Free Roaming conscious entities that have little if any material presence does challenge classical logic. Nagel argues that the conscious experience between a bat and a human differs greatly in experience suggesting different phenomenological

experiences of consciousness (Nagel 1980). Whether a bat is self-aware in the same capacity as a human is also questionable. Tiers of consciousness may be associated with the increasing coalescence of consciousness within a given mind, as suggested by Integrated Information Theory, which posits that higher levels of information integration lead to higher conscious states, this may solve the paradox. However, the existence of immaterial entities that embody pure conscious experience appears to contradict this theory, as it is traditionally based on biological organisms as the sole basis for understanding consciousness. While the process of how consciousness coalesces within a mind or brain remains a challenge, understanding how it might coalesce independently of a biological system presents a more profound issue. This discrepancy raises two possibilities: either there is a flaw within the theory, making the presence of Free Roaming conscious entities an erroneous assumption, or there may be alternative mechanisms by which consciousness can coalesce into a conscious experience, independent of biological systems. Alternatively, if the mystical experiences of individuals who report encountering ‘the great one’ are accepted, this could imply that consciousness is capable of coalescing outside of biological systems, suggesting it may be a fundamental and universal truth.

How does it deal with paradoxes, contradictions, or unknowns?

When viewing animism logic may need to be expanded beyond bivalence (True/False) and that what appears as paradoxes may in fact reveal fundamental truths. Consciousness isn’t simply ‘off’ or ‘on’ (Bivalence) but is ranked in tiers (Fuzzy logic like temperature measured in degrees). For example, the greater the Integrated Information in a system the greater the coalescence of consciousness (Goff & Moran 2022). If consciousness is the intrinsic nature of matter, then it may be able to coalesce independently of biological systems and may also be tiered. As such, biological systems may not be necessary for consciousness to coalesce.

Animist logic leans to non-classical forms potentially incorporating; Intuitionistic Logic, Fuzzy Logic, and Paraconsistent Logic. To resolve paradoxes

the exception of Non bivalence logic may be necessary, especially when considering consciousness in terms of tiers of awareness. Paradoxes may be fundamental, for example consciousness may be both an experience of qualia and objective matter.

Scientists have already begun applying mathematics to Integrated Information Theory (IIT) via the symbol Φ (Phi) (Goff & Moran 2022). However, IIT only looks at information in a system, not at qualia per se. Nevertheless, this approach demonstrates mathematics has the potential to apply to an animist philosophy.

Methods to investigate truth

The methods for investigating animism can incorporate empirical, rational, experiential, and mathematical means.

Empirical reasoning and testing are needed to test entheogens and other mind-altering substances.

Rationality via logic and deduction is needed to iron out inconsistencies in reasoning unless evidence suggests that such inconsistencies or paradoxes are in fact true. For example, if an animist claims that people can alter the whole universe through thought this is logically impossible; from a material perspective thought without action changes nothing; from a consciousness based perspective the consciousness of a single human mind does not possess a coalescence of consciousness so great that it can match the ambient consciousness of the universe or that of higher coalesced conscious entities (whether biological, immaterial, or otherwise). In essence, consciousness can be hypothesized to act in a way that is similar to gravity; the greater the mass of an object (plus density and general relativity effects) the greater its gravitational pull, in the same way the greater the coalescence of consciousness and its awareness the greater its 'effects' (sic) are on the surrounding consciousnesses, and, if great enough, potentially on material reality.

Consciousness and awareness can be considered separate things. For example, if the intrinsic nature of matter is consciousness, then the whole universe is conscious, but it may not be aware. IIT theorists argue that awareness is

an emergent property of increasing integrated information (increasing amounts of consciousness) (Goff & Moran 2022). Currently awareness appears to have no mathematical value.

In essence, truth, debates, or investigation can be maintained through reason, rationality, logic, and deduction within the framework of the animist philosophy, though such reasoning will be different from traditional materialistic standpoints.

Within this philosophical framework, direct experience or experiential methods are regarded as the primary means of attaining truth. Since consciousness—particularly qualia—cannot be observed externally but must be subjectively experienced, the exploration of consciousness itself lies at the heart of animism and magico-religious practices. Enlightenment, as an experiential state, cannot be conveyed through instruction but must be directly realized – or so Zen Buddhism tells us (Cleary 1998).

To facilitate these experiences, various techniques are employed, including meditation, the use of entheogenic substances and hallucinogens, yoga, fasting, self-reflection, abstinence, sustained practice, nuanced sensory deprivation, intense physical exertion, extreme sensory deprivation, visualization methods, prayers and invocations, as well as expressive practices such as dance (e.g., Hindu temple dancing) and song or sound (including archaeocoustic phenomena and standing waves, as noted by Devereux, [2001]) (Eliade 1989; Lewis Williams 2014, p 134; Lee et al. 2018; Harner 1990; Winkelman 1990, 317). Lucid dreaming also serves as another method of attaining altered states of consciousness (Facco et al 2021, p 620).

For these experiential methods to be scientifically valuable, they must yield repeatable outcomes. Entheogens, hallucinogens, and meditation are especially promising in producing consistent and replicable states of consciousness. Although the subjective nature of qualia precludes external observation, the outcomes of these experiences can be empirically evaluated through participatory reports, thus providing qualitative data. This approach allows for the systematic validation of

techniques that reliably induce specific conscious states.

In traditional magico-religious contexts, the practitioner remains central to the experience, often augmented by environmental modifications or ritualistic tools to achieve the desired state of consciousness or knowledge. This anthropocentric focus is fundamental to the investigative method proposed here. However, unlike traditional systems, this approach is grounded in a shared philosophical framework that enables a cohesive interpretation of experiential phenomena.

Mathematics can serve as a valid method of reasoning within the investigation of consciousness. In the context of Integrated Information Theory, for example, mathematical models are employed to quantify the amount of information within a system, where higher informational complexity corresponds to greater consciousness (Φ).

To effectively evaluate an individual's capacity to engage with altered states of consciousness, mathematical approaches may need to account for the fluidity of subjective experience and the unique physiological and psychological constitution of each person. Given the significant variability in human biology and consciousness, a dosage or stimulus that induces profound experiences in one individual may have minimal effects on another.

While mathematics proves valuable for examining the material aspects of consciousness, adapting it to encompass the qualitative dimensions of altered states presents significant challenges, particularly in relation to the subjective nature of qualia.

Practical Implications and Relevance

The implications of an animist world view have been explored in other works which tend to emphasize a reciprocal relationship with the natural world, decentralized societies, negotiation with non-human entities, and ecologically friendly approaches for industry and technology (Bird-David 1999; Capra 1996; Cajete, 2000; Descola 2013; Harvey 2006; Ingold 2000; Mauss 1954; Salmond 2014; Vitebsky 2001).

The practicalities of this for a modern occidental civilisation is an interesting but separate debate.

How does this philosophy affect human understanding of the self and reality?

For the animist the self is emergent from the States of Consciousness inherent in the universe and will return to these states on death. The Free Roaming aspect of consciousness (the soul) returns to the conscious landscape. The self therefore changes along with the cyclical nature of reality but is not restricted to the body alone.

The self is emergent as it has emerged from a combination of the three States of Consciousness inherent in the universe and coalesced into the conscious entities we are now. It is changing as our life course changes and lives in relation to the natural world. Our experience of the self-alters with time and experience. The consciousness that creates the self is fundamental and is also inherent in all things with which we can relate to and establish relationships with.

The experience of consciousness known as the self dissolves back into the constituent three States of Consciousness inherent in the universe on death whilst the Free Roaming state carries on but is limited to the conscious landscape.

New perspectives on science, ethics, and technology

For science it implies that any scientific understanding of the universe will be incomplete unless consciousness is incorporated into its reasoning.

For ethics, as all is consciousness, and all experience comes from the same consciousness, to harm each other or the natural world is to harm oneself. The universe itself is a conscious matrix (or set of matrices), even if it hasn't coalesced. As we are all composed of it and derive experience from it any action to it is an action to ourselves. The traditional scientific stance of objectivity and reductionism would be challenged. Animism suggests a holistic view where all parts of the system are

interconnected and conscious, requiring a paradigm shift towards systems thinking and ecological holism (Capra 1996).

Ethical relationships would emphasize reciprocity, respect, and responsibility. Humans would be seen as part of a community of consciousnesses, not as dominators of a passive environment. Taking from nature requires giving something back (Cajete 2000). If all entities are conscious, then ethical considerations would extend beyond human and animal rights to include plants, landscapes, inanimate objects, and unseen Free Roaming consciousnesses. Sustainable and ecofriendly technologies would need to be employed to live with such a complex web of consciousness.

For technology the boundary between artificial and natural consciousness would become blurred.

How does it influence human behaviour, decision-making, or societal structures?

Animism would encourage reciprocity with the natural environment and various other forms of consciousness as well as reject wasteful behaviours (Harvey 2006; Mauss 1954). To harm the world is to harm oneself and ones 'community' so to speak.

Empathy would be cultivated by extending moral consideration to non-human consciousnesses. This leads to ethical behaviors that prioritize harmony and balance, influencing dietary choices, environmental stewardship, and community welfare (Ingold 2000). Collective wellbeing may become more of a focus than individual wellbeing.

Animism reinforces cultural identity and social cohesion through shared rituals, narratives, and practices that maintain relationships with non-human kin and consciousnesses. This creates a sense of belonging and continuity, contributing to community resilience and cohesion (Descola 2013).

Societal structure may be more decentralized and less anthropocentric

(Bird-David 1999; Ingold 2000). Human behaviour and decision making would be made in conjunction with non-human agents (Vitebsky 2001) such as Free Roaming Consciousnesses through individuals capable of communicating with them.

It would also impact on the legal system as other living organisms, landscapes, inanimate objects, could be considered as living entities and are protected by law such as the Whanganui River in New Zealand (Salmond 2014).

Animism gives us cause to reevaluate how we perceive death as not all forms of consciousness end with the body but persevere in other forms.

Discussion

Whilst animism does not pay much attention to the materiality of reality, it does not altogether dismiss it either. As such, the successes of science and technology, which are based in material reality, are still valid within this philosophy. This philosophical framework also does not refute Tim Ingold's enactivist approach or the ontological assumptions of Descola and De Castro. These approaches work relatively well between the materialist paradigm and the phenomenological nature of animism. What this author is elucidating is that animism goes much deeper than webs of social relations and cognition, as demonstrated through individuals such as the shaman and the qualia they interact with.

We have more than enough ethnographic data on shamanism to say that altered states of consciousness are integral to shamanism and that shamanism is based within the framework of animism (Bourguignon 1973, pp 9-11; Diószegi 1998; Diószegi Hoppál 1996; Eliade 1989; Elkin 1993; Facco et al 2021; Guerra-Doce 2015, p 2; Harner 1972; Harner 1990; Helskog 1987; Malim 2024; Otgony Gurbadaryn 2006; Peoples et al 2016; Rast & Wolff 2016; Stépanoff 2021 Guerra-Doce 2015, p 2). Therefore, consciousness constitutes a fundamental aspect of animism, and the profound experiences inherent in the qualia of these states undertaken by shamans indicate the existence of additional, deeper layers within this framework.

There are several key issues with this philosophy. First are the issues in

testing it. Second the philosophy offers an explanation for the structure of reality that is too holistic for scientific investigation. Scientific investigation primarily requires reductionist approaches. Material reality has been tested with such great success for precisely this reason. Goff (2019) contends that Galileo intentionally excluded qualia from the scientific paradigm in order to facilitate an unobstructed investigation of material phenomena. Panpsychism and Dualism both offer an entire web of complex potentialities that, if true, would require extensive time and inquiry to fully explore. Scientifically investigating all three simultaneously, even if integrated, may prove unfeasible.

At the same time the third issue, which is bound up with the second, is that animist philosophy emerges from an experience many of us are unfamiliar with in the modern age. Rather than seeing the natural world in its totality as ‘nature’ we perceive it in pieces, or ‘landscapes’ (Simmel 2022). We have moved away from the ‘whole’, dissolved our common ties and connections with that natural world and have created autonomous and differentiated realities (Simmel 2022, p 10). We no longer live in the kind of environment that prompts the experiences that created animism or the world it describes. This further complicates our ability to comprehend or accept animism. Arguably, this is why animism has been relatively overlooked in comparison to other philosophical frameworks within Occidental society. The qualia of such an integrated experience, especially when taking the practice of shamanism into account, transcends the autonomous and highly individualized experience of the day-to-day life of an occidental human. It is therefore important to understand how our own lifestyles, environments, choices, and knowledge impact on our experience of reality. People in occidental society are seldom exposed to those raw experiences that went into creating the animist ‘reality’. Descola (2013), De Castro (1998), and Tim Ingold (2006) all touch on this point in theory, but to truly *experience* it is a whole other matter. It is this experience, the qualia behind animism, that we are sorely lacking. It is these experiences which we need to truly understand and fathom animism which once again strikes against the

reductionist approaches inherent in modern science.

Conclusion

This author posits that animism represents the ultimate manifestation of consciousness and qualia in all their extensive variability. Previous philosophical approaches have often interpreted animism through the lenses of social relationships, ‘interiority,’ and lived experience. These perspectives, however, remain grounded in materialism, idealism, and phenomenology, or some amalgamation of these frameworks. A key oversight by both philosophers and anthropologists is their failure to recognize that shamanism is deeply embedded within the animist framework, with the qualia associated with altered states of consciousness playing a central role in the efficacy of shamanic practices. Consequently, the qualia of consciousness form the foundational core of animism. Animism, therefore, is a philosophy fundamentally rooted in lived conscious experience, with consciousness itself serving as its cornerstone. Without the pervasive reality of consciousness, animism cannot exist.

The author therefore concludes that animism proposes a structure of reality that begins first with lived conscious experience (qualia), and through experience of altered states of consciousness, proposes a layered reality composed of different States of Consciousness; Static, Dynamic, and Free Roaming.

All three states can be interacted with, and which can interact with us in turn under the correct conditions. Such States of Consciousness obey their own fundamental laws. In the case of Static consciousness and most Dynamic forms of consciousnesses these laws correspond to the physical principles established by contemporary science. Dynamic Consciousnesses with increased awareness or consciousness and Free Roaming consciousnesses are hypothesized to possess the capacity to influence other forms of consciousness to an indeterminate extent. These advanced states are proposed to operate under fundamental laws unique to consciousness itself, which differ from those governing material reality.

The potential for interaction and manipulation among these states

is facilitated by the shared medium of consciousness, which is posited to be an intrinsic property of matter. Importantly, this framework suggests that as long as advanced forms of consciousness (i.e., heightened Dynamic Consciousnesses and Free Roaming Consciousnesses) do not interfere with other states of consciousness, the physical laws of material reality remain consistent and unaffected. Consequently, the successes of scientific inquiry and other material achievements are preserved and remain valid within this animist paradigm.

Panpsychism, or a reconfiguration of its interpretation, is considered an essential component of reality for the viability of animism, as consciousness must be omnipresent in order for it to emerge or coalesce within the framework of animist philosophy. It is through panpsychism, consciousness that is the intrinsic nature of matter, that action and connection between consciousnesses can take place. Dualism aligns with animist beliefs in the existence of ghosts, spirits, and other ephemeral entities, which are thought to interact with the material world – in this case through the shared medium of consciousness (panpsychism). These three concepts - Material reality, Panpsychism, and Dualism - are integrated into a cohesive framework, thereby constructing a complex and comprehensive animist reality centered on consciousness and qualia. The author refers to this philosophical framework as the Tri-part theory of consciousness founded in animism.

Approaching animist philosophy from an anthropological standpoint, this inquiry is necessarily speculative, reflecting the author's engagement with philosophical questions from outside the disciplinary tradition of philosophy. This perspective allows for a cross-disciplinary exploration while acknowledging the limits inherent in such an approach. As such this theoretical framework requires further refinement and development to enhance its coherence and explanatory power. Additional conceptual clarification is necessary to distinguish and integrate its components effectively. Moreover, rigorous engagement with existing philosophical and anthropological discourses will be essential to establish its validity and situate it within the broader context of consciousness studies. Empirical and ethnographic

investigations may also contribute to the substantiation and elaboration of this theory, ensuring its robustness and applicability.

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The author declares that there are no conflicts of interest regarding the publication of this article.

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Time drivers of communities' transformations (on the role of the humanities for sociocultural transformations)

LUIZ OOSTERBEEK

Do not be, therefore, of one thought: that what you say, and nothing else, is correct. [...] The man who thinks that only he is right... when they open it, it turns out to be empty. It is better for a man, even if he is wise, to learn a lot and not to be overly rigid.

- Sophocles (c. 441 BCE)

Nothing seems so admirable as the power to hold the attention of a crowd through speech, to direct their minds, to divert their wills from where they tend and to carry them where the speaker desires.

- Cicero (55 BCE)

We consider that whoever does not participate in these [public] duties is not a quiet citizen, but a useless citizen; and it is we ourselves who judge our actions, or at least form a clear idea of them.

- Thucydides (c. 400 BCE)

The Incas... they commanded that all should work and that there should be no idle, and that those who could not work should be supported by the public.

- Inca Garcilaso de la Vega (1609)

Communities and performance

A central concern of different societies throughout time has been to assess the characteristics, means and possibilities for the transformation, or at least change, of the behaviour, options and strategies of communities. This concern is to be observed in different cultural contexts, regardless of their own central values, possibly because change, namely in relation to other contextual changes, has always affected human societies, and because adaptation to those changes has an almost unlimited range of possibilities for humans. This is true for early Chinese texts, within a dominant mindset focused on harmony, i.e., in the attempt to change only to reduce discrepancies and difference. For instance, Confucius (6th-5th BCE), in the *Analects*, stands for transformation through example (“The character of a superior man is like the wind; The character of the little ones is like grass. When the wind blows over the grass, it necessarily bends.”), whereas Xunzi (2014), later, would privilege education and enforcement (“The curved wood must be subjected to the press to become straight; blunted metal should be honed into stone. Man’s nature, being evil, must wait for ritual to become right.”).

This concern is also present in the early Mesopotamian texts, among societies that were triggered by land domination competition, for instance, in the hymns to the temple of Eninnu, from the Gudea cylinders (“The slave was just like her mistress... the master and the slave walked side by side... the strong did not oppress the weak” – cf. Edzard 1997). We also find such an approach in the Andes region, where the notion of good governance, which originated the contemporary notion of “*buen vivir*”, was already present in the Inca periods, understanding the need for transformation to reach such a goal, as in the argumentation of Felipe Guaman Poma de Ayala (1615), a Quechua thinker from the 17th century.

A core related question was also present alongside these considerations: To remain flexible and capable of change, as in the quote by Thucydides opening this article, and to do so through persuasion rather than force, as Cicero stood for, even if enforcement was never excluded as a possibility. This was very important

because the governance of societies depended primarily from social cohesion and acceptance offer common strategy and its possible changes. This could concern the participation in the *polis* of ancient Greece as well as the submission of the majority of the population to the will of the Inca rulers. But, in any case, what these classical texts from various parts of the world show is that communities' performance was a need but far from being evident in its orientation.

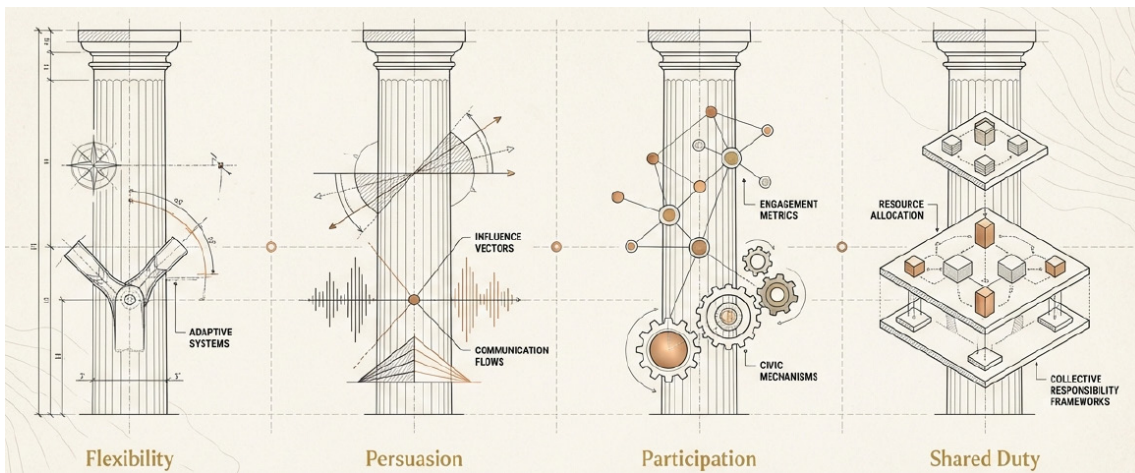


Figure 1 – The enduring paradox of community performance (©Luiz Oosterbeek)

The purpose of this text is to revisit these concerns under the light of contemporary societies in the growing call for community engagement in many different avenues, none the last sustainability and democracy. This has a direct relevance for museums, as will be discussed below, but starts with the fundamental question: what is a community and how to define its limits?

The initial quotes by Thucydides and the Inca Garcilaso offer a first layer of definition: those who are part of a community are bound to contribute for it, i.e., should not be allowed absolute freedom. As Hegel, quoted by F. Engels (1878) would say much later, freedom is the consciousness of need, it is not a free-standing

possibility. So, the first layer of definition of a community is not vague self-awareness but the establishment of a certain set of common binding rules. In other words, the affiliation to a community implies a certain restriction of absolute freedom of choice. It is true that literature is full of reflections against this restriction, but it remains that all effective communities in the past, i.e., communities that acted as such, constrained randomness in the performance of the individuals that were parts of them, as argued among others by Hobbes (1651) to Rousseau (1762) or Durkheim (1893). A fundamental mechanism of any community is ostracism, to prevent such deviations to challenge the community's core options.

The community starts by being boundary, exclusion, rejection, eventually fear. The community is self-centred and this is why any cultural strategy or landscape management approach anchored in identities and communities alone faces the major risk of ethnocentrism and xenophobia. However, besides the communities that build themselves from within, defining their own boundaries, there are also communities structured by contextual constraints. A clear and dramatic example are the black communities in continents other than Africa: these black communities were created by slave trade, that dismantled former communities in Africa which did not perceive themselves as black being a main characteristic but were compelled to embrace it in order to survive. Even so, also these communities end up by self-defying their boundaries, to better protect themselves and, eventually, expand their possibilities in face of other communities. Hence, in both cases, communities start by being defined as different, often opposed, to other communities and this has a major implication for community-based strategies, since the first condition of a community is confrontation, not cooperation, even when the will or the interest of each of the individuals in the community thinks and acts the other way around. As Gorge Simmel (1955) argued, conflict is a core driver of community building, which implicates that any strategy for inter-communities' cooperation requires a permanent effort to counter confrontation, usually by establishing a meta-identitarian layer of integration. The reason is that full cooperation,

or integration, dissolves the community, creating a new, more diverse and robust but still new, boundary.

Yet, communities are not primarily clusters of confrontation, as otherwise they would become useless for the individuals that take part in them and, therefore, would soon decay and become extinct, as it happens to all once incapable of providing something more. Communities are clusters of greater confidence (in comparison to what exists beyond their borders), of shared support and shared responsibilities. They also build a sense of common origins (myth) and perform various kinds of rituals to consolidate affiliation (from symbols and rituals to fashion). This way, besides the landscape of what they are for the perceptions of others, communities build their own self-representation, anchored in perceptions and memory. And this is where heritage comes in, as a major driver for the socio-cultural transformation of communities. A transformation fed not so much by the reaction against contextual constraints (natural hazards, other communities), but by their own foresight, i.e., how they perceive the future, based on global existing available knowledge. Transformation of actions in order to meet perceived needs, themselves sitting between short-term contexts (confrontational) and mid-long-term trends (cooperative).

Landscape drivers

In another article (Oosterbeek, 2025), we have discussed how the cultural constructs of perceptions of context, what we call “landscapes”, are an interface between Nature (the wild, the jungle, the unknown, the unpredictable) and Culture (the Human, the domesticated, the known, the predictable). In that article we identified six plus two main drivers structuring the landscapes, which are essentially “communities’ perceptions” of the territory: the creation of new features (poetics), the dynamic search for homeostasis (aesthetics), the sense of identity (imitation), the assignment of meaning (narrative), the horizon that is pursued (metaphysics) and the available resources (pragmatics).

These eight drivers regulate the complexity of landscapes across space (between the physical space of the territory and the anthropic space of the landscape) and time (between the conservative trend of tradition and the movement associated with transformation).



Figure 2 – Drivers of Landscapes construction (©Luiz Oosterbeek)

The translation of these characterization drivers into drivers of transformation, though, requires a specific contextualization of traditions and constraints, as the weight of each will tend to vary through time. For instance, while “poetics” seems to prevail under the metaphysical notion of “progress” that animated modern European societies (Bachelard, 1957), the Chinese focus on “harmony” tended to be fostered, or also challenged, primarily by aesthetics (Wang, 2021). Also, narratives tend to be more relevant under contexts of large availability of resources (e.g. in early modernity, when social complexity, technological advances and cultural interactions favored transformations based on willingness first), whereas pragmatics impose in

contexts of shortage of resources (e.g. during the 8.2 Ka climatic oscillation, when a cold and dry sudden climatic change triggered a domestication-oriented transformation, primarily stimulated by needs for survival).

This means that the assessment of the drivers of transformation in current societies requires, first, a characterization of the current context.

The current context may be defined as a post-industrial global depression. We use this term in the sense of the 1929 global depression, itself a re-enactment of the 1873 global depression. Main characteristics of these depressions, when compared to cyclic crisis of the system, are that they are triggered by either an energetic major shift, as we steam in the 19th century, or raw materials innovation, as with concrete in the 20th century. On the other hand, overcoming a global depression requires a different strategy, as it is not structure through an offer and demand and balance but by a disruptive factor. As in the case of the social state inspired by Otto von Bismarck in late 19th century, or by Lord Keynes in the 20th century, the response to a depression requires to understand that economic growth will not solve an unemployment problem, because economic growth requires destroying employments faster than creating new ones. The beginning of the current context, if a date is required, could be set back to 2008, as this was the first alarm exposing the tensions between the financial model, the digital transition and the market of consumers (Roberts, 2016). This was then aggravated by the pandemic and it may be further aggravated by the conflict in the Middle East, even if this is not yet clear. In any case, the current depression results from a combination of an energetic transition, due to the announced exhaustion of fossil energy resources, and the technological disruption initiated with the digital transition and now accelerated by artificial intelligence.

As with the previous depressions, we experience a moment of uncertainty, which means that it is impossible to be sure of how the world will be within the next few years or decades. Some elements seem to prevail, including the financial turmoil, which finds its roots back in the 1970s, when the Bretton Woods system

was put into question by the ends of parity between gold and dollar. Insecurity and instability of jobs, even if major unemployment is still under control, is another characteristic, framed within the confrontation between the advantages of globalisation, for institutions and individuals within institutions, and its perils, particularly for individuals deprived often institutional protection, who are now becoming more and more. The modification of the contextual overall framework also effects the relation between individuals, who engage faster in transformative initiatives, and institutions that tend to remain more conservative and protectionist. The global population decrease, that already started many years ago with the drop of the birth rate, although concealed by the extension of life expectancy in by ageing, will also have relevant effects, particularly rendering more evidence the relevance of Asia in Africa, place of residence of about two thirds of the world population.

This picture, or the landscape as we see it, has effects at a global scale, namely in geostrategic terms, knowing that the overall balance of power dramatically changed after each of the previous global depressions. Also, growing tensions render it evident that not only economic and political changes are in stake, but also values, including those related to human rights, and what is to be considered the court of human rights, knowing that to current prevailing international understanding, which is focused on individual rights, may be challenged by more collectivist understandings that may emerge along the Pacific Ocean and not necessarily as the East-West divide. Estimating that changes will affect all these dimensions does not help in anticipating how employment will evolve in the mid-term, how major strategic powers will evolve in their relations, which values will tend to prevail in the future, or even if globalisation will find another path keeping the potential wealth to be generated by exchanges among difference and distance communities, or if it will be cancelled, breaking down the world revenue, in a sort of new early Middle Ages.

Uncertainty is compensated by a fragmented mosaic of certainties, all of them marked by a growing participation of individuals in decision making

processes, due to the weakening of the institutions. Such fragmentation, however, does not favour debate and refinement of reflections and strategies, thus leading to superficial dichotomies, extremism and ruptures. Among these tendencies, as with European millenarist movements announcing the end of the world when the year 1.000 was approaching, many current movements imagine a near coming collapse, while others believe that alleviation will result from different variants of purification (Cohn, 1970). These anecdotic, often violent and deadly, beliefs, have many predecessors in other similar moments of transition that face the same paradox: while contextual changes require utopia for a transformation that often individuals engage with, the same individuals once grouped and the institutions resist and look into the past for reference.

One clear example of this paradox is the decaying universities illusion in the neoliberal focus in knowledge integration through STEM (Science, Technology, Engineering and Mathematics) alone, or its postmodern SHTEAM variant (arithmetically adding the Humanities and the Arts), believing that the role of university is, primarily, to find short term technical solutions for “the” society, including in these the so-called “soft skills” (allegedly the contribution of the arts and humanities). While the higher level of education-research (formerly the gymnasium, or the university) was conceived from its onset for an education of the Humanities, later translated into liberal arts, precisely to equip societies with a small but useful cluster of reasoning about utopia and uncertainty anchored in doubt, creativity and long-term accumulated knowledge, the contemporary ruins of universities believe their contribution should be primarily, if not only, in those short term solutions. The initially slow and now accelerated dissolution of the sense, purpose and usefulness of the “Universitas” now entered into a last stage in some countries, where funds for universities suffer tremendous cuts without any civil reaction...because society ceased finding in them the relevant contribution that only the Humanities with Science can provide.

Which drivers of communities' transformation?

The domain of research and knowledge building that corresponds to the Humanities has different designations, expressing slightly different concepts in different languages, running from philosophical considerations that directly dialogue with older definitions (as in the German concept of “Geisteswissenschaften”, or sciences of the Spirit) to solutions-oriented addressing of societal concerns (as with French human sciences) or narrative argumentations (as in the English concept). Sitting at the crossroads of these different avenues, the Humanities address societal concerns through time and space raising questions but, also, providing answers (Jarrick, 2020), focusing on dilemmas rather than problems, promoting reintegration of apparently disparate processes and fostering mid- and long-term reasoning within immediate societal concerns.

Ultimately, the contribution of the humanities in face off the wicked problems of society, from social inequality to sustainability unbalances, is to upscale those problems, projecting them into wider spaces in longer time sequences. Or, in other words, to challenge every solution with these potential shortcomings and threats.

Although the main drivers of landscape construction maybe systematised as in Figure 2, that does not mean that there are universal drivers of communities' transformation, beyond those general ones. The transformation of communities goes through several unorganised processes, including oscillation in identity self-awareness. However, if drivers may change, it is the unbalance of any element of the system itself that may challenge it. This element tends to be anchored in some level of material contextual transformation, and not merely in a change of narrative. For example, the transformation of many indigenous different communities from the African continent into a black community was driven not by a narrative by non-African people that were incapable of understanding African cultural diversity, but by the slave trade that disaggregated families and transferred side by side millions of people from Africa on which was imposed a single common label.

The narrative was certainly important, but it was not a driver of transformation. The slavery was!

It is by taking action and by being subject to action that groups of humans become communities (see Figure 3). And it is by action that they may transform their strategies and mindset. The global reaction to covid 19 pandemic, privileging life instead of other values, and despite the diversity of the options of governments, is an example of that. It is based on this understanding of the fundamental role of material interaction for cultural transformation that one may think about the role of societal tools, such as technology, museums or grocery stores.

Technology is about conceiving and designing extensions of our bodies (Leroï-Gourhan, 1965), allowing to serve needs still keeping the bodies free for other purposes: the cup that allows my hands to remain available to grasp other objects, the boat that allows me to swim still being able to remain seated and reading a book, or the artificial intelligence that allows me to expand the range of data I manipulate while I keep my minds and attention available for other tasks. Technology is also a means of alienation, in the sense that it allows to expand the range of needs, rendered possible due to the delegation of some tasks to machines; but by doing so it generates a growing dependency in relation to those tools, thus creating the conditions for disruption if and when such technology ceases to be available. The ongoing digital technological changes not only accentuate societal inequalities in relation to their accessibility, but they also create conditions for major disruptive effects imposing the transformation of human performance in terms of the labour market and jobs that are disappearing, of the technological mediation of human interactions using mobile phones, or of growing needs in terms of energy consumption... all of these generating the threat of systemic collapse in case digital resources become for some reason unavailable. A disruption that would further trigger transformation.



Figure 3 – Drivers of communities' transformation (©Luiz Oosterbeek).

But the grocery stores may also play a much stronger role in human habits than narratives, simply by rendering tangibly accessible certain items rather than others. While the dissemination of new products through publicity may raise attention and even desire, it is the tangible possibility of having access to them that may trigger individual patterns transformation (Ajzen, 1991). The “grocery stores” may be a supermarket selling food, but also a social Agora of debates, in which certain arguments or narratives will become stronger once they may be reinforced by the effects of tangible examples. For instance, although the modern idea of Republic, as a citizens based state, started to be conceived in the late Middle Ages and throughout the Renaissance, it took a long time before the English and even more the American and French revolutions created tangible examples through action; from then on the republican transformation became very fast, even transforming the remaining monarchies, which are today little more than republics with an aristocratic symbol.

Tangible features that contribute to trigger transformation, either technological or societal, become more efficient if they are designed not for transformation but for improving the performance of an existing system. The agrarian reform in the turn of the first Millennium in mediaeval Europe was oriented towards improving food production in generating wealth and better life conditions (Duby, 1974). This is why it was accepted, even if it was proposing dramatic changes in landscape management and offering a vision for the future, an utopia, in which the known forests and wild spaces would be replaced by endless cultivated fields with the new soil management model. Society is engaged in the transformation because they saw an opportunity to improve their lives, but the result was quite different from what expected, as it certainly changed lives and fields, but above all it created the economic basis for trade flourishing, for cities rebirth, for expanded inequalities within general improvements in life conditions, for resuming the centrality of reason in decision making and, ultimately, for the emergence of a strong bourgeoisie that would put an end to the Middle Ages. Likewise, republican ideals were circulating in Europe and beyond for several centuries, but it was the beginning of the Little Ice Age, and its severe impact in food production, its self-generating income difficulties in raises in taxation, that would trigger the American and the French revolutions (Goldstone, 1991). But taxation in times of uncertainty became much more relevant for global transformation than any meetings of the Republicans at Procope in Paris, as relevant as they might have been.

Those who refused to alleviate taxation on the American tea or in several products in France, in the end of the 18th century, were simply doing what was recommended by economy-as-usual, and those who protested were simply revisiting previous complaints and resistance. Few would imagine that at that time the result would be revolutions, and even those who did imagine could hardly imagine the profound transformations that would go through civil wars, republican empires and geostrategic changes. No more than the Cistercian Friars and peasants that engaged in the agrarian transformation around a thousand years ago could imagine

they were laying the foundations of rationality and, ultimately, of modernity.

If these or other technological and societal innovations had been perceived as leading to a major transformation, they might have been rejected, particularly the societal ones. At least they would generate a major divide in societies, instead of convergence of multiple interests. This is because global societal transformations also have a major impact in the interaction among communities, their self-representations, their systems of alliance, competition and identities.

The social relevance of museums

It seems that historically the most efficient levers of transformation were those capable of encompassing flexibility and integrating it within the existing systems, although then accelerating tensions within it due to other contemporary factors, often as a result of serendipity. This is relevant when one thinks off the role of museums in times of uncertainty about the future. Many museum experts argue that museums should revisit their role engaging in social transformation agendas, eventually taking the lead of such transformations, instead of merely illustrating past and contemporary cultural expressions. It is our opinion, though, that such an approach is socially inadequate, ethically challenging and operationally erroneous.

It is inadequate because the function of museums is to extend education throughout life for citizenship building inspiring people to perform on the grounds of the awareness of past knowledge acquisitions and through creativity, innovation and flexibility (Bennett, 1995). This means that museums, in order to fulfil their social role, including for transformation, should not build their discourse on immediate contextual options, as they should contribute for understanding wider space and time scales. There are many spaces challenges were contemporary offer ground for clarification of divides, for dispute and for disruption. The role of museums is to build the intellectual capacity of all those involved, because civic, public, museums primarily serve the purpose of preventing loss of knowledge, and nothing should be done that may create difficulties for that purpose.

It is ethically challenging because it places researchers and museum experts in a position of mindset change leaders, although they were not commissioned by anyone for such a task. Certainly not by those who stand for the perpetuation of an ongoing situation, but also not by those who oppose to it. Museums are not mere spaces of instruction, as they open to debate and interpretation (Sandell & Nightingale, 2012). But museum experts are not the owners of museums or of museum collections, they are their keepers. While it will be perfectly acceptable that they take positions on contemporary matters as individuals they should not use a public resource in favour of their personal options. As they should not accept the museums they curate to be used as propaganda for perpetuating whatever.

And it is operationally erroneous because, for the reasons stated above, it would simply be useless: a museum that takes part, intentionally, on one of the sides of any major dispute, will lose the audience of all those who disagree. It will no longer be a museum, it will be a trench, and not a very effective one.

The way museums and the humanities contribute for citizenship decision making is by fulfilling their original mission: museums illustrate how diversity is an expression of unity (the unity of diverse humans, the unity of diverse life, the unity of a diverse planet, the unity of a diverse Galaxy and beyond) and how the continuity of such unities is expressed through their transformation, disruption and discontinuities (Cassirer, 1944); and the humanities deepen the understanding of the human complexity by further fostering the dialectic understanding of the relations between synchrony and diachrony, events and long term, places and territories, and so forth. All museums, including natural science museums, contribute for demonstrating those unities it can only make sense as a tool to address human behaviour and its material and intangible expressions. All the humanities, regardless of its disciplines, have the same function: to bind together knowledge, to understand it changes through time and space, to assert the possible causes of given consequences.

Together, humanities, as a lever, and museums, as a tool, help the

consolidation of the notions of space-time and causality throughout life and anchored in reasoning and demonstration. This is particularly important in face of contemporary challenges, namely digitalization, which compresses time and space, damaging the understanding of causality. Museums allow for binding together the perception of the landscape (space) and its time transformative processes, and this is the backbone of foresight, through integrative processes. In this sense, Museums are a kind of time drivers of the landscape as they offer it a temporal dimension that is crucial for making sense out of it.

Museums, i.e. the houses of the muses, are spaces of education for innovation and agency, through the integration of inspiration and performance: first for the elites, later for citizens. Their role was, and still is (even if many museums do not fulfil it), to extend public instruction throughout life and help imagining endless possibilities. As in the poem of Zhuangzi, or Chuang Tzu, in “The Useless Tree” (Van Brakel, 2014):

So, for your big tree. No use? / Then plant it in the wasteland / In emptiness. / Walk idly around, / Rest under the shadow; / No axe or bill prepares its end. / No one will ever cut it down. / Useless? You should worry!

Museums offer several layers of integration: of research and education (focusing on collection as being more than curiosities and ground for knowledge accumulation, itself a need for dissemination and transformation), of heritage and creativity (experimentation allowing to reconstruct, appropriate and transform accumulated knowledge) and of humankind through knowledge (encompassing different intangible approaches through a focus on material, flexible, items, which allows to co-create the notion and the identity of Humankind).

Museums inspire and integrate, thus contributing for building a citizenship-based notion of Humankind. But they also help understanding similarities and convergence in the past, which is essential for foresight and a humanistic utopia. Being places of the *longue durée* and of the unity of the diverse, they contribute

to overcome the hasty and millenarist discourse of emergencies and goals, focusing strategies, purpose and vision (Hartog, 2015). Museums convey the Humanities role of integrating synchronic spatial cultural diversity, anchored in the assessment of continuity across cultural diversity throughout time.

Resuming the social relevance of the Humanities

The humanities are the academic expression of the intellectual effort to expand the scales of time and space, inviting to contextualise features or events in multiple scales, and recombining them through variable geometries of understanding. The reconstruction of past interactions, the descriptions of unique performances, the establishment of interpretation narratives, the articulation between materialities and meanings, the analysis of language mechanisms, as well as the interrogations on ontologies and the relation between opposites, all these contribute for conveying an understanding of past transformations, beyond single adaptive changes. And in doing so the humanities act is a sort of time drivers for communities to perceive the possibility of change and to engage into transformative adaptation. This is what was observed during the pandemic, when worldwide the protection of life became a priority, fed by the contemporary notion of the value of individual human life, itself are humanities driven notion. This is also what feeds resistance against engaging into major wars, since historical records of destruction, anthropological record of traumas, literary accounts and narratives of disruption and philosophical considerations on values and meanings, ... all these project any rising conflict into an extended time scale, which many will associate to loss, even if narratives of collective achievement may also be present.

The role of the humanities is not to determine, or even to influence, societies' choices. But the humanities are the best intellectual framework to reason about major dilemma. This is why, in the current times of growing uncertainty, divides and mistrust, to resume their contribution in the processes of decision making, is not only an academic need but the global societal imperative which serves all

sides off the kaleidoscope of opinions, interests and landscape governance agendas.

Disclaimer

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Museums as a "Free Zone". Perspectives for Coexistence among Human Beings through Cultural Infrastructures

MAURIZIO QUAGLIUOLO¹

A Community is a group of people who share their lives, virtual or physical, in a concrete way, with a range of belonging people that is possible to describe according to the fitting of the number of members into its cultural expression(s).

A group of Communities can create a bigger one.

Sharing can include varied cultures and common traits, leading to an exchange of distinctive aspects that can reinforce each other or conflict. No matter what the topic is, everyone can become interested in their own points of interest and focus on them. Space, places and *non-places* (MARC AUGÉ, 1992) crystallize this trend, as in the case of the «Old Bag's Way» (PAUL GRAVES-BROWN, 2014).

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Among others, Museums are, or should be, a vehicle to facilitate this *sharing*.

In this role, they can become strategic (or critical) nodes of a complex network of places, objects, meanings and people that we can call *cultural infrastructure*.

A *Cultural Infrastructure* is a material and immaterial structure within which it is possible to make available tools to strengthen the recognition of past and present places and messages and, possibly, the cohesion of the community(s) and individuals. (MAURIZIO QUAGLIUOLO, LUISA COVELLO, 2021).

Museums reflect the expression of the Community(s) and individuals from a historical perspective being the sublimation of material and immaterial testimonies that can be perceived as being of interest or valuable by individuals and communities. The historical character also applies to contemporary art museums, because the works and even the happenings exist *before* your perception, at least a few seconds in advance.

For this, museums can *shape* Cultural Infrastructures, if they allow an interaction with their contents that helps the construction of a reasoned vision, thus also stimulating innovation.

The implications of the museums' legacy and present performances, i.e.:

Collections > Public exhibitions > Enlargement of the audience > «Cultural democracy» > Ecomuseums > New Museology (PETER VERGO, 1989) > Museums as a business > Dominance of technology > The Faro Convention and its consequences > New frontiers and AI

sublimate in the Cultural Infrastructures, playing a fundamental role as a *pivot* for them.

Where it happens, common appreciation, the affirmation, the desire related to them and the involvement of the public (NO *audience engagement*, which etymologically is only '*a contract*' for '*spectators*', not *actors*) can in turn *inform* the reference context, even the (supposed) furthest one, in a virtuous cycle

that increases *welfare*.

As a prerequisite for this, the museum must offer a *Global (or Total) Accessibility* (MAURIZIO QUAGLIUOLO, 2002; fig. 1), i.e. the three kind of accessibility:

Physical, the possibility of making contact in person with the contents of the museum (fig. 2);

Cultural, the possibility to easily understand its message(s) (fig. 3);

Economic (the opportunity to enter it!).

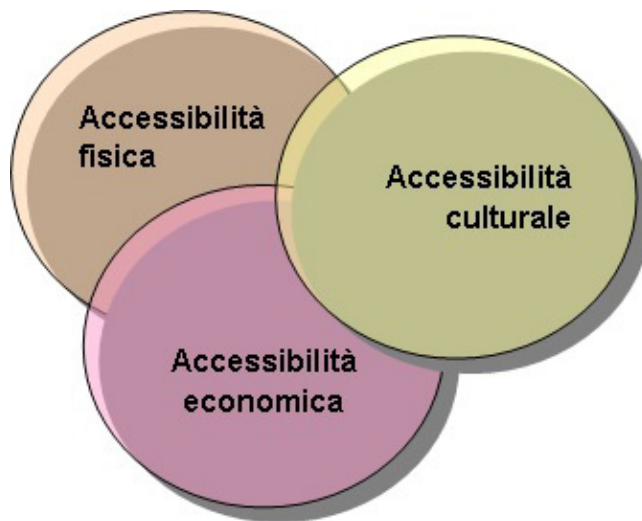


Figure 1 - The Global Accessibility (Quagliuolo, 2002)

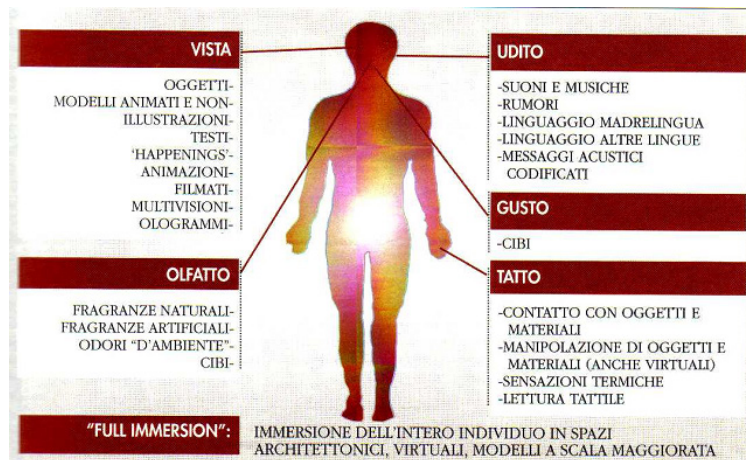


Figure 2 - The Physical Accessibility (Quagliuolo, 1995)

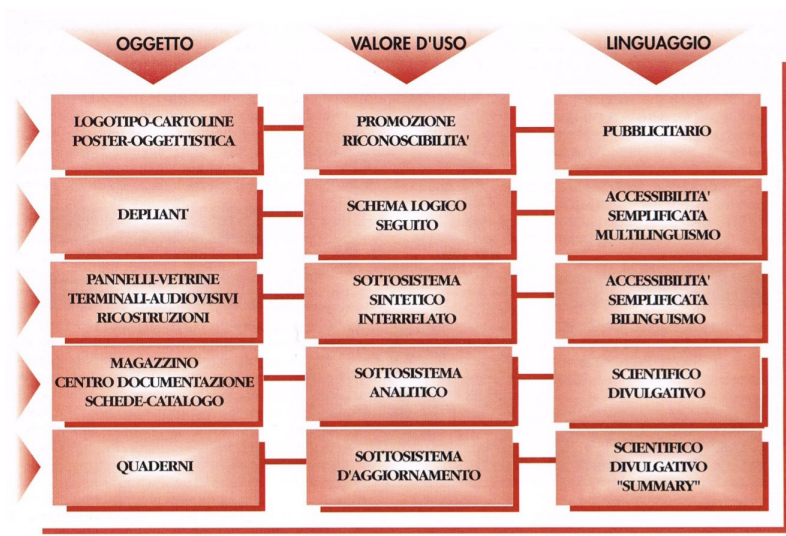


Figure 3 - The Information System (Quagliuolo, 1995)

If so, a real *participatory sharing* is possible. I do not use the term “*inclusion*” because of it is not necessary a positive one. In fact, the word derives from the union of “*in*” and the latin “*cludere*” (= to close). Then, the sensation that you can perceive is a sort of (forced) incorporation.

You can consider that in mineralogy, the definition indicates “a *substance (solid, liquid, gaseous or mixed) incorporated within minerals*”; on the other hand, gemology teaches us that a diamond is less pure if it has inclusions. In set theory and mathematical logic, the inclusion relation between two sets is a relation according to which *one of the two sets contains the other as its subset*. Finally, in chemistry the term applies to chemical combinations in which the molecules of one component occupy certain cavities originating from a particular arrangement of the molecules of the other; the condition for stable formation is that the shape and conditions of the “host” molecules are *compatible* with those of the cavities.

Consequently, in my opinion, the term does not seem to me to be a correct and friendly formulation.

Better to introduce the concept of *participatory sharing*, underlining the *equitable* meaning of the word. This also applies to museums when they become *a place where (very) different people can/want/would like to go rather than a place where some people don't know/fear/avoid going* (see Nick Merriman in PETER VERGO, 1989).

The discomfort often linked to museums is recognized (and to some extent fueled) by various exponents of the ‘cultural world’ when they declare, for example:

«*We are proud of our Museums where we display a way of living that we have made impossible*» (A.K. Coomaraswami in MARSHALL McLUHAN, 1967);

«*Ci mancano le atmosfere, spesso determinanti assai più dei nomi. Per questo vi è urgenza di rintracciare le organizzazioni latenti, individuali e sociali delle emozioni mentali e delle culture materiali, cioè di quel massimo spazio che sta fra il*

lavoro e il sogno, la cui storia tradizionale (la storia-museo) si è rifiutata di dare un senso» (ANDREA CARANDINI, 1981; underline by the author);

«Ora, non ci si può nascondere che a dispetto della urgente necessità pratica e degli alti fini culturali a cui mira, la lotta contro tutte le forme di discriminazione coopera a questo stesso movimento che trascina l'umanità verso una civiltà mondiale, distruttrice dei vecchi particolarismi a cui spetta l'onore di aver creato quei valori estetici e spirituali che danno alla vita il suo senso, e che noi raccogliamo preziosamente in musei e biblioteche perché ci sentiamo sempre meno capaci di produrli.» (CLAUDE LÉVI-STRAUSS, 1984)

«The literature of the transformation of goods as they travel through a life-cycle suggests that once artefacts appear in museum they enter a safe and neutral ground, outside the arena where they are subjected to multiple pressures of meaning. This is not true»; «The history of woodwork in the V & A is an example of the way a museum can assemble a collection for good and legitimate reasons and then forget what those reasons were»; «Wherever one turns in discussing the display of artefacts in a museum there is a problem of epistemology, of how artefacts are perceived and represented by the museum curator, and of how they are perceived and understood by the museum visitor. [...] so that their comprehension of it is individualised; [...] that artefacts can change their meaning not just over the years as different historiographical and institutional currents pick them out and transform their significance, but from day to day as different people view them and subject them to their own interpretation» (Charles Saumarez Smith in PETER VERGO, 1989);

«I musei, necessari, anche nei più piccoli luoghi, le biblioteche, le scuole non serviranno più a quelli che hanno avuto fame, non hanno saputo leggere, non hanno frequentato una scuola, ma forse con quello che “resta” di loro, delle loro voci, dei loro clamori, delle loro ombre possiamo parlare e donare alle persone di oggi» and «un sentimento di perdita ha favorito [...], per opera delle élites culturali europee, la museificazione della memoria» (VITO TETI, 2022);

Their potential instead lies exactly in their:

- ‘out of time’ (but real) dimension (*Museums as a permanent experience*);
- Their ‘third-party’ (but [deliberately] thematic) testimony (*Museums as a source of knowledge*);
- Their ‘quiet’ -but often emotional- context (*Museums as a ‘Free Zone’*).

Museums and their contents are a permanent experience, in the sense that (even when they are destroyed, looted or transferred) they constitute a ‘culturally constant’ element as a museum in itself (school groups who visit these places over the years know this well... .) and in their essence suitable to constitute a pivot of cultural infrastructures, and with them they can modify over time the contents, the exhibition layout, the messages and their offer in general, but not their role in the infrastructure.

As such, they are physically perceptible and delineated structures, therefore real, but ‘out of time’.

As a source of knowledge, a visit to the museum enables us to discover what we know or what we don’t know, and to connect our memories and emotions to what we see. It causes a sort of Limbo, of cautious attitude, of propensity to listen that lead to a ‘suspension of judgement’ (ἐποχή), as we gradually discover in the museum the things we will relate to, more or less successfully; in this sense they play a third party role.

The environment we are in projects us into a reality that interacts with us, even if we don’t know it, but not necessarily in the way we would expect. In these conditions it is possible to imagine museums as ‘Free Zones’ in which the coexistence of mentalities of different people can and does occur, without the counterparties necessarily having to pay a compensation to each other.

This is the ‘quiet’ (even if emotionally involving) context they can offer.

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Cultural Heritage of the Gaucha Countryside: Cartography of a Distributed Museum

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The Triadic Cultural Heritage of the Gaucha Countryside

The geographical region identified as the Gaucha Countryside (Figure 1) comprises 14 municipalities (Aceguá, Alegrete, Bagé, Barra do Quaraí, Candiota, Dom Pedrito, Hulha Negra, Itaqui, Lavras do Sul, Maçambará, Quaraí, Rosário do Sul, Santana do Livramento, and Uruguaiana) located in the state of Rio Grande do Sul, covering a geographical area of 44,365 km². Currently, it is undergoing a significant upward

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process of development and innovations, both in its traditional agricultural sector and its more recent viticulture (since the late 20th century).

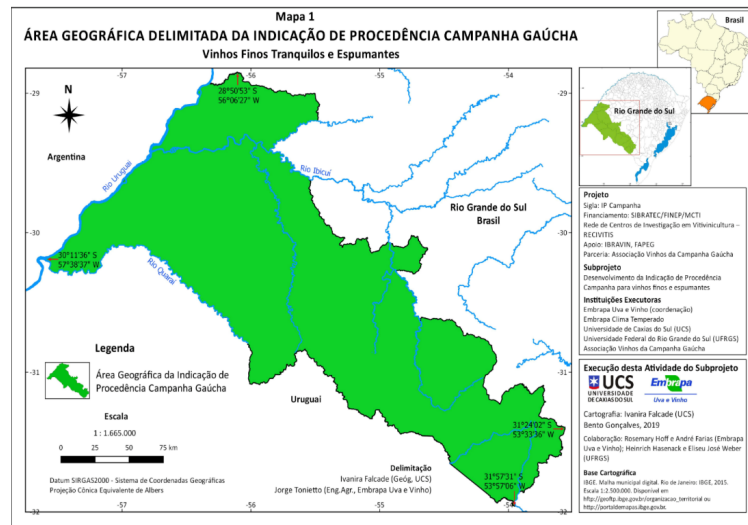


Figure 1 - Area of the IP Gaúcha Countryside. source: EMBRAPA - <https://www.embrapa.br/uva-e-vinho/indicacoes-geograficas-de-vinhos-do-brasil/ig-registrada/campanha-gaucha>

The term ‘gaúcho’ emerges from the historical and cultural tapestry of Rio Grande do Sul, resulting from the ethnic confluence that marks its formation. Born from the mixture of indigenous peoples, Spaniards, Africans, and Portuguese, the gaúcho embodies a regional identity rooted in rural traditions. Symbolizing courage and hospitality, this term evokes an ancestral legacy that unites the inhabitants of the state in a profound sense of belonging to their land and cultural heritage.

Viticulture encompasses the cultivation of grapes, wine production, and vineyard management, including the selection of grape varieties, soil management, pest and disease control, harvesting at the appropriate ripeness of the grapes, and the actual winemaking. In this sense, technical knowledge and specific skills originate from the family tradition of rural producers who, in the case of the Gaúcha Countryside, play an important role in the food industry, cultural heritage, and,

consequently, territorial development, according to the research by Shana Sabbado Flores (2018). As a production landscape, the Gaúcha Countryside holds a tangle of traditions, history, and identity of rural life. This space, with its unique meanings, is permeated by vast rural landscapes, a living testimony to the cultural heritage of Rio Grande do Sul. Since the time of the first settlers, the gaucho traditions, marked by rural culture, traditionalism, and country labor, have shaped the identity of this territory. The architecture of the ranches, customs, and festivities such as traditional dances, chimarrão, and barbecue, are authentic expressions of the local culture. Additionally, the stories orally transmitted over generations further enrich this heritage, reinforcing ties to the past and contributing to the preservation and celebration of this rich cultural heritage.

A significant part of this cultural heritage is its fauna and flora (Figure 2). The Gaúcha Countryside, as a potential Open-Air Museum, is a biome home to an extensive fauna, with rare species of a wide variety of birds, mammals, arthropods, reptiles, and amphibians. Sustainable governance, man and nature coexist in symbiosis with animals that resist extinction, such as: the pampas cat (*Leopardus pajeros*), jaguar (*Panthera onca*), ocelot (*Leopardus pardalis*), Brazilian squirrel (*Sciurus aestuans*), giant anteater (*Myrmecophaga tridactyla*), and the lesser anteater (*Tamandua tetradactyla*). Accordingly, experiencing the cultural heritage of a territory includes sensing its aromas and colors, as in the case of its flora integrated into the light spectrum of the open sky landscape. The architecture, animals, and socio-cultural ways of life (crafts and festivities) complement the heritage scenario of this place full of meanings and identities. Land of indigenous life, it housed the Gê (Tapuia), Guarani, and the remaining Kaingang tribes. Peculiar gastronomy resulting from agriculture and livestock farming, through a plain cut between the parallels 29 and 31 South, the Gaúcha Countryside materializes in rolling hills that hold a grassy vegetation, oscillating between an approximate temperature of 0° in winter and 40° in summer, always remaining humid due to its extensive source of underground fresh water: the Guarani Aquifer. Currently, as a scene of expanding

viticulture, traditional ways of living and making are preserved through the interactions of their rural family producers, formed by Portuguese, Italian, Spanish, and German immigrants, along with fewer French.



Figure 2 - Landscape of Gaúcha Countryside. Source: Authors' collection.

Cultural Heritage in the Gaúcha Countryside is revealed as a living fabric, intertwining history, identity, and landscape as an open and thus diffuse museum. Carlos Brandão, in 1980, when conceptualizing the 'diffuse museum,' guided by Riviere (1980) and Varine (2012), transcends physical boundaries and materializes in the very fabric of the territory, permeated by sociomuseology concepts incorporating, therefore, a participatory community political stance. In the metaphor of a 'neighbourhood museum' by John R. Kinard (1985), the Gaúcha Countryside is a space where stories, memories, and knowledge contribute to solving social and urban problems. As it spreads through the features of the productive rural landscape, it promotes a living and dynamic musealization, transforming cultural heritage into a tangible testimony of the territory's identity and history. This diffuse vision of the Gaúcha Countryside revitalizes cultural narratives and strengthens participatory governance, placing the community at the center of cultural heritage preservation.

An interesting example of a 'neighbourhood museum' related to the concept of a Diffuse Museum is the Museum of the Liri Valley, an 'open-air museum' with material and immaterial testimonies embedded like jewels in enchanting

panoramas. The Diffuse Museum of the Liri Valley (MuDiV) is part of a project by the University of Cassino and Southern Lazio (scientific coordination: Prof. Ivana Bruno) with the cultural association Apassiferrati (president: Paolo Silvi) that aims to enhance this heritage. The route follows the two elements that determine the current appearance of the ancient Terra di Lavoro and its socioeconomic development: the Liri River and the Roccasecca-Avezzano railway. Another example of a Diffuse Museum is the Museum of the Territory. In this model, the cultural and natural heritage of a region is celebrated and preserved through a variety of elements spread across the territory, such as interpretive trails, outdoor exhibitions, interpretive signage at historical sites, and community activities. Instead of concentrating all artifacts and exhibitions in a single physical space, the Museum of the Territory expands throughout the environment, promoting a deeper connection between people, their history, and their natural environment. This model encourages active participation of communities in the preservation and promotion of heritage and allows the museum to adapt and evolve according to changes in the territory and community needs.

Cartography of the Cultural Heritage of Gaúcha Countryside

The cartographic approach does not separate theory and practice, research and intervention into opposing extremes. On the contrary, it allows the field of study to invade the territory of the researcher-cartographer, enabling them to actively engage and become an object of their own research. Virgínia Kastrup (2012) defines cartography as a method that accompanies a process, rather than merely representing an object. In essence, it is about continuously investigating a process of creation. By applying the cartographic method to the study of subjectivity in field research, the goal is not to establish rigid rules to follow but to accompany an ever-evolving process.

The cartographer's challenge lies in deeply connecting with the object of study, remaining open to surprises and unexpected discoveries. This does not

imply relaxation or loss of control over the object, but rather transcending initial expectations. According to Eduardo Passos (2012), cartography arises when we refuse to merely represent an object and begin to believe that our knowledge can transform the reality around us. Therefore, the cartographic research process is complex, requiring us to surpass our own limitations, question established patterns, and recognize the importance of the paths taken. In summary, cartography seeks to understand an object in its historical connections and broader context, not in isolation.

The connections established are not limited only to human subjectivities but encompass the entire range of existing intensities. Thus, a body of meaning emerges - architecture - which does not refer only to the physical, like the human body, but rather to the incorporeal aspects, namely, the effects, events, and occurrences that arise from the relationships between bodies, not possessing a fixed and immutable identity. Each encounter and situation triggers effects that emerge from established connections, perpetually creating and recreating the present and the future.

According to Suely Rolnik (2006), cartography, unlike the static map that represents a fixed whole, is a process in constant evolution, unfolding simultaneously with the movements of landscape transformation. Psychosocial landscapes can also be mapped, accompanying the construction of realities that express contemporary affects, rendering obsolete the prevailing universes.

The Triad of Nature, Culture, and Society

The inclusion of nature as cultural landscape in a diffuse museum not only enriches visitors' experiences but also promotes harmonious integration between cultural and natural heritage, encouraging preservation, mutual understanding, and sustainable development of local communities. The region's biological diversity, including its flora, fauna (Figure 3), and characteristic ecosystems such as native grasslands, wetlands, natural grasslands with low vegetation, shrubs, some isolated trees, and

a diversity of species adapted to the specific conditions of this environment, such as grasses and herbs.



Figure 3 - Flamingo Trail - Lagoa do Peixe National Park. Source: Chico Mendes Institute for Biodiversity Conservation - <https://www.gov.br/icmbio/pt-br/assuntos/biodiversidade/unidade-de-conservacao/unidades-de-biomas/marinho/lista-de-ucs/parna-da-lagoa-do-peixe/informacoes-sobre-visitacao-parna-da-lagoa-do-peixe>

The Gaúcha Countryside, as a potential Diffuse Museum, is a biome that harbors an extensive fauna, with rare species of various birds, mammals, arthropods, reptiles, and amphibians. Currently, its inhabitants are mainly the result of a mixture of indigenous, African, and Portuguese immigrants, recognized as “gaúchos,” nomadic beings who wear wide pants called bombachas, leather boots, a scarf, and a poncho to endure the cold. The distinctive gastronomy resulting from agriculture and livestock farming, in a plain located between parallels 29 and 31 South, materializes in hills with grassy vegetation, oscillating between temperatures around 0°C in winter and 40°C in summer, always kept moist by its extensive underground source of fresh water. Currently, in a scenario of expanding viticulture, traditional ways of life and practices are preserved through the interaction among rural family producers, composed of Portuguese, Italian, Spanish, and German immigrants, complemented by a smaller number of French immigrants.

Outdoor culture contains identity and tradition: from traditional attire to gastronomy and art, exemplified by music, dance, and arts and crafts. In it, we can perceive the refinement of clothing, not only for everyday tasks or ceremonies but also for their festivals and rituals. Another example is the lawmaker Osmar Severo, who celebrates our habits and customs in his new project: Ordinary Law No. 12,372/2005. The symbolic heritage of Rio Grande do Sul preserved by the law is the set of Gaúcho Dances. In this bill, traditional Gaúcho dances, along with their respective music and lyrics, will be recognized as the cultural heritage of the state. The “Machetes Dance” is a typical and very popular dance in Rio Grande do Sul, traditionally performed by pairs or groups of men, who execute complex movements with two machetes, one in each hand. Subsequently, other initiatives to preserve cultural heritage in the State were enacted, such as Ordinary Law No. 13,678 of 2011, which deals with the intangible cultural heritage of the State of Rio Grande do Sul and provides for other measures. In addition to the presence of female empowerment in the productive sector, women also stand out in music, like Shana, a singer and player of the bombo legüero. The Bombo Legüero is one of the main and essential instruments in any folk ensemble. The deep and grave notes of this membranophone instrument serve as a classic guide for the rhythm of any folk style performed, whether chacareras, zambas, vidalas, or malambos. The Bombo Legüero owes its name to the fact that it is believed that its sound can be heard a league away. The chimarrão, a typical beverage from the Southern states of Brazil, is a legacy of the Guarani tribe that became an integral part of the daily life of Southerners and is one of the most representative traditions of this people. It is popularly known as “bitter mate,” but there is nothing bitter about its meaning: the beverage is a symbol of hospitality and friendship. Around the 16th century, Spanish colonizers arrived in the Brazilian lands, where the state of Paraná is located today. In the region, there were Guarani indigenous tribes that consumed a kind of tea served in a “porongo,” known as caá-i or “herb water.” The increase in consumption consequently led to an increase in yerba mate production. The growth was so

significant that it became the most important economic activity in Brazil by 1632. But undoubtedly, beef is the typical cuisine of the gaucho. For example, the French Rack, as it is known, is the most noble and elegant cut of lamb. In addition to the basic characteristics of lamb meat (Figure 4) such as mild flavor and tenderness, this “French rib” is versatile and allows for various cooking methods. Regardless of the method used, this cut stands out for its presentation. Thus, the “carreteiro,” or “carreteiro rice,” is a traditional dish originating from the southernmost region of Brazil. It emerged when merchants (carreteiros) traveled through the region in ox-drawn carts and needed a practical meal that would not spoil quickly.



Figure 4 - Lamb, the typical cuisine of the gaucho. Source: Alcides Gomes Neto Collection.

Finally, the diversity of craftsmanship. Wool as the main raw material brings together techniques and knowledge to transmit the know-how and way of life of wool to new generations, preserving the memory of this knowledge. It also allows for an understanding of the Pampa biome, relating biodiversity to typical rural knowledge and practices of the region. It seeks to connect intangible cultural heritage with the culture economy through correlations between daily life, craftsmanship, industry, and tourism in Rio Grande do Sul.

Diffuse Museum of the Campanha Gaucha

Recognized and utilized by professionals and academics working in the field of museology, cultural heritage preservation, and cultural studies, the concept of the Diffuse Museum can be discussed, debated, and applied in different contexts, especially those related to expanding the notion of museums beyond traditional physical spaces. It is important to note that the recognition of the term may vary among different specialists, organizations, and regional contexts. There is no centralized authority or specific institution that officially recognizes the concept of a “Diffuse Museum” without the adoption and application by professionals and researchers in the humanities.

Thinking of the Campanha Gaucha as a Diffuse Museum aligns with the principles and values of UNESCO (United Nations Educational, Scientific and Cultural Organization) related to the preservation and promotion of cultural heritage and, in this way, contributes to the dissemination of knowledge about the cultural heritage of this territory, promoting the preservation of collective memory and fostering dialogue among the plurality of its singular subjects.

The dimensions of the cultural heritage of the Campanha Gaucha, Nature, Society, and Culture, transcend the physical limits of a conventional museum space. Conceptualizing the Campanha Gaucha as a Diffuse Museum aligns with the principles and values of UNESCO, those related to the preservation and promotion of cultural heritage. By making it visible and redefined, it contributes to the dissemination of knowledge about the cultural heritage of this territory, promoting the preservation of collective memory, and fostering dialogue between the plurality and singularity of its subjects.

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Re-Assessment of Museums And Natural/ Cultural Heritage in Nigeria: a case study of Ekiti State

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LUIZ OOSTERBEEK²
OPEYEMI L. ADEWUMI³

Introduction

Nigeria, situated in West Africa on the Gulf of Guinea, occupies a tropical zone delineated by Latitudes 4°N and 14°N and Longitudes 3°E and 14°E (Figure 1). Bordered by Niger to the north, Cameroon to the east, the Republic of Benin to the west, and the Atlantic Ocean to the south, Nigeria boasts abundant natural, cultural, and human resources within its biodiverse landscapes. Its population, approximately 250 million, comprises numerous ethnic groups, with the Yoruba,

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Hausa, and Igbo being the primary tribes, contributing significantly to the country's cultural tapestry.



Figure 1 - Map of Nigeria showing Ekiti State (Kilasho et al., 2023)

Additionally, there exist over two hundred minor ethnic groups, including the Ijaw, Urhobo, Tiv, Igala, Itshekiri, Fulani, and Ebira, among others, each enriching Nigeria's cultural heritage. These ethnic groups with their diverse cultures and ways of life created a nation rich in cultural heritage, filled with distinctive cultural patrimonies, indigenous crafts, and artwork (Onyejegbu, 2014)

This diversity manifests in various cultural expressions, encompassing indigenous crafts, artwork, and oral traditions, which have been preserved and transmitted across generations. Among the tangible cultural assets are pottery, coins, paintings, weaponry, jewellery, sculptures (crafted from ivory, wood, stone, etc.), tools, and monuments. Complementing these are intangible resources such as oral traditions, languages, dances, songs, tales, and folklore. While some artefacts have suffered degradation or loss, many remain undiscovered, awaiting study and analysis. Those that have been identified and examined are often safeguarded in traditional repositories like shrines, palaces, and dedicated homes functioning as museums (Falade, 2012), serving diverse functions including protection, warfare,

religious worship, and everyday life.

The establishment of museums in Nigeria owes much to the efforts of British expatriates like K.C. Murray, E.H. Duckworth, and Bernard Fagg, who recognized and valued the country's rich natural and cultural heritage. Their advocacy for preservation, conservation, and organized display laid the groundwork for the institutionalization of museums (Onyejebu, 2014), supported by scholarly publications that increased awareness and understanding of Nigeria's cultural patrimonies. Afigbo and Okita (1985) emphasize the pivotal roles played by these individuals in shaping the museum landscape, asserting, "In discussing the contributions of these individuals to the establishment of museums in Nigeria, the activities of these three stand out for they, perhaps, more than any others, played the main part in laying a solid foundation for the development of Nigerian museums."

The construction of the Esie Museum in 1945, followed by the Jos Museum in April 1952, marked significant milestones in the formalization of museum institutions in Nigeria. Modelled after various types of museums found in developed countries, these early Nigerian museums served diverse functions, including natural history, colonial history, ethnography, archaeology, warfare, and botany. The National Commission for Museums and Monuments (NCMM), established in 1979 through Decree 77 and later re-enacted as the NCMM Act, cap No 19, Laws of the Federation of Nigeria, 2004, succeeded the Federal Antiquities Department, assuming responsibility for the collection, documentation, conservation, and presentation of national cultural properties for educational, enlightening, and entertaining purposes.

Presently, Nigeria boasts over 52 museums and outlets, managed by the NCMM, with two designated World Heritage sites including two recognized World Heritage sites, namely the Osun-Osogbo Sacred Grove and Sukur Cultural Landscape. The predominant focus of these museums remains ethnographic and archaeological (NCMM, 2024). Despite this widespread museum presence, Ekiti State, characterized by its cultural homogeneity, still lacks a fully operational and

adequately equipped museum. Consequently, this paper seeks to evaluate Nigeria's museum landscape and natural/cultural heritage while advocating for the establishment of a museum in Ekiti State, Nigeria.

State of the art on Ekiti state's natural/cultural heritage

Ekiti State lies at the heart of the tropics, positioned between Latitudes 7°45' to 8°05' N of the Equator and Longitudes 4°45' to 5°45' East of the Greenwich Meridian (Ajayi *et al.*, 2024) (Figure 2). Established on October 1, 1996, during General Sani Abacha's administration, alongside other states (Falade, 2012), Ekiti State is inhabited by the Yoruba people, a prominent ethnic group in the southwestern region of Nigeria, distinguished by its unique dialect (Abiodun, 2017). Notably, the state exhibits cultural homogeneity, as evidenced by the common suffix "Ekiti" appended to the names of its towns (Falana and Titus, 2024).

While numerous research publications spanning various disciplines focus on Ekiti State, few delve into topics related to its natural and cultural heritage, such as traditional music, specifically "Apiiri" (Abiodun, 2017; 2019), traditional music practices among king wives in Emure Ekiti (Omojola, 2009), Elemure Ogunyemi's "ere ibile" (Falana and Titus, 2024), the Ekiti Parapo War (Familugba, 2023), perceptions and assessments of ecotourism development at Ikogosi warm spring and Arinta Waterfall (Ajayi *et al.*, 2024), residents' perspectives on mountain tourism in Ido-Osi Ekiti (Agbebi and Adeogun, 2023), an ethnobotanical study of medicinal plants in Oguntun Ekiti (Kilasho *et al.*, 2023), and lithium recovery from Ekiti clays (Egunlae *et al.*, 2006). However, there is a dearth of research papers addressing the preservation of natural and cultural heritage materials within a museum context in Ekiti State.

Thus, this paper represents a pioneering effort to explore Ekiti's natural and cultural heritage materials, shedding light on their existence and significance. It aims to advocate for enhanced protection, presentation, and promotion of these valuable resources in the contemporary era, emphasizing the imperative of

establishing a museum dedicated to Ekiti's natural and cultural heritage materials (Figures 3 and 4). Such an initiative not only fosters sustainability but also catalyzes tourism development.

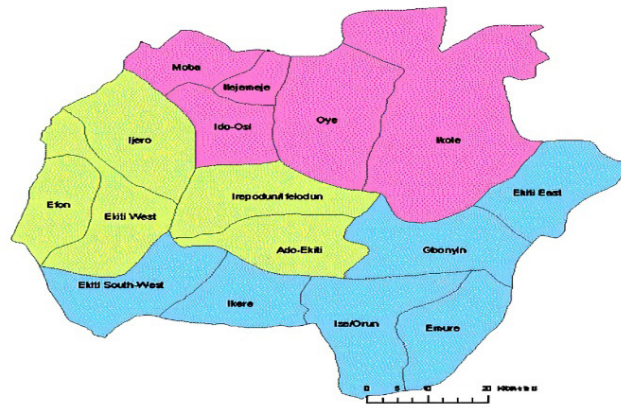


Figure 2 - Map of Ekiti State (nigeriagalleria.com)



Fig. 3 - Arinta Waterfalls, Ekiti State: Nigeria's Stunning Natural Beauty. (Foluoyefeso)

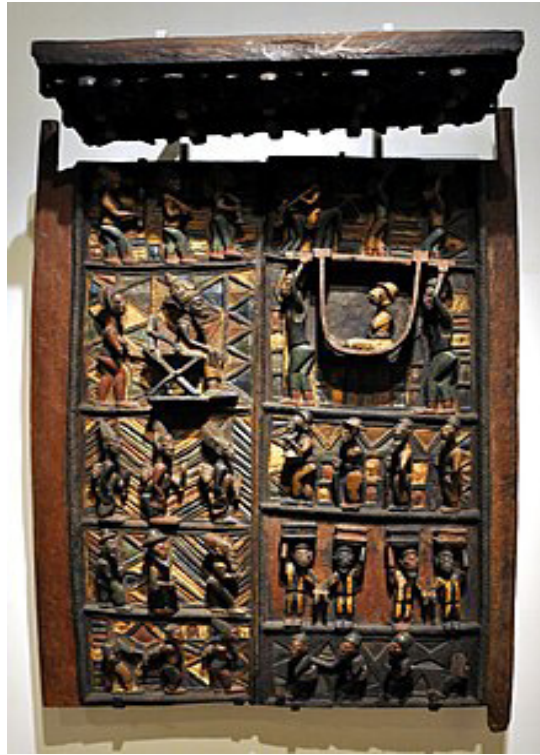


Fig. 4 - Pair of door panels and a lintel, c. 1910–1914, by Olowe of Ise. ([British Museum, London](#))

Materials and Methods

The documentation of Ekiti State’s heritage materials encompasses the implementation of categories outlined in (UNESCO, 2003; 2014; Salse-Rovira *et al.*, 2023), comprising four main groups:

I. Movable cultural heritage: Including items such as books, archival documents, and scientific collections (artworks, mineralogy, zoology, herbaria, etc.).

II. Immovable tangible cultural heritage: Encompassing landmarks like Ikogosi Warm Spring, Arinta waterfall, Ewi’s Palace, clays, and ethnobotanical plants like obeche, among others.

III.. Immaterial Heritage: Comprising elements reflecting the spirit of

homogeneity, such as the Ekiti State Anthem, festivals, customs, and traditions (UNESCO, 2003), along with other tangible materials.

IV. Human heritage: Recognizing individuals with significant contributions, such as Emeritus Bishop Fagun, Fajuyi Adekunle, Olowe of Ise Ekiti, Elemure Ogunyemi, Adedeji Femi, Aare Afe Babalola, among others. Emphasizing the importance of human heritage in society, as commonly acknowledged in the tourism sector (Alba, 2014).

The methodology employed in this study integrates novel approaches to the protection, presentation, and promotion of natural and cultural heritage. The lack of comprehensive studies on Ekiti State's heritage materials stems from a deficiency in knowledge and attention towards their preservation within institutional settings such as museums among the local populace. Consequently, this research adopts principles of protection, presentation, and promotion of cultural and natural heritage to address this gap.

To effectively execute this research, it is imperative to grasp the significance and principles underlying the protection, presentation, and promotion of natural and cultural heritage. International documents from UNESCO, the Council of Europe, ICOMOS, ICCROM, and Europa Nostra, alongside local resources such as those from the National Commission for Museums and Monuments (NCMM), will be consulted and adapted.

Drawing from the Council of Europe's emphasis on recognizing the importance of natural and cultural values within a unified spatial and symbolic framework, efforts will be directed towards raising awareness among society, private organizations, and stakeholders about the intrinsic values of these landscapes (Council of Europe, 2000; Nikolić, 2022). The incorporation of local communities and stakeholders in the planning process through interviews, questionnaires, and ethnographic surveys, as recommended by ICOMOS (1999), will also be pursued.

Historically, events like the Ekiti Parapo War have played a pivotal role in consolidating the cultural unity of the Ekiti people (Familugba, 2023). Consequently,

the establishment of a museum holds tremendous potential for the protection and preservation of Ekiti's natural and cultural heritage materials. Recognizing the multifaceted benefits of museums, including support for education, research, creativity, identity-building, and civic pride, underscores the significance and value of such an initiative (Hull, 2011).

Results

The key results from the implementation of the establishment and sustainability of a museum dedicated to Ekiti State's natural and cultural heritage offer multifaceted benefits, ranging from community empowerment and education to economic growth and international cooperation. Below are therefore some of the highlights of the key results and the advantages that could accrue from this project: of this project:

Inclusion of Local Communities and Stakeholders: By involving local people, stakeholders, institutions, and professionals in the decision-making process, the project fosters a sense of ownership and pride in the community. This inclusion ensures that the museum reflects the perspectives, traditions, and aspirations of the people of Ekiti State, thus enhancing its authenticity and relevance.

Digitalization of Heritage Materials: The project would likely involve the digitalization of heritage materials, such as artefacts, documents, and oral histories. This digital archive not only preserves these materials for future generations but also makes them accessible to a wider audience, including researchers, students, and the general public, thereby democratizing access to cultural knowledge.

Education and Research: A dedicated museum provides invaluable opportunities for education and research. It serves as a dynamic learning environment where visitors can engage with exhibits, participate in educational programs, and conduct scholarly research. By facilitating access to historical, cultural, and scientific information, the museum contributes to the intellectual enrichment of society and promotes a deeper understanding of Ekiti State's heritage.

Economic Benefits: Museums are known to stimulate economic activity

through tourism, job creation, and cultural industries. A well-curated museum showcasing Ekiti State's natural and cultural heritage has the potential to attract tourists, both domestic and international, thereby generating revenue for the local economy. Additionally, the museum could serve as a hub for cultural tourism, supporting local businesses such as hotels, restaurants, and artisanal crafts.

Cultural Preservation and Identity: Perhaps most importantly, the museum plays a vital role in preserving and celebrating Ekiti State's cultural identity. By showcasing traditional crafts, artwork, music, and rituals, the museum honours the cultural heritage of the Yoruba people and reinforces a sense of pride and belonging among the community. It serves as a living testament to the rich tapestry of Ekiti's history and traditions, ensuring that these legacies are passed down to future generations.

Conclusion

The re-assessment of natural and cultural heritage in Nigeria, with a specific focus on Ekiti State, underscores the invaluable treasures that can be housed within museum facilities. This study highlights the critical role that museums play as repositories of natural and cultural heritage materials, effectively bridging the gap between the past and the future.

Museums serve as custodians of a nation's collective memory, preserving artefacts, documents, and traditions that tell the story of its people and landscapes. In the case of Ekiti State, a museum dedicated to its natural and cultural heritage would not only showcase the richness and diversity of the region but also provide a platform for education, research, and community engagement.

By carefully curating and presenting these heritage materials, museums facilitate the transmission of knowledge and values from one generation to the next. They offer visitors the opportunity to connect with their cultural roots, gain a deeper understanding of their history, and appreciate the significance of their heritage in shaping their identity.

Furthermore, museums play a crucial role in promoting dialogue and understanding across different communities and cultures. By showcasing the shared heritage of humanity, museums foster empathy, tolerance, and mutual respect, contributing to social cohesion and peacebuilding efforts.

In essence, the establishment of a museum dedicated to Ekiti State's natural and cultural heritage is not just an investment in preserving the past; it is an investment in the future. By safeguarding and celebrating the region's heritage, museums inspire future generations to cherish and protect their cultural legacy, ensuring that it continues to enrich and inspire for years to come.

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Museums in industrial ruins: memory of work in rural landscapes in southern Brazil

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JOSSANA PEIL COELHO²
AMANDA MENSCH ELTZ³

Introduction

Pelotas is a city steeped in history, boasting a rich cultural heritage safeguarded at the federal, state, and city levels. Consequently, it offers different tourist itineraries, covering cultural, gastronomic and, more recently, rural routes. And it is the rural areas that we are investigating. This presentation is the result of two studies developed by my research group in the region. Both projects receive support from three research funding institutions.

In this presentation we focus on two of the questions that is related to

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the topic of this Seminar: the museums and the landscapes. In my case: rural landscapes. We are analyzing the possibilities of establishing community museums in former rural factories. We believe that these museums can be places to preserve the memories of factory work in the communities where the old factories are located.

To be able to carry out this analysis, we first need to answer many questions.

But before, we have to remember the concept of museum, which is the foundation for our research (ICOM, 2022, p.3)

A museum is a not-for-profit, permanent institution in the service of society that researches, collects, conserves, interprets and exhibits tangible and intangible heritage. Open to the public, accessible and inclusive, museums foster diversity and sustainability. They operate and communicate ethically, professionally and with the participation of communities, offering varied experiences for education, enjoyment, reflection and knowledge sharing.

And within this general and very current concept, we are interested in the concept of a community museum (ICOM Conference Milan, 2016, p. 2)

They are a project and a local development process that combines human and heritage resources from a given area. They participate in the world of museums, monuments and sites. The Ecomuseum accompanies the world as it is and prepares the world to come, using the living common heritage of the place, which generates and enriches through material and intangible components.

The main question is: Why set up museums in old factories in rural areas?

Factories in rural areas used mainly local labor. Therefore, the community that keeps the memories of these factories; share the same landscape where these industrial heritages are located. Some of these factories are just ruins. But, we believe that they can preserve these memories. We also believe that these legacies have a social value.

And can these museums be community museums? We believe that they can only exist as community museums. And why can these museums be in Rio Grande do Sul? It is because Rio Grande do Sul is an industrial state.

In this map (Fig. 1), you can observe the geographical location of Rio Grande do Sul and Pelotas in Brazil. Furthermore, it becomes evident that this region is one of the most densely populated areas in Brazil. Pelotas serves as the focal city in the micro-region, ranking second in terms of population density. Its unique geographic position is influenced by significant water sources in the area. In these two maps, we can see that Rio Grande do Sul is among the states with the highest number of food factories; and that Pelotas is the center of the second zone with the highest number of factories in the State. This is also true for the beverage industry. Rio Grande do Sul is among the largest producers of food and beverages of Brazil.

As a result, the number of workers in food factories is also large in Rio Grande do Sul.

In this context, Rio Grande do Sul built an important industrial trajectory and today has the fourth largest GDP in the sector.

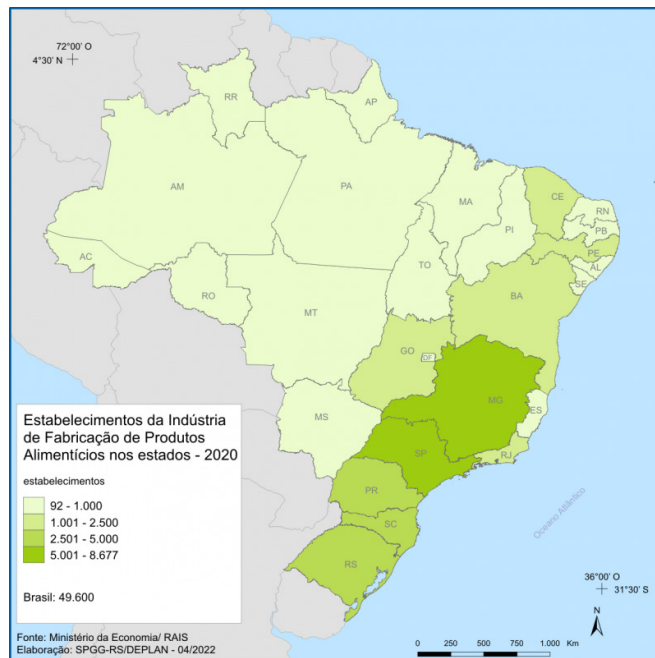


Figure 1 – Map of Food industries in Rio Grande do Sul. SPPG-RS/DEPLAN, 2022.

And the second most productive sector is food.

And in this sector, micro and small companies stand out, the majority of which are family-owned.

The origin of the current industrial landscape in Rio Grande do Sul lies in the past.

So let's see. It is worth highlighting an important aspect of the history of Rio Grande do Sul, which is the way it was populated over the last four centuries.

The effective occupation of this region only began in the middle of the 18th century, and it was only in the first years of the following century that this occupation spread to most of the state. It was due to the immigration of a very large number of German and Italian families.

These immigrants played a fundamental role in the colonization of several areas, especially mountain regions, which were not appropriate for livestock farming. At the time, livestock farming was the main economic activity of *sesmaria* owners. *Sesmaria* is a Portuguese word, and was a form of land distribution implemented by Portuguese colonizers.

Many of them were engineers, surveyors, draftsmen, translators and clerks and formed colonies that gave rise to the current cities, mainly those in the region of Serra *Gaúcha*.

In this manner, small towns developed within each immigrant settlement. The products and services were sustained by families in both urban and rural areas. Some evolved into industrial hubs, such as the city of Caxias do Sul. Meanwhile, others developed service-oriented industries, such as the city of *Gramado*, which specialized in tourism.

In this context, we compared two regions with some points in common: the region of Serra *Gaúcha* and the microregion of Pelotas. And we analyzed some rural museums in each of them.

The first contrast between these two regions lies in their geography. As represented on the maps, Pelotas is located between a plain and a mountain region

with medium heights while Serra Gaúcha is a region of high mountains. The second contrast refers to the historical patterns of settlement in each region. It is important to note that the two regions that we studied have the highest population densities in Rio Grande do Sul, as shown the map.

Rio Grande do Sul's industries subsidize part of its tourist infrastructure, which is divided into 27 routes. The areas of this study are located on routes of Pelotas' Microregion and part of the *Hortênsias* route. These routes favor international tourism in Rio Grande do Sul. And the largest flow comes from the large borders with Uruguay and Argentine

The *Hortênsias* route is the most profitable tourist area in the State and its hub is the city of *Gramado*, which offers seven long-lasting festivals all year long. These festivals attract tourists from all over the country.

The region's infrastructure grows year after year, with mass tourism in the urban center and other tourism activities in the rural areas. Meanwhile, the number of museums is increasing a lot in both areas.

Caravaggio's Paths

Caravaggio's Paths is a recent proposal from a consortium of neighboring municipalities; that combines local tourism with slow tourism.

It is a 200km route divided into seven routes that passes through the rural areas of these municipalities. It connects two distant points: Sanctuary of Caravaggio in the city of Canela, the beginning of the path, and the Sanctuary of Caravaggio in *Farroupilha*.

Therefore, it is an itinerary inspired by the religious pilgrimage of Our Lady of Caravaggio, but with the aim of opposing the mass tourism that characterizes the Route of *Hortências*.

It is based on the principle of valuing local economies and cultures in the rural environment; and being environmentally friendly.

An interesting aspect is that the seven routes pass through rural

communities where old houses and old workplaces are preserved (Fig. 2 *Hortênsias* route). Some of them are open to visitors.



Figure 2 - Two examples of examples of ancient houses on the Caravaggio's Paths. Photos by author, 2024.

So, we compared it with the four museums in the rural area of the Pelotas microregion. These four museums were created by academic groups at the Federal University of Pelotas. Only one of them is on a family property.

Regarding rural museums

Regarding rural museums in the Pelotas region (Fig. 3) we observed that:

- 1) there is an obvious case in which the community lost interest: the Maciel colony museum;
- 2) the Grupelli family museum is almost never open for visits;
- 3) The French Colony Museum is only visited by university groups or groups organized by university students.
- 4) The Morro Redondo Historical Museum is only open during city festivals.



Figure 3 - Print of rural museums of microregion of Pelotas. UFPel site.

Therefore, these museums are not actually open for visits. They open occasionally. But welcoming visitors is not all a museum does. The important thing is to know what role the museum plays in the community.

To understand the context in which these museums operate, we compared some aspects that can be observed in both regions. The first aspect concerns the origin of the museums in each region or who initiated their creation. All museums have collections, which we identified as the main holdings. Our question was: who formed the museum's collection? Next, we wanted to know the museum's owner, its location, who maintained it, and who directed it.

These aspects are outlined in Table 1. In Table 2, we compared whether the museum demonstrated interest in receiving the public, if it was part of any tourist route, what typology could be identified in its title, if there was any type of additional business, such as a small shop, if there was any growth plan, and if any fee was charged. The results are presented, not explained, in the two tables.

Museum	Initiative	Collection	Property	Location	Maintenance	Management
HORTÊNCIAS	Family	Family	Family	rural	Family	Family
ANTIGA PELOTAS	Community + UFPel	Family+ Community	Family (1) Prefeitura (2) Sub-prefeitura (1)	Rural (3) Urbana (1)	Prefeitura+ UFPel	UFPel + Community

Museum	Public	Tourism	Denomination	Associated business	Growth plan	Reverts to income
HORTÊNCIAS	yes	yes	Family museum	yes	yes	yes
ANTIGA PELOTAS	possibly	Family + Community	historical and ethnographic	No	Yes (1) No (3)	No

Table 1 and 2 – Comparing Museums. By author.

The main result of this comparison leads to an evident fact: in both contexts, the idea of a community museum prevails.

1. In them, the entire museum collection is on display.
 2. The museum space is the same as the exhibition space.
 3. There are no explanations for the objects displayed in the museum.
- Only the museums in Pelotas have technical and scientific support.

On the other hand only in the museums of Caravaggio's Paths can we understand the idea presented by Huges de Varine (2013, p.151):

[...] heritage is a resource and we have to work with it just as we work with money or anything else. That is, we have to consider heritage as a resource to be explored, not only economically, but also in the social and cultural field – and also include natural heritage, landscape, etc.

Conclusions

And we reached the following conclusions:

1. If a museum makes money for the community or family, it has a quantifiable function.
2. If the museum brings prestige to the community or family, it has a social function.
3. If it is a place where people find traces of their memories, family or collective, it has a symbolic function.

Which is the most important?

The three museums of the Caravaggio's Paths have the three functions.

It is possible that they will not be lost while the objective of this route is sustainable tourism.

However, there are many threats to the future of this proposal.

This study highlights that working with the community can yield good results.

But they may not last as long as we thought they would. Or they may become something other than what we wanted them to be.

Therefore, we need to think hard about the future before placing work memories in the ruins of old rural factories.

It's not just memories that need to be heard. The desire to find a symbolic place for the past may not be so important.

In other words, the maintenance of a museum is as important as building it in the first place.

To conclude, we return to the objectives of our research, which are:

1. Preserve memories of factory work in rural areas,
2. Understand the ruin as a structure,
3. Propose lived experience as an inheritance.

The idea we defend is that a museum located in the place where an old factory was located can host all types of memories: collective and individual,

memories of hard work and good times. It corresponds to what the authors think when they say: “In the community museum people invent a way of telling their stories, and in this way they participate defining their own identity instead of consuming imposed identities” (Ocampo, Lersch; 2010, p.135).

Thus, this museum can offer possibilities for human development and new economic opportunities.

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The productive future of industrial sites. Between heritage museumification and experimental fields

ZOLTÁN SOMHEGYI¹

Factories and industrial sites are among the most controversial, and especially among the most *ambiguous* spaces and places of human culture. This above statement however needs some further clarification, because it already seems to include a controversy in itself too. How to categorise factories and industrial sites within “culture”? When mentioning the concept of “culture”, we normally think of artistic and intellectual phenomena, achievements, objects or products, and not necessarily of factories. In other words, we tend to idealise the category, and it seems impossible to include the industrial sites, of which we often tend to have ideas of being only destructive and dirty locations, unhealthy and disastrous locations in the service of exploitative mass production. This approach is *partly* understandable, for two reasons. On the

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one hand because it is, unfortunately, often quite close to reality, just think of the harsh working conditions in certain factories of which we regularly get reports and documentaries practically from all over the world. On the other hand these opinions are also triggered by some classical cultural phenomena, e.g. 19th century novels and visual representations, 20th century films etc., hence, curiously even if today many factories are not necessarily like that, still we have this cultural inheritance of thinking of them like this. Therefore it is absolutely necessary to make some further precisions in this image, especially because despite all these facts, factories and industrial areas *are* also part – in certain sense – of human culture, e.g. being results of human intellectual efforts, planning, design and organisation. Hence while the words “factory” and “industry” often have negative overtones, especially due to connotations of being places of exploitation, harsh working conditions, environmental degradation, lack of control and security, it can nevertheless be the location of producing something really useful, good, life-saving etc. In this way, the ambiguity refers to these industrial sites’ role and function in, or in connection with human culture. It embeds a doubtful controversy whether the activity pursued in them really serves or makes part of human culture, development and prosperity, or it rather leads to exploitation, inequality and serves the interest of a privileged few.

Getting closer to our present investigations however, these spaces and locations are ambiguous not only while they are operating, but also regarding their *afterlives*. As the global economy changes, more and more industrial sites (e.g. former factories, power plants, manufacturing complexes etc.) are closing and getting decayed, while production shifts elsewhere. These sites can have different fate, therefore there are several possible scenarios what can happen with a former factory, and in one way or another they can all contain some sort of controversies.

What is important to see is that even if the factory and industrial site ceases its operation, it is not a straightforward case, because then we have further ambiguous aspects in connections of the industrial complex with regards to its possible new functions – if any at all. Let’s see these considerations a bit more in detail:

Clearing away

The factory and/or industrial site can be disassembled and *cleared away*, hence preparing the site for possible further usage. In this way however, the ambiguous memory of the former and equally controversial activity can get harmed. If the physical structure is completely gone, also its remembrance gets obviously modified, and can fade. Needless to say, the memory of the place and of the activity that had been formerly pursued in the place is not exclusively connected the physicality of the remnants. To support this claim, just think of the case of the contested monuments, e.g. erected for controversial figures or events in history. Once they are gone, for example due to a sudden change of their evaluation in the society, e.g. because of a revolution or change in the system, their presence is still “felt” and can be influential for future generations. In a similar way, if an industrial site is completely disassembled, its memory can still persist, not to mention the possible environmental consequences that are perhaps not felt through human perception, but through scientific investigations are nevertheless detectable.

Slow decay

A second option that a closed factory can have is the complete and uncontrolled abandonment and *slow decay*. We are quite familiar with this option, especially because they are often documented through the semi-illegal discoveries of the followers of the urbex movement, i.e. of the urban explorers. Those interested in these activities are usually entering these places to scout the place, to take photographs, climb the derelict buildings or even collect decaying material and memorabilia – even if the often-quoted “ethical code” of the urbex is “take nothing but picture, leave nothing but footprints”. The global interest in this sort of exploration is confirmed by the fact that it also has a Japanese version called haikyo.

In this however, the phenomenon of “ambiguity” haunts again. These places are controversial in their being in-between former function and an insecure future, are at the limbo of the formerly imposed rationality and the completely other

form of rationality of the slowly occupying Nature as it continuously destroys the edifices. Important to clarify however that such sites are not (yet) proper and classical ruins. Their aesthetic effect and hence the emotions they trigger are not the same as the ones we can have when visiting a classical ruin, that is characterised by not only the loss of function and gradually increasing proportion of missing elements, but in great deal also by the significant temporal difference between the former construction and the presence of the contemporary observer. We can summarise this difference through the fact that while classical ruins emanate a sort of “noble simplicity and quiet grandeur”, to quote the 18th-century scholar Johann Joachim Winckelmann, one of the founders of art history, the derelict sites and buildings of industry are rather disturbing and sinister. This eerie feeling is also explainable through the fact that these sites bring the inevitable decay close to us, it makes us understand that dereliction can happen in our life and within a lifetime.

Getting another function

After this, let's see the third fate: it is the option of keeping the original building and perhaps even its accompanying infrastructure, but providing it with *another function*. There are plenty of positive examples of such conversion, reconstructions and procedures of what we normally label as “adaptive re-use”. This process has become very popular in the recent years and decades, and we can actually agree with it for various reasons. First, because in most cases this seems to be the most environmental friendly solution: instead of taking down the whole complex, the physical structure – or at least a large part of it – is saved and re-used. It of course also means that there is no need to take away and throw the old material and no need to excavate and transport new building material for a new building; all this adds to the positive environmental impact. Second, this solution is also cost-efficient, for obvious reasons connected to the ones explained above. All these are also supported when thinking of the highly influential oeuvre of architects working in this direction, including the 2021 Pritzker Prize winner Anne Lacaton and Jean-Philippe

Vassal, whose work was praised by the jury as: “Through their ideas, approach to the profession, and the resulting buildings, they have proven that a commitment to a restorative architecture that is at once technological, innovative, and ecologically responsive can be pursued without nostalgia. (...) The modernist hopes and dreams to improve the lives of many are reinvigorated through their work that responds to the climatic and ecological emergencies of our time, as well as social urgencies, particularly in the realm of urban housing. They accomplish this through a powerful sense of space and materials that creates architecture as strong in its forms as in its convictions, as transparent in its aesthetic as in its ethics. At once beautiful and pragmatic, they refuse any opposition between architectural quality, environmental responsibility, and the quest for an ethical society.” (Pritzker website)

Within this third option of keeping the former construction with a different function, what I am most interested in however is the aesthetic implications. It is particularly curious because here some of the aforementioned issues of controversy and ambiguity may remain, namely how or how much of the original of the original shall we maintain and what to modify? Connected to these however, there are other crucial questions too, some of which I summarised in an earlier text on the aesthetics of adaptive reuse: “After such modifications, often including the gradual change of a large part of the material of the building, and after functional changes, architectural reconstruction and creative re-purpose, all with effects on the general aesthetic features of the space, is it still the same building? Can it be the same and can it be considered to be the same? Or, in other words, after how much modification is it the same edifice, or when will it be interpreted as a new one? Is there a hierarchy of “importance” or “relevance” between the parts of the construction when establishing a relationship between the old and the new?” (Somhegyi 2022, p. 96). This is the aspect then, where we can again trace the ambiguity of the conversion, i.e. that even despite the completely different function it can maintain an active referencing to the previous complex – and naturally this is not necessarily bad, it can lead architects towards innovative solutions and aesthetic effects of the

building to experiment with. It can also provide visitors and users of the new, converted space with novel experiences, and novel types of experiences. In the following I want to continue along these lines, hence putting the question of experience in the middle when examining other forms of “afterlife” of not-anymore-operating industrial sites and constructions.

Musealising

There is also a fourth option for industrial complexes after the stop of their operation, that could be considered as a special and important sub-category of the above third option of keeping it physically but converting: and this is what we could label as *musealising*, hence transforming it into a museum of the industrial activity itself. Why is this so particular or special? Mainly because of its strong auto-referential nature, i.e. that the object of commemoration is the previous function itself. It thus creates a novel challenge for the architects and designers working on the spot too, because what they need to take into consideration is not the new function (e.g. a block of luxury apartments or a cultural and leisure venue), for which the history of the building is just an additional curiosity, but it is this very history that needs to be highlighted, without losing attentiveness to the obvious needs of educational function through the building. Therefore, as we can see, for the attempt to be successful, creators of such conversions need to focus on what aspects and particularities of the former complex they can use for the dissemination of the information.

Between decay and musealising

From this however we somehow have the impression that there is an overt emphasis on the intellectual aspect of such musealising projects of the former industrial sites. In other words, it looks that if we look at the proportions, there is a stronger focus on knowledge than on experience. Therefore, in the following I would like to propose a fifth option as a possible fate for closed factories and industrial sites, that is somewhere between letting it decay and musealising. This would mean keeping

the derelict site and former industrial spaces for the memory of the history of the activities pursued there earlier, and designate it as a heritage area, but at the same time not transforming it entirely for a classical museum dedicated to industrial history. Why would this be important, and especially, what actual benefits may all this have? Again, the argumentation needs to be developed on several levels.

First, this is useful for the particular *experiences*, hence something that I emphasised above too, namely that besides theoretical knowledge on the history of the space, non-cognitive impulses, including aesthetic experiences are just as important to get a full picture of the place. We can remember Tim Edensor's extensive research and precise analyses of the different forms of experiences what one can have in these locations. Following his considerations, summarised among others in his article titled *Sensing the Ruin* (Edensor 2007), we can list, besides the obvious visual particularities, the peculiar smell of the rotting building materials and leftovers of the earlier industrial production. Or the special sounds that are heard both of the derelict material, but not only: certain animals that are not typical in urban contexts can take over the place. Another sonic quality: unlike in the bustling town that is full of harsh sound, in these sites a surprising silence dominates. Concerning the sense of touch: the uneven contours, the rough surfaces, the tangible difference of decay in the texture of the materials can also be very rewarding. In all these visual, sonic, olfactory and tangible sensations we may experience something aesthetic, also in the original sense of the word, deriving from the Greek "aisthesis", hence sense perception. And many of these experiences can make a particular impulse exactly through their novelty, through the fact that they are normally excluded from our regulated, often even over-regulated urban spaces. Or, as Edensor claimed in another article: "Because materials are usually situated according to regimes of ordering, in ruins the appearance of an apparently chaotic blend can affront sensibilities more used to things that are conventionally aesthetically regulated." (Edensor 2005, p. 321). Therefore, similarly to the comparison between the derelict factory and the well-curated city, also in this case such aesthetic qualities can only be felt when

these places and spaces is not over-controlled and over-regulated. If these spaces are “properly” converted in a museum, then also these sources of experiences are limited or excluded.

There is however another set of experiences that such semi-curated transitory spaces can provide the visitors with, and this is regarding the nature of the space in general. Here my considerations are close to the well-known Spanish architectural theoretician Ignasi de Solà-Morales, who analysed the category of “terrain vague”. With this term he described such urban spaces that are abandoned, out of use and hence out of the normal circulation of the towns, that are characterised by organisation, productivity and security. In his words: “The relationship between the absence of use, of activity, and the sense of freedom, of expectancy, is fundamental to understanding the evocative potential of the city’s *terrains vagues*. Void, absence, yet also promise, the space of the possible, of expectation. (...) In short, they are foreign to the urban system, mentally exterior in the physical interior of the city, its negative image, as much a critique as a possible alternative.” (Solà-Morales 1995, p. 120)

From this however it is obvious that in Ignasi de Solà-Morales’ opinion, that I also agree with, such *terrains vagues* are not necessarily and only negative. They can provide us with novel insights regarding the holistic functioning of our urban environments. (see more on this in: Somhegyi 2023) Despite their being out of the normal, productive activities of the city, they are full of potentials, and one of them is precisely the observation of the constantly changing nature in the relationship between human and natural habitats. And it is exactly this feature why the concept can be important for our present investigations too. These characteristics are what we can – what’s more, what we should – experience, observe and understand in the decaying former industrial sites too. This is why I argue that the abandoned factories and industrial spaces could be considered as a demonstration and observation site for various processes and interactions, and the possibility of this observation of the processes are obviously jeopardised once the site is converted

into a well-maintained museum.

The importance of the centrality of the concept of process is what also Laurajane Smith emphasised in her influential 2006 book titled *Uses of Heritage*: “(...) ‘heritage’ is not a ‘thing’, it is not a ‘site’, building or other material object. While these things are often important, they are not in themselves heritage. Rather, heritage is what goes on at these sites, and while this does not mean that a sense of physical place is not important for these activities or plays some role in them, the physical place or ‘site’ is not the full story of what heritage may be. Heritage, I want to suggest, is a cultural process that engages with acts of remembering that work to create ways to understand and engage with the present, and the sites themselves are cultural tools that can facilitate, but are not necessarily vital for, this process.” (Smith 2006, p. 44)

Concerning the actual conservation practices, the above considerations by Laurajane Smith are also in parallel with Caitlin DeSilvey’s approach that it is important “to understand change not as loss but as a release into other states, unpredictable and open. (...) ...what I am most interested in is how these identities can remain unfixed yet still productive.” (DeSilvey 2017, p. 3 and p. 18)

Here is how we arrive to the actual recommendations how these places and spaces could be treated and managed. I think they – or at least some of them – could remain in such *transitory state*. They could be designated as an industrial heritage site, but without too much control, preservation, safe-guarding. Buildings should not be totally reconstructed, renovated and converted into museums. Structures should not be overly repaired and secured, and only minimum intervention should be processed for safe-guarding visitors, but, as mentioned, without transforming the site to an over-controlled leisure centre. Of course, it is not easy, especially because of the respecting of the many, and otherwise rightly required and implemented safety regulations. It thus means that there will have to be changes of policies too, in order to allow such spaces to operate. “Spaces to operate” therefore does not mean being operated, but let them to operate on their own. Hence these

will be ambiguous spaces in ambiguous states. And it will be precisely this that is crucial. This ambiguity is essential, because the ambiguous state of these ambiguous spaces and places will represent the former ambiguity of the locations, hence the very character with which I started my present investigation. As I mentioned, already while operating, these factories and industrial sites are among the most ambiguous spaces and places of human culture. This is why I think that finding a similarly ambiguous status as heritage sites could be the most adequate and proper form of commemorating them. They are thus not only heritage sites, but sites where heritage happens, in line with what also Hanna Katharina Göbel argued for: “a renewed understanding of performativity, combining memory-making with inhabitation in the process of valuing ruins.” (Göbel 2021, p. 416)

The possible establishment of these kind of places will also be similar with what Þóra Pétursdóttir and Tim Flohr Sørensen have recently analysed. Let me quote their important considerations a bit longer:

“(…) what we find necessary is a revitalization of the traditional archaeological encounter: attending to things themselves, to object agencies, formation processes, vulnerabilities and vanishing, only this time under the mark of the Anthropocene, where we have to learn things anew, precisely because ‘there has been no biological adaptation and no cultural learning or transmission to prepare us for the kind of environmental/geological changes that loom’ (Hamilton et al. 2015, 5). Hence, in this new era we cannot remain content with the arrogance of assuming we know in advance what things are, how they emerge, where they come from, or how they should be named, categorized and embedded in our pre-existing systems. Instead, we need to start with undecidability (following Derrida) to invite alternative ways of knowing and making sense of the material, patiently, perhaps hesitantly, as a means of questioning the human monopoly on having a voice, inviting other ways of storying others.” (Pétursdóttir and Sørensen 2023, p. 60-61)

Based on the above, I want to suggest that with such transformation of these sites, or at least some of these sites, the final result, if achieved, will be a sort of an

industrial experimental site or urban laboratory in flux. A place and space that is never stable, organised and fully controlled, but constantly changing, letting the visitor observe the slow disassembling of our culture, e.g. by the taking over of our industrial zones by Nature. But this also confronts us with the need to fine-tune our concept of culture, especially with regards to Nature. The novel concept of culture should not only include the achievements of art and the human intellect as opposed to Nature and/or when dominating it, but a mode to collaborate with it better. Hence it is neither abusing and exploiting Nature through heavy industrial activities nor putting it in vitrine through musealising projects. It is more about the observation of the mutual processes during the co-existence of natural and artificial that may lead to novel understandings of our present environments. And this is what will lead, just to refer to the title of my present investigation, to productive futures of the former industrial sites, producing not actual objects, but insights of essential importance regarding our future.

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Applied Music for Museums: Elevating Audience Experience and Exhibit Presentation

ALEKSANDAR VL. MARKOVIC¹

Introduction

Applied music—originally composed music tailored to accompany other art forms—is a well-established genre in film and theatre. However, its application in museums and galleries remains significantly underutilized. In recent years, an increasing number of museum professionals (Bubaris 2014; Stocker 1995; Wiens and de Vischer 2019; Cortes 2024) have begun to recognize the growing importance of original music in exhibition planning and design. Research supports the integration of original music and sounds as a fundamental element of museum practice, highlighting its ability to foster deeper visitor engagement through participation, interaction, and immersive experience.

Over the past two decades, the Center for Applied Music (CAM) has

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developed more than 25 original compositions for museums and galleries across Serbia, developing a new sub-genre of applied music synomusic. Building on research in audible communication and sonic semiotics (Nattiez 1990), CAM investigates how music specifically composed to reflect a museum's content, space, and emotional tone can enrich visitor experience and understanding. A step further was taken in 2021 by CAM, the artistic-research project Applied Music for Museums: The Case of the Museum of Science and Technology in Belgrade, within which, for the first time, original permanent music was composed for the entire museum. This project also conducted pioneering research into the impact of this original music on museum visitors and audience development, and has opened a new research development space for the EuroMuse concept.

Music in Museums

Music employed to support the presentation of visual art—whether exhibits or individual artworks—in galleries and museums generally falls into two categories: *selected music* and *composed music*.

1. Selected Music

Selected music refers to pre-existing compositions not originally conceived in relation to the visual elements with which they interact. This includes music composed for other purposes and later introduced into the museum context, often in the form of curated playlists or ambient soundscapes.

Selected music can be any music played in the exhibition space that was originally composed for different occasions or uses. Even when carefully chosen to align with the exhibition theme, there is a risk that such music may detract from the intended content. If visitors recognize a composition and associate it with unrelated experiences or concepts from their past, the auditory focus may shift toward the music itself, rendering it superfluous—or even inappropriate—within the context of exhibit presentation. This undermines the communicative intent of the exhibition and may lead to a disjointed visitor experience.

Curated playlists of classical or popular music—sometimes styled as DJ sets—are used in institutions such as the Louvre Abu Dhabi (Louvre Abu Dhabi x Ahghami Playlists 2024) and Tate Britain (Hardy Wombell 2022). In museums with installed audio systems, such music may be played continuously to create a general ambiance. However, as outlined above, its effectiveness in supporting curatorial aims remains limited and context-dependent.

On special occasions—such as in so-called “music museums” (Museums.us, 2025) or temporary exhibitions focusing on musical instruments—previously composed music may be used with greater curatorial precision. In such instances, the music is directly related to the melody or historical context of the instruments on display. Here, previously composed music can be harmonically integrated into the visitor’s aesthetic perception, enhancing rather than disrupting the overall experience.

2. *Composed Music*

In contrast, composed music is created specifically in response to the visual and spatial content of the exhibition. It is conceived as a bespoke auditory layer, designed to enrich and deepen the visitor’s engagement with the museum environment.

This category includes several subtypes:

- *Original music with live performance*, as seen in projects such as the Bowes Museum and the Cleveland Museum of Art. These initiatives featured original compositions, composed and performed live as response to specific museum collections or spaces. At the Bowes Museum, a site-specific piece was composed and performed in situ (Laundy 2018). At the Cleveland Museum of Art, six composers from different countries created short pieces inspired by the permanent collection, which were performed in a one-time concert (DeOreo, 2019).
- *Original applied compositions for temporary exhibitions*, such as the Nobel Creations exhibit at the Nobel Prize Museum in Stockholm (Gullö et

al., 2015), where original music was continuously played throughout the four-month exhibition. A similar example is the Silver Cups of the Late Middle Ages in Serbia exhibition at the Museum of Applied Arts Belgrade, (Gajić, 2011), which featured continuous playback of a specially composed piece over a three-month period.

- *Original composition for museum audio guide*, as an ambient auditory layer, combined with recorded actors' storytelling serving as an audio guide, has been developed for the exhibition (Memory 2024 - 2025) at the Ethnographical Museum in Belgrade. In this example, there are voices of actors interacting with original music composed for each of the fifteen sections, creating the impression of an educational radio drama.



Figure 1 - Audio Guide original music for the exhibition Memory, Ethnographical Museum in Belgrade

- *Original compositions for entire museum spaces and permanent exhibitions.* A pioneering case is the project Applied Music for Museums: The Case of the Museum of Science and Technology in Belgrade (2021), in which three original, permanent compositions were created to accompany the entire museum's spatial and curatorial layout (Marković and Jokić, 2022).

Currently, original music is also being composed for three museums as part of the *EUROMUSE project* (2024 - 2026):

- Museum of Ancient Greek Technology – Kotsanas Museum, Athens, Greece
- Museu de Arte Pré-Histórica e do Sagrado do Vale do Tejo, Mação, Portugal
- Museo dei Bambini SCS Onlus, Rome, Italy
- These efforts mark an important shift in museum practice, positioning music not as a supplementary element but as an integral component of the multisensory museum experience.

Synomusic: Original Music for Galleries and Museums

Applied Music for Exhibitions and Museums—referred to as Synomusic or Synocomposition—is specially composed, permanent music designed to support exhibitions by connecting the exhibit, the observer, and the surrounding space into a unified synesthetic experience. Synomusic is a distinct form of applied music, created specifically for a given exhibition or museum setting. It is entirely original and shaped by the exhibition’s theme, narrative content, and the character of the exhibited objects (Synomusic, Marković and Jokić, 2022). As a subgenre of applied music, Synomusic possesses unique characteristics that distinguish it from music composed for film or theatre. While music in those contexts is closely tied to the passage of time and synchronized moving images, Synomusic is dedicated to shaping spatial atmosphere in real time. It creates an open-ended immersive muscape environment that exists independently of temporal constraints.

The Role and Mission of Synomusic in Museums

Synomusic—a subgenre of applied music designed specifically for museums—serves multiple functions that span curatorial, communicative, and experiential domains.

1. Presentational Function

The primary objective of synomusic in museum environments is to enhance the communicative and emotional link between the exhibit, the architectural space, and the visitor. Unlike randomly selected background music, synomusic is curated or composed to match the curatorial narrative, spatial acoustics, and intended visitor journey. Its presentational aims include:

- Creating an appropriate and immersive ambient atmosphere
- Deepening emotional responses during the contemplation of artworks
- Enhancing cognitive recall and memory of the exhibits
- Increasing the duration of visitors' engagement with exhibitions
- Contributing to a more pleasant and contemplative environment

2. Synthesis of Artwork, Space, and Audience

Synomusic aspires to fuse three core components of the museum experience—artwork, physical space, and audience—into a unified synesthetic whole. The music acts as a mediator between the visual and spatial stimuli and the perceptual and emotional experiences of the visitor. This synthesis transforms the act of museum-going into a multisensory, immersive journey.

3. Audience Development

As a distinct mode of auditory communication, applied music for museums has notable potential in the field of audience development. These aspects are currently being explored in the ongoing EUROMUSE research initiative, which aims to assess the impact of synomusic under various audience conditions and marketing frameworks.

4. Contribution to Visitor Well-being

Numerous interdisciplinary studies have documented the positive effects of music on human well-being (Chia-Li and Chen-Gia 2015). A pioneering example in the museum sector is the project implemented at the Museum of Science and Technology in Belgrade, which integrated original applied music compositions across the entire museum, including three permanent syncompositions, and examined their influence on the psychological and emotional states of visitors.

5. Synomusic as a Digital and Communicative Product

Beyond physical exhibition spaces, synomusic functions as a versatile digital product suitable for use in a museum's broader integrated communication strategy. When specifically composed for a collection, exhibition, or curatorial concept, synomusic can be integrated into various digital formats, enhancing online and virtual museum experiences. These include:

- Virtual Reality (VR) and Augmented Reality (AR) applications
- Museum websites and mobile applications
- 360-degree photographic and video tours
- Interactive slideshows and digital storytelling platforms

In this capacity, synomusic supports the museum's branding and corporate identity, offering a consistent and immersive auditory signature across both physical and digital channels.

Methodology: Stages of Synomusic Implementation

1. Researching the Collection and Exhibits

The process begins with in-depth observation and study of all museum sectors, collections, and exhibits to gain insight into the material and develop artistic inspiration. A key task at this stage is to identify a curatorial or thematic entry point that can spark the creative impulse behind the musical composition. Special attention is also given to exhibits that produce or reference sound, which may serve as sonic accents within the final composition.

2. Researching the Museum Acoustics and Audio System

Understanding the museum's acoustic environment and sound system is critical. The duration of the music is determined by the number of exhibition sections and the average time visitors spend in each area. . Composition length and dynamics are tailored to the size of the gallery and the expected visitor pace.

3. Composing and Designing the Musical Material

The direction of the musical composition is informed by the exhibition's

content and themes. Dominant historical or contemporary narratives guide decisions on instrumentation—whether to use traditional, electronic, or hybrid sounds—and whether to incorporate exhibit-generated sounds into the music. Each exhibit contributes to the overall sonic palette, enhancing the continuous musical flow that accompanies the visitor. Historical objects or artworks displayed in the present day communicate best when the music bridging the exhibits and the observer is contemporary, with elements from the specific period represented.

4. Studio Recording

All musical segments, including the sounds of the exhibits and instrumental performances, are recorded in a professional studio setting. This ensures high-quality audio that faithfully reflects both the artistic intent and the museum context.

5. Music Production

In this stage, the recorded material undergoes editing, mixing, and mastering. The entire composition is shaped and finalized to suit the spatial and thematic character of the museum. The goal is to achieve sonic clarity, balance, and continuity across the final audio track.

6. Implementation, Testing, and Synchronization

The final phase involves installing the composition into the museum's audio system, fine-tuning it for spatial and acoustic coherence. Sound levels are carefully adjusted and tested multiple times to ensure they support visitor engagement without becoming intrusive. Volume adjustments may be necessary based on visitor numbers and ambient noise levels (e.g., footsteps, conversations). If some sound installations or exhibits have their own sounds, fine-tuning of all audio channels is performed to prevent cacophony.

Applied Music for Museums: The Case of the Museum of Science and Technology in Belgrade

The project *Applied Music for Museums: The Case of the Museum of Science and Technology in Belgrade* was developed and implemented by the Center for Applied Music, Belgrade, between May and December 2021.



Figure 2 - Museum of Science and Technology, Belgrade

The project explored the aesthetic and functional dimensions of applied music in museum environments, specifically focusing on the emerging subgenre of synomusic. As part of its artistic dimension, three original, permanent compositions were created for the MST's core exhibition spaces (Marković, 2021).

Three original compositions:

Toy Gallery by Misha Cvijović – 14:43 min

Man and Technology by Aleksandar Vl. Marković – 54:00 min

Science Playroom by Dušan Đorđević – 15:44 min

These works played continuously, enhancing ambiance, emotional resonance, and intuitive navigation

Applied Music for the Museum of Science and Technology, Belgrade

(Scan the QR codes to activate the audio-video preview for each exhibition)



CAM - "Quo vadis"

Synomusic for the Permanent
Exhibition *Man and Science*
– Aleksandar Vl. Marković
(54:00)



CAM - "Vibroskien"

Synomusic for the Permanent
Exhibition *Toy Gallery*
– Miša Cvijović
(14:43)



CAM - "Music box"

Synomusic for the Permanent
Exhibition *Science Workshop*
– Dušan Đorđević
(15:44)

Research Design, Findings, and Accessibility Insights

To assess the impact of applied music—specifically synomusic—on the museum visitor experience, a pilot study was conducted at the Museum of Science and Technology in Belgrade. The research involved 332 participants, including seven individuals with visual impairments, and employed a combination of pre- and post-visit surveys, in silent and music conditions (Jokić and Marković 2022), along with observational methods, to evaluate emotional, cognitive, and behavioral responses.

Key findings:

- Synomusic improved emotional atmosphere and memory recall.
- It stimulated exploration, especially among children.
- It was perceived as essential to the exhibit, not auxiliary.
- Visually impaired visitors benefited from: Emotional and narrative guidance; and Greater inclusivity

These results support synomusic's use in accessible and multisensory exhibition design.

The EUROMUSE Concept

EUROMUSE, funded by Creative Europe and coordinated by EARTH PR and the Center for Applied Music, advances applied music in museums through six original compositions by young composers selected from across Europe. These works were created during residencies at partner museums Museum of Ancient Greek Technology – Kotsanas Museum in Athens, Greece; the Museu de Arte Pré-Histórica e do Sagrado do Vale do Tejo in Mação, Portugal; and the Museo dei Bambini SCS Onlus in Rome, Italy, fostering collaboration between composers, curators, and Community Muse Boards (CMBs).

A central innovation is its co-creation model, involving local community members in the music-making process to align sound with each museum's identity and audience. The project also includes research on synomusic's impact on visitor engagement and is developing tools for ongoing collaboration among stakeholders.

EUROMUSE promotes a new museological model, using original music to enhance heritage visibility and visitor experience in both physical and digital spaces.

Conclusion

The exploration of synomusic as a form of applied music tailored specifically for museums marks a significant advancement in both the theory and practice of museum interpretation. As demonstrated through the pioneering project Applied Music for Museums: The Case of the Museum of Science and Technology in Belgrade and the ongoing EUROMUSE initiative, synomusic offers an innovative sensory framework that enhances visitor engagement, deepens emotional resonance, and supports inclusive cultural access.

Unlike background music or curated playlists, synomusic is intrinsically linked to the spatial, curatorial, and narrative dimensions of the exhibition. It functions as a bespoke auditory layer that binds together objects, space, and audience into a cohesive and immersive experience. The research findings confirm its capacity

to positively affect cognitive and emotional responses, increase visitor retention and participation, and improve accessibility for visually impaired audiences—positioning music not merely as an enhancement, but as a fundamental interpretive tool.

Moreover, the co-creation model introduced by EUROMUSE extends the relevance of synomusic beyond artistic innovation into the domains of community engagement and participatory museology. By involving composers, curators, and local communities in the creation process, synomusic becomes a collaborative practice that reflects both institutional identity and audience needs.

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Psychological effects of applied music in museums

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Introduction

Most people have experienced emotional enrichment while listening to music they enjoy, and many prefer working in environments where music plays subtly in the background. The beneficial effects of music, especially on emotions, are well-documented and supported across a variety of empirical studies (Zentner et al., 2008; Juslin and Sloboda, 2010).

Particularly relevant to the present study is the distinction between active music listening (when music is the primary focus of attention) and passive or background listening, (where music is present but not the central stimulus).

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While both modes of engagement have demonstrated positive effects, this paper centers on the impact of background music, as it plays a crucial role in shaping the ambient experience in spaces such as museums.

Effects of background music. Empirical findings largely support the positive impact of background music on emotion, mood and emotional regulation (Kämpfe et al., 2011). These findings are further confirmed by the physiological results: listening to pleasurable music is associated with increased dopamine release – a neurotransmitter commonly linked to feelings of reward and well-being (Nadler et al., 2010).

The effects of background music on cognitive processes (e.g., memory or language-based tasks) are more complicated. These effects are shaped by a complex interplay of contextual variables, task demands, musical characteristics, and individual differences—further complicated by a lack of methodologically rigorous and comparable studies (De la Mora Velasco and Hirumi, 2020). The mechanisms by which music influences psychological processes remain only partially understood. Interestingly, rather than exerting a direct effect on cognitive performance, as is often assumed, one alternative explanation is offered by the arousal and mood hypothesis, which posits that music influences cognition indirectly by altering arousal levels and emotional states (Thompson et al., 2001).

Background music in museums. Research on the effects of background music in museum settings remains limited, yet existing findings are promising. For instance, the emotional valence of music (e.g., happy, sad, peaceful, or unsettling) and its likability have been shown to significantly influence visitors' experiences of artworks (Braun Janzen et al., 2023). Additionally, background music has been found to encourage visitors to spend more time in the museum environment (Chen and Tsai, 2015). An important remark is that visiting museums in general is related to greater well-being and improved mental health (Ter-Kazarian and Luke, 2021; Fancourt et al., 2018). The interplay of museum space, exhibits, and background music has the potential to enhance the visitor experience, as indicated by studies

on multisensory museum environments (Luo et al., 2024) and multimodal art encounters—for example, the act of listening to music while engaging with visual artworks (Actis-Grosso et al., 2017).

Originally composed music for a museum. Original compositions specifically created for museum settings remain relatively rare. Some examples are usually inspired by a museum’s permanent collection and performed in one-off concerts within the museum space (DeOreo, 2019). A different approach, however, emerges within the framework of applied music: compositions designed to function as continuous background sound throughout an exhibition. This method, referred to as synomusic, integrates music into the museum ambience as a consistent element of the visitor experience (Marković and Jokić, 2022).

Synomusic is a form of applied music specifically composed for exhibitions and museum settings—permanent, site-specific sound designed to unify exhibits, space, and visitor experience into a coherent ambient whole. Tailored to the theme, content, and character of each exhibition, synomusic aims to enhance the aesthetic experience by creating a subtle sonic backdrop that deepens visitor engagement and binds the exhibition elements together (see: Markovic, in this volume).

Theoretical perspective: Escape-seeking dichotomy

In line with the above mentioned empirical results, the beneficial effects of visiting museums could be expected in all three domains of psychological processes: emotion (positive impact on emotion and mood), cognition (memory and learning), motivation (inspiring action and play). However, a relevant question is why is that important? Or why do people visit museums?

Visiting museums can be interpreted through the lens of Iso-Ahola’s (1982; 2010) escape–seeking dichotomy, which conceptualizes human behavior as motivated by two dialectically related forces: the desire to escape the routines, stressors, or interpersonal challenges of everyday life, and the desire to seek psychological or social rewards in contrasting environments. Museums, especially those

that incorporate ambient elements such as background music, offer ideal settings for both motivational dimensions to be fulfilled simultaneously.

On one hand, the escape component is addressed as visitors step away from their habitual environments into curated, contemplative spaces that promote reflection, emotional distancing from everyday reality, or immersion in history, science, or art. On the other hand, the seeking component is reflected in the pursuit of intrinsic rewards such as learning, aesthetic pleasure, play, or meaningful social interaction. Indeed, some studies have already reported results on visitors' motivation in line with Iso-Ahola dichotomy, like seeking news/information, education, cultural vs. escape from daily routines and busy lives (Ntamkarelou et al., 2017; Slater, 2007).

Features like background music, interactive exhibits, or multisensory design can intensify these rewards by shaping the emotional tone and enhancing the immersive quality of the experience. In this sense, museum visits—particularly those supported by synomusic or similar multisensory strategies—can be seen as contexts where escape and seeking motivations converge, providing a psychologically restorative and enriching experience that addresses both personal and interpersonal needs.

Empirical illustration: visiting museums with synomusic

One such example is the Museum of Science and Technology in Belgrade where original applied music was composed by three composers for the entire museum space with three distinct parts of the permanent museum exhibition, and played continuously for three months during the exhibition.

Our research study employed a mixed-methods design, combining quantitative and qualitative approaches to evaluate the impact of synomusic on emotions, cognition and motivation. Given that museum visits are typically rated positively regardless of additional stimuli (Zhao and Mao, 2022), we placed particular emphasis on qualitative responses, anticipating that synomusic would shape the

experience in a more nuanced way, making visits feel more engaging, memorable, and atmospherically distinctive than those in silence.

The details on the artistic part of the project as well as an in depth research that intended to measure the effects of that approach on visitors' experience are reported elsewhere (Marković and Jokić, 2022; Jokic, Markovic and Lukovic, 2023). In this paper we will focus on the interesting insights that emerged from the qualitative part of the study reflecting escape-seeking dichotomy (Iso-Ahola, 1982; 2010).

Visitors reported a range of psychological and experiential benefits following their time in the museum, reflecting the multidimensional impact of the museum environment. One recurring theme was the *sense of escape from everyday life*, often described in contrast to the visitors' mental and physical state before entering. As one participant explained: "Before visiting the museum, we were completely drained—physically and mentally. It felt like we had been run over by a steamroller, tense and on edge. But the museum completely turned things around." Similarly, another visitor noticed: "I'm retired, so I enjoy getting out and changing my surroundings a bit. I feel cheerful, in a good mood, and completely positive. It's not a calm kind of peace—I'm actually full of joy." These experiences align with the escape dimension of Iso-Ahola's motivational framework, highlighting the museum as a space of psychological relief.

The next three themes align with Iso-Ahola's seeking dimension—though in many cases, the positive effects of a museum visit emerge unexpectedly. Visitors may come without clear intentions, or simply to accompany someone else, only to find themselves engaged in play, learning, or an overall improved emotional state. In this sense, the seeking dimension may be better understood not as a precondition for visiting, but as something that unfolds during the experience itself. Put differently, the following themes can be interpreted either as outcomes of the museum visit or as motivations for it, depending on the visitor's prior exposure to and familiarity with museum settings.

A significant benefit was the *element of play*, which challenged conventional expectations of museum behavior emphasizing the museum's capacity to foster spontaneous joy and childlike engagement even among adult audiences: "This turned out to be more playful and fun than I expected from a museum", "There are so many things here that we either saw in textbooks or that our generation grew up with –we actually used some of them ourselves. And that's just the kind of person I am – I came mainly to get interested and to have fun", "In the end, we got really involved and had so much fun in the Science Playroom, the crooked room, and with the distorted mirrors. We were just acting like kids and goofing around, even though these things are less significant than the exhibits on the upper floor"; "A lot of the exhibits required interaction and collaboration between multiple people, which really enhanced the overall experience".

The third theme was *learning and cognitive stimulation*, especially prominent in interactive zones such as the Science Playroom: "We really enjoyed the mental challenge in the Science Playroom—trying to work out solutions. The rest of the museum is pleasant and enjoyable, but here you really have to make an effort to reach a result." This reflects the seeking component of visitor motivation, driven by a desire for intellectual engagement, which is common in museums in general. Similarly, other participants commented: "I was interested in many things we had studied at university, but some of them I had never actually seen in person. Now it all connects—how certain things work. I enjoyed the experimenting and the active involvement—where you watch something and then do something with it. It's interactive" , "We really enjoyed the mental challenge in the Science Playroom—trying to work out solutions. The rest of the museum is pleasant and enjoyable; we look around and have a good time. But here, you really have to put in some effort to reach a result".

Finally, many visitors reported *experiences of emotional resonance*, often tied to nostalgia and personal memory: "I'm happy now because I saw so many things that reminded me of my childhood and early youth. I didn't expect to see

items we actually used back then.” These emotionally charged moments demonstrate how exhibitions can evoke personal histories and contribute to emotional wellbeing. “I was emotionally moved—these objects somehow have a soul, they have something in them”; “For me, the ideal museum experience involves a sense of excitement, unpredictability, and emotional activation”; “I felt excited before the museum visit, a bit impatient and maybe even tense. I kept wondering what I would see, since it was my first time coming to this museum. By the end, I felt complete – I got more than I expected”.

Not surprising, there are also comments showing *mix of escape and seeking dimensions*, such as the last one above, or the next one reflecting psycho-physiological restoration, beneficial effects on emotion, and learning: “Before coming to the museum, I was really tired—I didn’t sleep well last night and barely managed to come. But during the visit, I started feeling better because I was genuinely having fun, and now I feel re-energized and full of impressions. I’m in a better mood because I saw something that resonated with me, and it made me want to learn more about different things.”.

Discussion

Our findings align with previous research on the contributions of museums and music to well-being (Kämpfe et al., 2011; Fancourt et al., 2018; Ter-Kazarian and Luke, 2021). As expected, these effects were replicated in multimodal settings, where museum artifacts were presented along with background music specifically composed for the exhibition. While the main goal of our research study was to measure the effects of originally composed music on all key psychological domains: emotion (enhanced mood), cognition (improved memory and learning), and motivation (stimulated play and action), another important dimension emerged in the qualitative analysis.

During their interviews on site, museum visitors spontaneously described transcending everyday reality during their visit by being immersed in the world

of artifacts. They reported that such mental and emotional activity reduced their stress and restored energy and enhanced their overall well-being. Therefore, in this paper, we specifically explored the relationship between visitors' reported mental and emotional states and two distinct motivational forces, as conceptualized in Iso-Ahola's (1982, 2010) escape-seeking theory.

The escape dimension is our desire to escape the routines, stressors, or interpersonal challenges of everyday life. The seeking dimension is the need to seek psychological or social rewards in different environments – in this case, a museum with synesthetic music where visitors can play, learn, and feel desired emotion. Although in the context of museum visits the escape and seeking dimensions often align more with experiences that unfold during the visit rather than with initial motivations for attending, we nonetheless find this dichotomy useful for understanding both the reasons behind museum visits and the unexpected benefits that may influence future decisions and visitor behavior.

Our research suggests the connection between museums with background music and fulfillment of escape and (psychological) rewards seeking motivations. It might look straightforward - museums present a wide range of exhibit types within thoughtfully curated spatial and contextual settings, offering visitors the chance to step outside of everyday routines and enter immersive, constructed worlds of meaning and material culture (Latham, 2007). Museums, especially those that incorporate ambient elements such as background music, offer ideal settings for both motivational dimensions to be fulfilled simultaneously.

According to our findings, the escape component is addressed as visitors step away from their habitual environments into curated, contemplative spaces that promote reflection, emotional distancing, or immersion in history, science, or art. On the other hand, seeking components are reflected in the pursuit of intrinsic rewards such as learning, aesthetic pleasure, play, or meaningful social interaction. Features like background music, interactive exhibits, or multisensory design can intensify these rewards by shaping the emotional tone and enhancing the immersive

quality of the experience. In this sense, museum visits, particularly those supported by synomusic or similar multisensory strategies, can be seen as contexts where escape and seeking motivations converge, providing a psychologically restorative and enriching experience that addresses both personal and interpersonal needs.

These individual accounts underscore the diverse psychological functions a museum visit can serve—ranging from escape and play to cognitive stimulation and emotional connection. Studying such experiences is particularly relevant in light of research showing that well-being and happiness are closely linked to the quality of one's leisure activities (Newman, Tay and Diener, 2014). Museums, as structured yet open-ended leisure spaces, offer unique opportunities for personally meaningful engagement. By addressing both hedonic (e.g., pleasure, relaxation) and eudaimonic (e.g., learning, personal growth) aspects of well-being, museum visits can significantly contribute to psychological health and life satisfaction. Understanding the specific motives and effects associated with these visits not only enriches museum studies but also highlights their broader role in public mental health and leisure science.

With the aim to further refine all the findings that emerged from our pilot study, and provide answers to some new questions, a large-scale multicultural music in museums research project, with the name EUROMUSE, is currently underway. The findings that will cast some light on the effects of background music in different museum environments will be presented as part of the monograph that will accompany the EUROMUSE project conference in Spring 2026.

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Rhythms and percussion since Prehistory till the present times: Notes of an interactive workshop

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Introduction

This article comes in the sequence of a workshop that took place during the 11th Apheleia Seminar, in the frame of a full day dedicated to sound and music in the context of cultural heritage and museums. It also constituted training for members of the Euromuse project,² where the municipality of Mação is a partner.

The mentioned workshop was structured by the author in two parts, being the first a short theoretical presentation about the origins of percussion and the development of rhythm, since the Palaeolithic till pre classical civilizations. The second part was planned to be interactive with the public, giving the opportunity of playing different percussion instruments, such as, for example, replica of

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2 About sound and music in museums.

Neolithic clay drums, ethnographic wooden drums, rattles, recent tambourines, and maracas, among others. Based on previous similar experiences, the aim of this second part was to create relax and wellbeing among all the participants in the event. The procedure and development of this practical part is described in a specific section of this text, where also a Youtube link for a short video with the percussion performance is available. Being a workshop, the theoretical part was intentionally short, giving just a glimpse about the origins of percussion and the development of rhythm, focusing on the experimental part as the main goal. In the same way, this article does not develop much these two themes, which would require a length that is not possible in the present publication.³

Origins of percussion

As already argued before, each human being arrives to this world “equipped” with acoustic competences, such as the hands for handclapping/body percussion and the feet for foot stamping (Coimbra, 2022). These must have been early ways of making percussion, as it was observed in the frame of ethnographic and anthropological studies among hunter-gatherer societies that survived in some African countries till the sixties (Marshall, 1969).

Another early way of making percussion was the use of cave stalactites and stalagmites, which struck with a pebble produce a kind of metallic sound and are known as lithophones. Some examples can be found in several caves in France such as Pech Merle, Rocadour, Cougnac, Les Fieux and in Spain in the caves of Nerja (Dams, 1985), Tito Bustillo (Till, et al. undated) and Ardales.⁴ Some of them have Palaeolithic paintings of red dots, among other figures.

In what concerns the study of early musical behaviour, percussion included, rock art is an excellent source, because it allows to observe instruments

3 For a further development see Coimbra, 2018, 2021, 2022.

4 Hipolito Collado, pers. comm.

that do not survive in the archaeological record, since they were made of perishable materials. Furthermore, sometimes it represents scenes such as, for example, Neolithic dances where women are clapping hands (Anati, 1994) or *San* healing ceremonies where the same attitude is depicted (Ouzman, 2010).

After the Palaeolithic, there are more examples of the development of ways of percussion. Indeed, sedentary life allows the discovery of new raw materials such as clay, which is used in the creation of new musical instruments like pottery drums, with many examples in the archaeological record of late Neolithic Central and Northern Europe (Aiano, 2006; Wyatt, 2010) and Neolithic China (Lawergren, 2006). In this last region, the burials of the Bashan Culture (2600-2300 BCE) often reveal drums together with the deceased (Fig.1), which demonstrates the importance that was given to those instruments. Regarding the European examples, “the finds come from settlements as well as graves, which strongly suggests that they must have been important for long periods of time and in use in a variety of contexts” (Both, 2018, p. 42).

In India, there are rock art representations of drums in Bhimbetka, dating from Bronze Age (Meshkeris, 1999), being of the *Mridangam* type, which is hang from the musician’s shoulder and played on both sides.

Other kind of drums, such as small circular drums, are known also thanks to prehistoric art through the example of a painting in the Hunting Sanctuary at Çatal Hüyük, dated from about 5500 BCE (Mellaart, 1967) and an engraving of Wadi Harash (Negev, Israel) dated of the II millennium BCE (Anati, 1994).

The development of rhythm

The famous Venus of Laussel, a rock art bas-relief of a woman holding a horn with “thirteen regularly-placed incisions along its length” (Coimbra, 2021, p. 14), found at the Laussel rock shelter (Dordogne, France), dated of about 23 000 BCE, is probably one of the earliest representations of rhythmic production. As Morley (2006) well observed, the mentioned incised lines took some authors to attribute

to this figure a lunar and fertility symbolism. However, the depicted horn shows close resemblances with idiophones made of bovine horn from Mexico and the Antilles (Huyge, 1991), what allows to think of a similar interpretation for the example of Laussel.

Idiophones constitute a class that includes the largest part of the musical instruments performed by friction in order to produce rhythm. There are several examples of Magdalenian dating, made of animal bone (Fig.1), found at places such as Pekarna (Moravia, Czech Republic), Mas d'Azil and Abri Lafaye Bruniquel, both in France (Morley, 2006).

During Late Prehistory, rhythm was produced also with rattles, or maracas, such as the examples made of clay, which use inside small balls of the same material, in order to produce sound and rhythm when shaken, with examples in material culture since the III millennium BCE (Dumbrill, 2011). Maracas seem to be represented in rock art, as it happens in the case of engravings of Saimaly Tash, in Kyrgyzstan (Fig.2), dated of the II millennium BCE (Martynov, Mariachev and Abetekov, 1992; Hermann, 2019), which show human figures that are dancing and holding what seems to be the mentioned instruments.

The sistrum, another rhythmic instrument, appears since Ancient Egypt and is frequently used in Preclassical and Classical Civilizations.

Percussion session

As musicologist Ian Cross (2001, p. 7) mentioned, “much recent work in the archaeology of music involves experimental Archaeology”. In this sense, for the practical part of the workshop, there were used two replicas of Neolithic clay drums, together with other percussion instruments such as wooden drums, ethnographic rattles, recent maracas and tambourines. The instruments were distributed by the participants, creating groups of the same type. Three leading musicians on stage, including the author, started by marking a simple rhythm in a repeated sequence of “one, two, three, four”, which was first followed only by the group with drums.

After some time, the rattles were allowed to enter the session, then the maracas and finally the tambourines. Initially, the percussion was made in a constant tempo, but after that there were periods of accelerating and deaccelerating. Other kinds of rhythms were also produced, making the leading musicians alternately several solos, while the other two kept the constant beat.

Being in front of the audience it was easy to observe that everybody was enjoying the experiment and having great fun. After some moments the session had to come to an end, because there were other scheduled presentations. During a following coffee break some participants revealed that they would like to have played during more time. The aim of creating relax and wellbeing among the participants was accomplished.

The practical part of this workshop was planned to reproduce similar drumming sessions performed in traditional societies from Asia, South America and Africa, during several types of ceremonies and available through ethnographic research. As a matter of fact, among traditional human groups, mainly in non-literate societies, everyone plays music, on the contrary of western societies where only a few are musicians. That is what we tried to do in the mentioned percussion session, which can be watched on a short sample video in the following link:

https://www.youtube.com/watch?v=R1XlgO_fv5o

Acknowledgments

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Many thanks to Mischa de Guzman, which edited a sample video of the session.

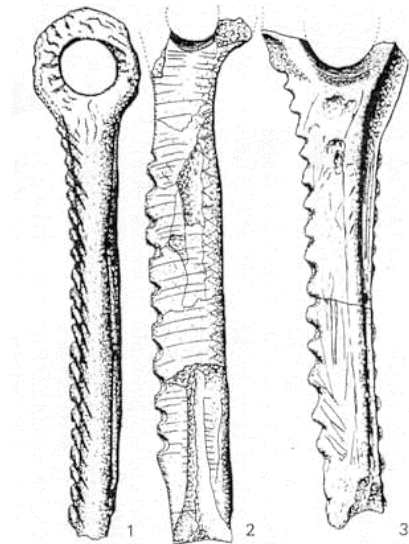


Figure 1 – Magdalenian idiophones: 1- Pekarna; 2 - Lafaye Bruniquel; 3 - Mas d'Azil (After Morley, 2006)

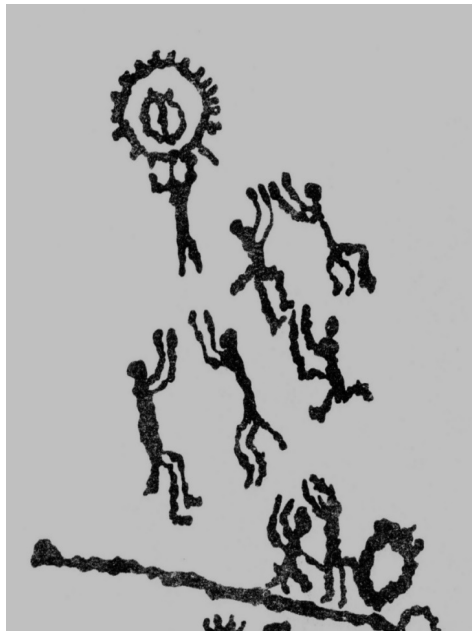


Figure 2 – Engravings of Saimaly Tash with possible maracas (Adapted from Martynov et al. 1992)

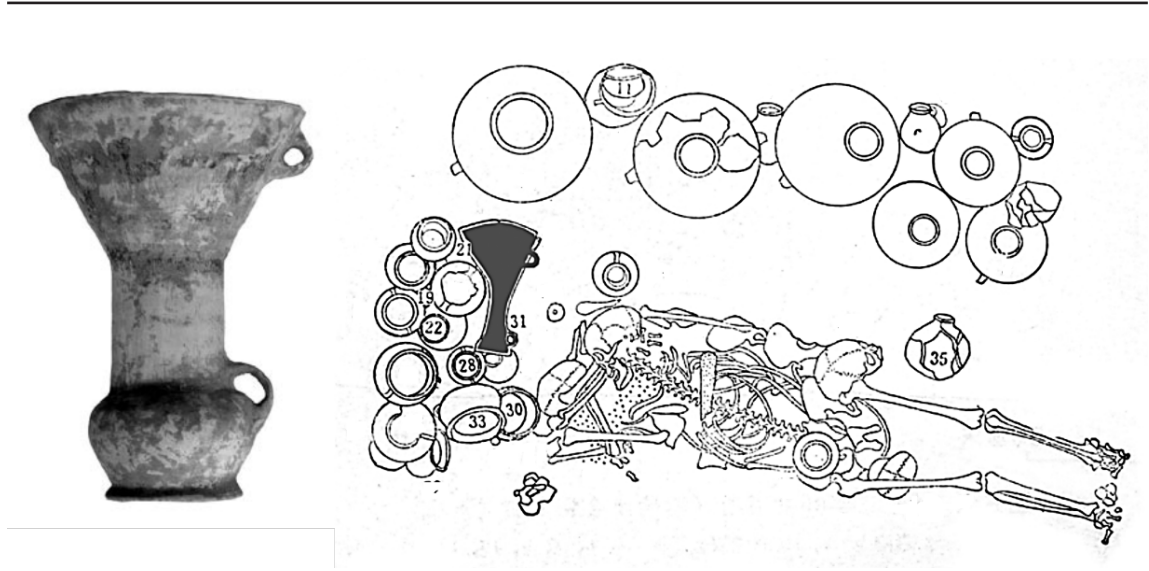


Figure 3 – Drum of the Banshan Culture (left) and its position in a burial (31), together with other goods (Adapted from Lawergren, 2006)



Figure 4 – Some of the drums used in the percussion session. The two on the back are replicas of Neolithic ceramic drums (Photo: Mischa de Guzman)

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Material/immaterial domains and their inseparable unity

MAURIZIO QUAGLIUOLO¹

When we examine the *thinking* and the *production* of a community, including individual achievements and creations, from a transdisciplinary point of view (anthropology, archaeology, philosophy, neuropsychology, sociology, economics, fine arts, modern craftsmanship etc.), we will discover that one needs (and expresses) the other. We are in the presence of Complex Systems made by material and immaterial components which we perceive and use (or not) according to our past experiences, our knowledge, present embedding and future expectations, expressing judgments of value influenced by availability of data and access to information, that in turn become the drivers to agree with, refuse or modify the System, i.e. the “Reality” around us. This is why *Culture*, both individual and collective, intended as the

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whole inheritance, present context and foresightedness that our mind and the social structures introduce to our understanding is by fact the starting point for personal and collective decision making.

Introduction

Statements of this article:

1. Material & Immaterial as two sides of the same coin;
2. Complex Systems are built from both;
3. A Holistic Approach is therefore necessary;
4. This improves the quality and the quantity of knowledge;
5. Data, information flow, accessibility, perception and understanding, retention, judgment of value, selection, reaction, making choices and taking decisions is the expected path to front dilemmas and challenges.

When we examine the *thinking* and the *production* of a community, including individual achievements and creations, from a transdisciplinary point of view (anthropology, archaeology, philosophy, neuropsychology, sociology, economics, fine arts, modern craftsmanship etc.), we will discover that one needs (and expresses) the other.

Complex systems are designed by the interaction of both these components and acquire the capacity for self-organization (from AI to philosophy: see Gersherson, 2025).

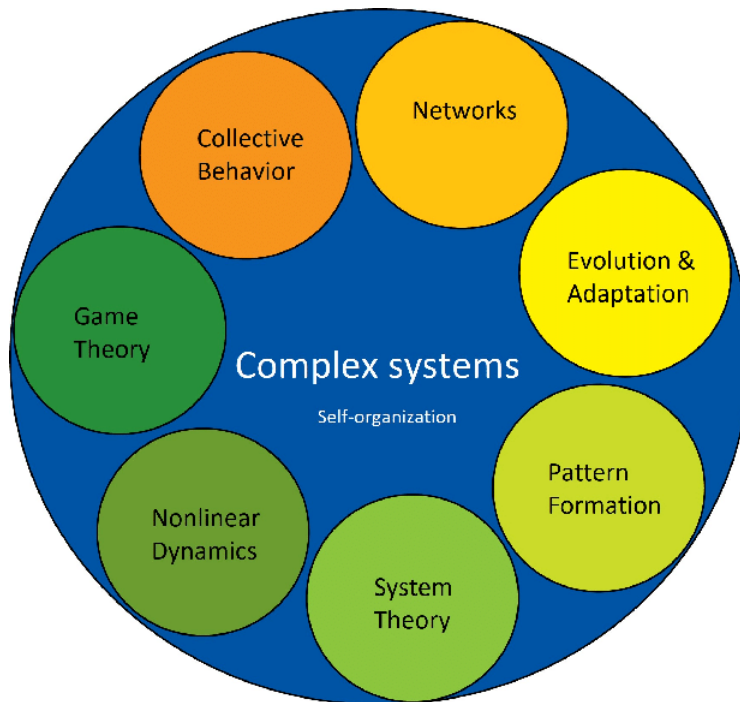


Figure 1 - A model for Complex Systems (after Adi, Dais and Mester, 2021)

«Things» and their significance in complex systems

The study of the material dimension («Things») is as fundamental to understanding culture as is a focus on language (formalized in the discipline of linguistics and linguistic anthropology) or social relations (formalized in sociology and social anthropology) or time (archaeology and history) or space (geography) or representations (literary and art historical studies) or a focus on relations of production, exchange and consumption (economics).

According to Tilley (2016) we have:

- *Things as materially existing and having a significance in the world independently of any human action or intervention (e.g. a stone, a mountain, an animal or a tree);*

- *Things as created by persons: artefacts;*

- *The matter or component substances, or their materials, of which these things are composed: their origins, associations and combinations;*
- *The technologies required to produce things, the manner in which these things may be moved and exchanged and consumed;*
- *The manner in which things relate to conscious ideas and intentions held by persons or subjects;*
- *The manner in which things relate to unconscious structures of thought and affect, unacknowledged conditions, habits or experiences, and unintended consequences of social life going beyond individual intentional consciousness;*
- *The relationship of things to value systems, cosmologies, beliefs and emotions, more broadly to personal and social identities;*
- *The relationship of things to history and tradition, individual and collective memories, social stasis and social change, and to concepts of space, place, concept and locality;*
- *The relationship of things to the human body: the body itself as a cultural and sensuous thing which may move, present and display itself in various ways, and the manner in which things produce, constrain, extend and limit bodily capacities. (p. 4)*

And thanks to Fabris (in Vitta, 2016):

Quel che stabilisce il mutamento di un oggetto è la coscienza, la quale lo carica di significati provenienti dalla memoria.² Ogni cosa mantiene la sua identità, fino a quando il soggetto non la percepisce in modo diverso³. (p. 42)

The anthropologist Giulio Angioni (1986) already noted that:

I modi della vita materiale non producono soltanto le condizioni di esistenza dei vari gruppi umani, ma anche comportamenti, atteggiamenti, idee, valori segni per significarli con 'discorsi' capaci di orientare nel mondo naturale e nel mondo

² What establishes the change of an object is consciousness, which loads it with meanings coming from memory.

³ Everything maintains its identity, until the subject perceives it differently.

*sociale gli individui compartecipi di una cultura.*⁴ (p. 13)

Finally, Ian Hodder (in Berger, 2014) reminds that:

Objects can be seen as possessing three forms of identity:

- in use, functioning and having an effect on the world.

- the symbolic meaning of the object, its role in the cultural code; as such every object echoes and reinforces the meanings of the codes of the culture.

- embodying and signifying past experience: through its appearance it carries ideas and information about the past into the present. (p. 118).

Immaterial in Complex Systems

On the other hand, the philosopher Hui (2024) underlines that even technology is justified [only] in the framework of a theoretical and transcendent context:

*Se vogliamo reagire alla prospettiva di un'autoestinzione globale, abbiamo bisogno di tornare a un discorso attento alla località e ai luoghi dell'umano nel cosmo; e per farlo, dobbiamo riaprire prima di tutto la questione della tecnologia, concepire cosmotecniche multiple e non solo due (quella premoderna e quella moderna). In effetti dobbiamo stare attenti con il termine 'località' e con la sua politica. Richiami nostalgici alla tradizione o alla cultura possono diventare, se non affrontati dialetticamente, forme di nazionalismo, essenzialismo culturale o etnofuturismo. Non pensiamo qui a piccoli gruppi in rivolta contro le tecnologie moderne in nome della cultura o della natura; ma elaboriamo una strategia generale per riappropriarci della tecnologia affermando prima di tutto la molteplicità irriducibile della tecnica. Un pensiero planetario, più che la mera accelerazione, richiede la diversità; (...) Le tre forme di diversità che costituiscono un pensiero planetario sono la *biodiversità*,*

⁴ The ways of material life do not only produce the conditions of existence of the various human groups, but also behaviors, attitudes, ideas, values, signs to signify them with 'discourses' capable of orienting the individuals participating in a culture in the natural world and in the social world.

*la *noodiversità* e la *tecnodiversità*.⁵ (pp. 58-59 and 92-93)*

When we deal with Human Complex Systems (HCS), according to Milan Zeleny (1986), we deal with the management of variables depending from the organizational culture based on the relations among hardware, software and brainware, where the (immaterial) brainware determines the very results:

Human systems management refers to one particular and increasingly significant area of symbionics: that of management (including analysis and design) of man-machine symbiosis. The emphasis is on the symbiosis (mutually enhancing relationship), that is on the system, rather than either of its two components (men or machines) considered separately. (p. 110)

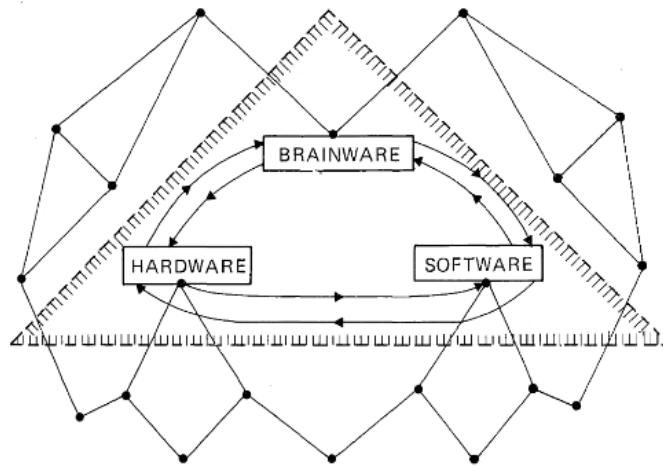


Figure 2 - The relation among the different components in HCS (after Zeleny, 1986)

5 If we want to respond to the prospect of global self-extinction, we need to return to a discourse attentive to locality and the places of humanity in the cosmos; and to do so, we must first reopen the question of technology, conceiving of multiple cosmotechnics, not just two (pre-modern and modern). Indeed, we must be careful with the term "locality" and its politics. Nostalgic references to tradition or culture can, if not addressed dialectically, become forms of nationalism, cultural essentialism, or ethnofuturism. We are not thinking here of small groups revolting against modern technologies in the name of culture or nature; rather, we are developing a general strategy to reclaim technology by first affirming the irreducible multiplicity of technology. A planetary thought, more than mere acceleration, requires diversity; (...) The three forms of diversity that constitute a planetary thought are *biodiversity*, *noodiversity* and *tecnodiversity*.

A statement that perfectly fits with the current debate on Artificial Intelligence.

The indissoluble unity of material and immaterial [and its value]

Finally, the Call for Action by UNESCO dated Novembre 2023, to which text the author contributed, recalls the need of:

“...enacting public policies and strategies anchored in the following principles:

*-Safeguard **cultural – both tangible and intangible – and natural heritage through holistic** approaches that encompass its rich diversity as a whole, promoting **equal access and participation for all** (...)*

*- Raise awareness of the importance of leveraging the **interconnectedness of nature and culture** (...) fostering **innovative, community-based and culturally grounded responses to challenges** (...)*

*- Ensure the **wellbeing and sustainable livelihoods of local communities and indigenous peoples** living in and around (...)*

*- Foster **quality education** to ensure that knowledge, skills, practices, representations and expressions are transmitted in a comprehensive, coherent and sustainable manner to future generations (...). (Bold by the author).*

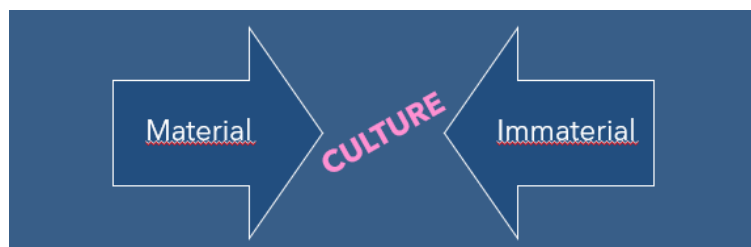


Figure 3

Due to the complexity of the context, the interpenetration of material and immaterial aspects that shape Culture(s) as well as the interdependence between the previous background, the present scenarios and the expected ones including historical, anthropological, social, technological, economic, and spiritual beliefs and behaviors, an holistic approach is needed.

This approach should be aimed to improve the quality and the quantity of knowledge and its accessibility in order to front dilemmas and challenges, according to a model that passes through subsequent steps: data, information flow, accessibility, perception and understanding, retention, judgment of value, selection, reaction, making choices and taking decisions.

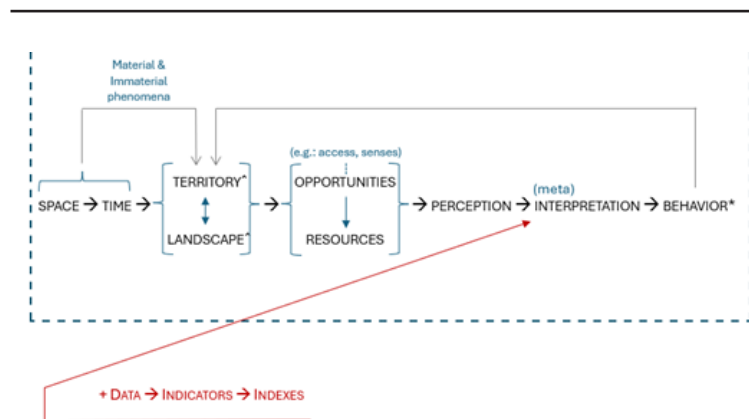


Figure 4 - Model by the author

Therefore, the values attributed to the positive or negative perception of tradition⁶ or change (also defined as “transformation”⁷) in turn stimulate phenomena of resilience or innovation, even in the most common choices such as whether

6 “A tradition refers to those aspects of a shared culture which are passed on from generation to generation as part of the socialization process.” (Hodder, 1994, p.4).

7 See: Oosterbeek, Luiz, “Beyond Culture/Nature Divides: New Approaches and Tools for a Cultural Integrated Landscape Management”, in *Diversity* 17, 6, pp. 436-455

or not to visit a place or reside there, to invest resources there, or to support or not the policies proposed for a given place.⁸

This is why Culture, both individual and collective, intended as the whole inheritance, present context and foresightedness that our mind and the social structures introduce to our understanding (and related Humanities studies), is by fact the starting point for personal and collective decision making.

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⁸ As it was written: "In their book, *Communication Models for the Study of Mass Communication*, Denis McQuail and Sven Windahl offer four elements in a process of innovation diffusion (1995:74):
Knowledge. The individual is exposed to an awareness of the existence of the innovation and gains some understanding of how it functions.
Persuasion. The individual forms a favorable or unfavorable attitude towards the innovation.
Decision. The individual engages in activities which lead to a choice to adopt or reject the innovation.
Confirmation. The individual seeks reinforcement for the innovation decision he or she has made, but may reverse the previous decision if exposed to conflicting messages about the innovation.
(Berger, 2014, p. 208; Bold characters by the author)".

Vitta M. (2016), *Le voci delle Cose. Progetto, idea, destino*, Torino: Giulio Einaudi Editore

Zeleny M. (1986), 'High technology management', *Human Systems Management*, 6(2)

Communities in Transformation: Cultural Shifts in Mongolia Through Economic, Social, and Psychological Lenses

RUFUS MALIM¹

Introduction

The question of how a nation can maintain its cultural identity and homogeneity through rapidly changing times to provide a meaningful² existence for a human being is one of particular importance in the 21st Century. The maintenance of societal cohesion relies on maintaining shared values, beliefs, and culture – in essence cultural integrity and healthy interpersonal relationships within that culture. In its absence societal cohesion risks degradation and collapse.

The means by which such large civilisations are possible is through

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2 By “meaningful,” the author refers to both individuals and society as a whole experiencing a positive and purposeful existence, deeply embedded in a healthy cultural framework. When such a cultural foundation is maintained, it fosters stronger societal cohesion.

language, whether verbal or non-verbal (Dunbar 1993, p 693). Language allows human beings to transcend the ordinary cognitive limits of interpersonal relationships of around 150 persons to mobilize civilisations numbering in their millions (Dunbar 1993, p 693). Two people who meet and speak the same language can establish rapport with each other, two people who share the same culture have even more in common and through various nonverbal symbols such as art, clothing, architecture, dance, music, and literature etc can quickly identify places and persons of importance no matter how unfamiliar and behave accordingly (Dunbar 1993, p 693). This is an efficient strategy (Dunbar 1993, pp 681 & 692) though not without its drawbacks. Increasingly populated societies become more and more unstable in terms of social cohesion and therefore become more prone to collapse (Dunbar 1993, p 692). To compensate increasingly formal and complex systems of hierarchy and control are needed (Dunbar 1993, p 687).

The fundamental building block of all societies is the family, along with the interpersonal relationships that emerge within it. Families are shaped by the cultural and environmental contexts in which they exist, as well as by the personal histories and inherent dispositions of their members. In human society, the family constitutes the first “coalitional clique” (Dunbar, 1993, p. 682), followed by close friendships. Beyond these immediate bonds, individuals engage with a wider community where relationships tend to become increasingly superficial, with some exceptions.

Interpersonal relationships are defined by a complex interplay of expectations and behaviors, which are influenced by individual agency, environmental conditions, personal needs, and broader cultural frameworks. When these relational structures are subjected to strain—whether due to internal dynamics or external pressures such as rapid shifts in cultural expectations and belief systems—they may weaken or even dissolve. Conversely, certain activities, particularly those embedded in cultural traditions, can reinforce and strengthen interpersonal bonds. Many indigenous societies, for example, employ ritual participation as a means of

regenerating both individual well-being and collective cohesion (Dunbar, 1993, p. 686; Eliade, 1975; Eliade, 1987; Turner, 1995).

Population growth and density enables situations where Dunbar's cognitive limit and tribal numbers are surpassed (Dunbar 1993, pp 683 & 693). Such conditions can overwhelm the information processing capacity of human cognition and have destabilizing influences on societal cohesion, cultural integrity which must then be mitigated by the creation of formal institutions (Dunbar 1993, p 687).

This study contends that population growth and density have profound effects on cultural integrity, interpersonal relationships, the development of formal institutions, and broader societal cohesion. Understanding these dynamics is essential for addressing the challenges associated with cultural transformation and maintaining social stability.

A contemporary example of a civilization undergoing this transformation is Outer Mongolia, which is in the process of transitioning from a predominantly pastoralist society to an industrialized one. Traditionally, Mongolian culture has been deeply rooted in its nomadic heritage, centered around livestock cultivation, a relatively small population, and low population density (Christian, 2010).

At present, Mongolia continues to maintain a comparatively small population and low population density, particularly in contrast to more densely populated nations (NSOOM, 2025). Historically, the region's poor soil quality has made large-scale agriculture impractical, reinforcing the dominance of the pastoralist lifestyle (Christian, 2010). However, Mongolia is rich in mineral resources, which has driven economic shifts and industrial expansion (Christian, 2010). This transformation presents both opportunities and challenges, particularly in maintaining cultural integrity and societal cohesion amid rapid economic and social change.

From the author's ethnographic fieldwork in 2022 and 2023 on shamanism, it was clear that younger generations were being pulled towards the city and the traditional way of life has begun to be neglected. Traditional methods of Mongolian herding are disappearing. Herders traditionally herd cattle using camels

and horses, though they now use motorcycles, bicycles and other vehicles. The older generations sometimes characterize the new generation as lazy as they did not have to undergo the same hardships and demands seen in more traditional Mongolian life. One individual stated he did not like the city and felt he had no place there though his children have gone there. Shamans needed to visit the countryside if they lived in the city, and it is often those shamans who live in the countryside (especially the Darkhad region) that are most respected.

Previous researchers have also noted these changes; *‘Elements of rural and urban lifestyles mix with the growing pace of social change, facilitated by a new culture of modernity, modern education and growing individual mobility. New habits, styles and goods from the cosmopolitan city are adopted in rural culture as much as rural people move into urbanized areas with their animals and yurts. Thus, both persons and places transcend the distinction between the rural and the urban,’* (Bruun & Narangoa 2006, p 8). The newer more sedentary urban lifestyle, enabled by international trade, is steadily reshaping Outer Mongolia.

Environmental factors have also contributed to this shift as *‘some households that lost all or a large portion of their herds elected to move permanently or temporarily to the soum center, aimag center, or the capital city, Ulaanbaatar’* (Fernández-Giménez et al 2012, p 845). Such herds may have been lost in the various dzuds, a type of famine caused either by; snow coverage of grass, freezing temperatures with a lack of snow or forage, trampling or total consumption of pastures, or impenetrable layers of ice over pastures (Fernández-Giménez et al 2012, p 837; Siurua & Swift 2002, p 89).

The exodus of herdsmen from the countryside can lead to further problems in rural communities because *‘If too many herders leave, the community may lack sufficient population to sustain local human and social capital.’* (Fernández-Giménez et al 2012, p 846). This in turn has the potential to drive further migration to cities. It is important to note that some of the dzuds have climatic drivers, whilst others, such as the ‘hoofed dzud’ are arguably the result of economic policies and poor

planning (Fernández-Giménez et al 2012). Climatic change is not the focus of this paper, but it is important to note the historic role climatic variations have played for Mongolian society as good rains and an abundance of livestock coincided with the rise of Genghis Khan and the Mongol empire likely contributing to its success (Christian 2010). As such climatic change can be considered a catalyst for cultural change.

This paper explores the impact of population size and density on societal cohesion and cultural integrity. Using Outer Mongolia as a case study we can examine how migration from rural areas to urban centers—particularly Ulaanbaatar— can pose challenges of preserving a cultural identity centred on livestock and pastoralism within an industrialized metropolitan environment.

For this analysis, the author uses three key approaches to understand the decisions and processes behind these shifts. These include Maslowe’s Hierarchy of Needs, Dunbar’s Number, and Adam Smith’s Wealth of Nations. By understanding them we can create strategies to better preserve and manage societal cohesion, cultural integrity, and interpersonal relationships in a meaningful manner.

Maslowe's Hierarchy of Needs

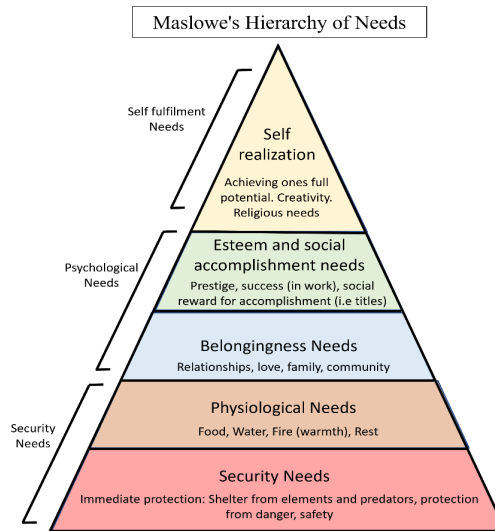


Figure 1 - Maslowe's Hierarchy of Needs (Maslow 1943). Diagram generated by the author.

Maslowe's *Hierarchy of Needs* for his *Theory of Human Motivation* (1943) remains a vital part of psychological study and discourse. It is also an essential theory for integration into anthropological analysis. This model can be applied to individuals as well as entire societies and can act as a rough guideline to the rise and fall of civilisation if used appropriately.

All civilisations require security needs whether this be protection from predators, the elements, or warbands, and all require basic necessities of, food, clean water, warmth, and rest. These are immutable facts of the human condition and all societies no matter their size or state of development make provisions for these basic needs. Logic tells us that consistent failure to meet these needs results in either death, or migration to somewhere where these needs can be met.

However, it is the upper two segments of Maslowe's hierarchy of needs

that are of particular interest in this study. The issue of Dunbar's number is not a physiological one but a cognitive one and is therefore associated with psychological needs in Maslow's hierarchy. Belongingness needs and social accomplishment needs are dependent on the recognition of the immediate family and wider community. This recognition must operate within the framework of the culture in which these needs are sought. It is therefore difficult to satisfy these needs if relationships are superficial and the numbers of people an individual interacts with exceeds the cognitive constraints of the human neocortex (150 persons) (Dunbar 1993, p 681). If these needs are not met, then logic tells us people will look elsewhere to satisfy them.

Failure to meet these fundamental needs can lead to the deterioration of interpersonal relationships, the erosion of cultural integrity, and, consequently, the fragmentation of societal cohesion (Dunbar, 1993, pp. 682, 692). Such conditions create a fertile ground for destabilizing and disruptive movements, as individuals seek alternative means to fulfill these unmet needs. Victor Turner interprets this phenomenon as an intrinsic human response, wherein individuals strive to attain *communitas*—a sense of shared unity and equality—when society no longer provides it (Turner, 1995). More critically, these conditions also render individuals vulnerable to the influence of destructive political and religious cults, which exploit societal disaffection for their own ends (Hassan, 2015).

Self-actualization represents one of the more complex and elusive components of Maslow's hierarchy of needs. According to its hierarchical framework, individuals are unlikely to achieve self-actualization without first satisfying their more fundamental physiological and psychological needs (Maslow, 1943, p. 382). Maslow describes self-actualization as follows: *'Even if all these needs are satisfied, we may still often (if not always) expect that a new discontent and restlessness will soon develop, unless the individual is doing what he is fitted for. A musician must make music, an artist must paint, a poet must write, if he is to be ultimately happy. What a man can be, he must be'* (Maslow 1943, p 382). This suggests that self-actualization is not merely the culmination of personal fulfilment but an intrinsic

necessity for individuals to realize their potential. It can be understood as both a psychological and a spiritual process. For instance, within Buddhist philosophy, self-actualization aligns closely with the concept of enlightenment—the realization of one’s true nature and ultimate liberation from suffering.

A comprehensive analysis of ethnographic data illustrates how indigenous societies fulfil fundamental human needs through initiation, ritual, cosmology, and culture, which collectively foster cohesion, shared identity, and unity – often within relatively small populations (Eliade, 1975, 1987; Elkin, 1993; Evans-Pritchard, 1935, 1976; Turnbull, 1961; Turner, 1995). This is purpose of culture, which facilitates the fulfilment of Maslow’s hierarchy of needs by structuring behaviour, personal identity, and objective reality within a shared framework. By establishing a strong cultural integrity, you can establish strong societal cohesion.

However, as Eliade (1975, 1987) argues, contemporary urban environments often detach individuals from their cultural matrix and the experience of the ‘sacred’ embedded within it. This results in an increasingly pervasive sense of the ‘profane,’ where the connection to traditional cultural and spiritual frameworks is diminished. Such a shift poses a significant risk, as it can lead to the erosion of cultural integrity and societal cohesion, thereby destabilizing the higher levels of Maslow’s Hierarchy of Needs, which rely on a sense of belonging, purpose, and self-actualization. One’s potential to experience a ‘meaningful existence’ is therefore reduced.

Dunbar’s Number

Robin Dunbar’s research demonstrates that there is a cognitive limit to the number of individuals with whom one can maintain stable social relationships—relationships that require recognizing each individual and understanding their connections to others within the group. This limit, commonly referred to as “Dunbar’s Number,” is approximately 150 (Dunbar, 1993).

Dunbar’s initial investigation focused on primate social groups, revealing

that when group size exceeds its optimal threshold, demographic lag and frictional effects emerge, straining social cohesion (Dunbar, 1992, p. 476). As a result, fission often follows, whereby a subgroup forms, making both the original and the new groups more manageable and cohesive (Dunbar, 1992, p. 476).

In contrast, human cognitive capacity has remained largely unchanged for approximately 250,000 years, meaning that the brain has evolved to function optimally within population sizes characteristic of this period. This is most evident in contemporary hunter-gatherer societies, which continue to operate within flexible social structures that align with these cognitive constraints (Dunbar, 1993, p. 683). Examples of such societies include the !Kung, Australian First Nations, Inuit, various Indigenous North American groups, and the Ba-Mbuti (Dunbar, 1993, p. 683). While the specific social structures of these groups vary, Dunbar emphasizes that the size of the social unit is a more critical determinant of cohesion than its particular organizational form (Dunbar, 1993, p. 684).

Language enables the formation of significantly larger social groups by serving as a powerful tool for categorization. Through language—whether spoken, written, or visual—individuals can identify with broader communities, transcending the cognitive limitations that typically constrain interpersonal relationships (Dunbar, 1993, p. 692). This process extends beyond verbal communication, manifesting in cultural symbols such as clothing, art, and architecture, which collectively signal group identity despite the impossibility of direct personal connections on a vast scale³.

Titles, uniforms, and other forms of symbolic representation further facilitate social organization by providing an immediate and efficient means of recognizing an individual's role, status, and achievements. This, in turn, enables the coordination and cohesion of larger societies (Dunbar, 1993, p. 693). However, Dunbar cautions that even with these mechanisms, large-scale social structures

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A shared natural landscape, national history, common stories etc, further helps to facilitate this.

remain inherently unstable. Historical patterns of civilizational collapse suggest that human cognitive limitations continue to impose constraints on the long-term viability of massive social formations (Dunbar, 1993, p. 692). Ultimately, while language and symbolic systems can expand social cohesion beyond the natural cognitive threshold, they cannot fully eliminate its effects. Dunbar also observes that deeply meaningful relationships—those characterized by strong emotional bonds—are typically limited to a core group of only 10 to 12 individuals (Dunbar, 1993, p. 693).

To summarize Dunbar's work the following has been ascertained:

1. *'The problem is essentially an information processing one: the more information that an animal needs to be able to store and manipulate about its social or ecological environment, the larger the computer it needs'* (Dunbar 1992, p 471). *'The cohesion of a group through time depends on the strength of each animal's relationships with all the other members of its group, then the information load will be directly related to group size'* (Dunbar 1992, p 471).
2. *'There is a species-specific upper limit to group size that is set by purely cognitive constraints: animals cannot maintain the cohesion and integrity of groups larger than a size fixed by the information-processing capacity of their neocortex'* (Dunbar 1993, p 681).
3. However, *'The larger the group the more harassment and stress an individual faces'* (Dunbar 1993, p 682). In response the larger the group the more time individuals spend grooming members of their 'coalitional group' (Dunbar 1993, p 682). If the group grows too much it becomes unstable and risks social disintegration (Dunbar 1993, p 682).
4. The ideal conversational group comprises 3.8 individuals (Dunbar 1993, p 690). 5 individuals are the maximum comfortable size. 7 individuals are the upper limit though they would need to shout at each other in a busy place to communicate.

5. Individuals can have between 10-12 intense/intimate relationships (Dunbar 1993, p 693). Family, romantic partners, and very close friends.
6. Hunting bands comprise around 30-50 individuals (Dunbar 1993, p 684).
7. Comfortable community size and the cognitive limit for stable relationships is 150 individuals (Dunbar 1993, p 685). This is predetermined by the size of the Neo-cortex of the Human brain (Dunbar 1993). These are considered 'intermediate groups' by Dunbar.
 - a. If the community exceeds this threshold peer pressure is no longer enough to keep them in line and formal hierarchies and institutions must be introduced (Dunbar 1993, p 687).
 - b. Neolithic villages (Dunbar 1993, p 686), the military in various countries (Dunbar 1993, p 686), team sizes in industry (Dunbar 1993, p 687), team sizes in academia (Dunbar 1993, p 686) all average around this number. If this number is exceeded then the group begins to fracture (Dunbar 1993, p 686).
 - c. This number can reach 200 but this is the upper limit.
 - d. Settlements of this size typically define clans, villages, lineage groups, etc.
 - e. *'The Hutterites explicitly state that when the number of individuals is much larger than 150 individuals, it becomes difficult to control their behaviour by means of peer pressure alone (Hardin 1988). Rather than create a police force, they prefer to split the community'* (Dunbar 1993, pp 686-687). Exceeding 150 persons results in a degradation of social cohesion and it can only be held up by the creation of formal social structures that define roles and rules, this inevitably creates hierarchy (Dunbar 1993, p 687). The broader implications of this phenomenon are examined in *Essays in Sociology* by sociologist Max Weber, who argues that large and complex societies can function effectively only through bureaucratic structures. These bureaucracies provide the specialized knowledge, expertise, and continuity necessary for maintaining societal operations and managing its various components (Weber, 1946).

f. These groups are defined by strong interpersonal relationships and the use of rituals (Dunbar 1993, p 686). Those outside of this group are treated more with the attitude of ‘them’ vs ‘us’ (Dunbar 1993, p 686).

8. Larger groups, tribes or subtribes number between 500-2500 individuals (Dunbar 1993, p 685).

a. Tribal groups are listed by their linguistic homogeneity and/or geographical location.

b. Language can extend to nonverbal categories (so visual cultural symbolism).

c. Direct personal knowledge is still considered the most important.

d. Intermediate groups (150 people) are defined more by ritual functions within the greater tribe (Dunbar 1993, p 686).

9. Language is the means by which increasingly larger groups are held together.

a. Language allows communication of social knowledge in a more efficient capacity than grooming techniques employed among primates (Dunbar 1993, pp 681 & 692).

b. Whilst physical interaction and close association remain the preferred and the most important method of association for close relationships, language allows for the creation and sustention of much larger groups (Dunbar 1993, p 693).

c. By being of the same language two strangers can immediately establish some rapport (though in the contemporary era as English becomes an international language this may reduce its capacity. In its place accents may offer the needed nuance).

d. Language extends beyond the verbal into the symbolic and cultural (Dunbar 1993, p 693). The author asserts that this logically leads to the following implications:

i. This is a vital part of maintaining massive groups as

everyone knows where they are with everyone else.

ii. This allows for efficiency in large groups and aids in maintaining social cohesion. You can immediately look and see someone, and by their clothes and title you can identify their rank in society, their work, interests, etc and you can adjust to behave accordingly.

iii. By being able to do this it can be the difference between life and death in some cases (I.e. meeting a ruler or warrior) or improved opportunities in others (I.e. meeting a tradesman or someone who can help improve your circumstances).

iv. Buildings and architecture, as well as functional art, all operate to achieve the same effect and are embedded in the cultural language.

10. In the absence of a shared language/culture (and the values they entail) societies risk breaking down as social cohesion begins to buckle. Though large groups are by nature unstable and prone to eventual collapse (Dunbar 1993, p 692).

By understanding both human needs and cognitive limitations, we can more effectively identify potential challenges and develop solutions that preserve social stability. For instance, if all individuals appeared identical—where, as Plato suggests, “the rich dressed as the poor” (Plato, 2007)—or if vernacular architecture were entirely replaced by formal, uninspired structures such as those characteristic of International Style or Global Architecture, the visual and symbolic markers of cultural identity would be eroded. Similarly, disregarding titles that require years of dedication to attain, abandoning religious rites, and losing cultural narratives etc would diminish the shared framework through which individuals communicate and identify with one another. Consequently, the common language of cultural expression would be critically weakened, leading to the fragmentation of cultural integrity and a subsequent decline in societal cohesion.

Culture extends far beyond its visual manifestations; it serves as the

foundational framework that enables individuals and communities to navigate and transcend cognitive limitations. Functioning as a shared language, culture facilitates social cohesion by providing common points of reference, allowing individuals to relate to one another even in the absence of prior connections. It is this cultural language that fosters a sense of belonging and continuity within a society. Consequently, the erosion of culture equates to the dissolution of the very mechanisms that sustain social unity, ultimately undermining the bonds that hold communities together.

Population size, and particularly population density, presents significant challenges to cultural integrity, as larger populations necessitate increasingly formal and expansive institutions to manage societal functions due to cognitive limitations. As these institutions grow, efficiency often becomes the dominant guiding principle, superseding cultural considerations. When institutions prioritize functionality over cultural embeddedness, they become increasingly impersonal, leading to the gradual erosion of cultural integrity. Additionally, external variables—such as crises, technological advancements, or foreign cultural influences—can further accelerate this process, exacerbating the strain on societal cohesion and identity. This process inevitably provokes a response within the population, as individuals seek to reclaim their identity when the psychological needs once fulfilled by culture—outlined above in Maslow’s Hierarchy—are no longer adequately met. As previously discussed, when these fundamental needs remain unsatisfied, individuals will seek alternative means to fulfill them. This pursuit can have destabilizing effects, both on the individual and on society as a whole. Such responses may manifest in the form of disruptive countercultural movements (Turner, 1995) or through the rise of religious and political cults (Hassan, 2015), both of which emerge as attempts to restore meaning, belonging, and purpose in the face of cultural disintegration.

Economic Approaches – Adam Smith

Adam Smith’s *The Wealth of Nations* serves as a crucial foundation for analyzing

the economic and social phenomena discussed in this paper. Widely regarded as the origin of modern economic thought, Smith's work was written during Britain's transition from an agrarian society to an industrial power. Many challenges faced by contemporary societies concerning markets and industry were first articulated in *The Wealth of Nations*. Notably, Smith's discussions on the effects of industrialization foreshadow later conceptual developments, such as Karl Marx's theory of alienation, which reframed Smith's notions of worker "stupidity" and "ignorance" within a broader critique of economic systems.

Smith's theory of the division of labour (2008, p. 11ff) bears a resemblance to the fission process observed in human communities, as described in Dunbar's research (Dunbar, 1993, p. 687). However, rather than physically splitting into separate groups or settlements, individuals within an industrialized society increasingly specialize in specific economic activities while remaining integrated within the broader cultural and economic framework. This system relies on the cooperative efforts of thousands of individuals, each acting in their own self-interest while collectively contributing to overall economic gains (Smith, 2008, p. 20). Given that Dunbar's research suggests a cognitive limit of approximately 150 stable social relationships, it is unlikely that individuals can maintain deep personal connections with all members of a large society. Instead, altruism is typically reserved for one's closest social network or "coalitional clique." Within this context, market-based interactions driven by rational and constructive self-interest provide a more pragmatic mechanism for social and economic cooperation, aligning with Smith's economic principles.

As population growth expands markets, individuals can increasingly dedicate themselves to specialized occupations rather than engaging in multiple tasks (Smith, 2008, p. 26). This specialization enhances efficiency, drives economic growth, and facilitates further scientific and technological advancements (Smith, 2008, p. 18). However, Smith also warns of the potential negative consequences of extreme labour specialization, particularly the intellectual stagnation and diminished

engagement of workers confined to repetitive tasks—a phenomenon he describes as fostering “stupidity” and “ignorance” (Smith, 2008, p. 429).

Karl Marx took this idea further and developed the issue of labour alienation in his *Economic and Philosophic Manuscripts of 1844* (1964). Alienation, as Marx conceptualizes it, refers to the separation between the labourer and the work they perform. Historically, individuals could take pride in their labour, as the work was inherently their own, and they could directly experience the satisfaction of their accomplishments (Smith, 2008, p. 64). For Marx, under capitalist system, labour is primarily performed for the benefit of the capitalist. The work itself is often repetitive, the fruits of the labourer’s efforts are ‘appropriated’ by the business owner, and after receiving a wage, the labourer must pay rent to a landlord (Marx, 1964). Naturally such a situation would erode interpersonal relationships, cultural integrity, and societal cohesion by creating an imbalanced system in a continual state of conflict where people are divorced from most sources of meaning.

Furthermore, the expansion of the market appears to necessitate the private ownership of land which removes the possibility for traditional ways of life seen among indigenous communities and the cultural nuances associated with it (Smith 2008, p 64). For example, the cultural integrity of hunter-gatherer, pastoralist, and horticulturalist societies—such as those in Outer Mongolia—would be severely compromised by such economic changes.

Marx views this alienating condition as intolerable and inhumane, emphasizing the dehumanizing effects of capitalist economic structures (Marx, 1964). However, if Marx’s analysis were entirely correct, it would suggest that such a system could not function at all, at least not in the long run —yet societies continue to operate despite these supposed conditions. This suggests that the reality is more moderate, with alienation being a significant but not absolute determinant of societal stability and individual well-being.

Smith and Marx both draw attention to the fact that alienation, the impersonality of increasingly large institutions (corporate or otherwise), repetitive

work, and the management of land can all have significant negative effects on societal cohesion, cultural integrity, and interpersonal relationships. This is evident in contemporary society, as illustrated by Graeber's *Bullshit Jobs* (2018), even when such jobs retain economic value (Richards, 2019). Whilst Marx tends to present this as a primordial struggle of right vs wrong Smith categorizes it as the way things are and emergent from natural human behaviour. As such Smith takes a more comprehensive approach pointing out issues with higher wages as well as higher profits, he makes it clear over regulation or poor government management can stagnate an economy causing incredible poverty (Smith 2008, p 92)⁴ whilst he also condemns monopolies (Smith 2008, p 60). In the context of exploring cultural transformation, the degradation of societal cohesion, and the influence of human needs and cognitive limitations, Adam Smith's even-handed approach to economics is particularly advantageous. Unlike other economic theorists, Smith views economic activity as a natural extension of human behaviour, rather than as an artificial construct or political mechanism. His perspective is more observational than judgmental, focusing on reflection rather than ideological critique. This approach allows for a more scientific understanding of the dynamics between human nature and economic systems.

Therefore, the idea that emerges from Smith's work as pointed out by Sutherland 'We are the jobs we do' (Smith 2008, p xxviii) is important as this has an impact on interpersonal relationships, culture, cultural integrity, and by extension societal cohesion. In the case of a culture such as that in Outer Mongolia this is very important given its history as a pastoralist society. It leaves us with the question can Outer Mongolia maintain a meaningful existence for its people within its historic cultural framework as it continues to go through the current economic transition?

During the 20th century, Outer Mongolia operated under a command

4 In China the economy did just this by the 18th Century, and children became a burden under these circumstances and were actively killed (Smith 2008, p 71). Under the right circumstances children should be considered a wealth not a burden (Smith 2008, p 70).

economy during the communist era, a period characterized by extensive purges targeting Buddhists, shamans, and other individuals perceived as counter-revolutionaries (Sandag and Kendall, 1999). These purges resulted in the widespread destruction of Mongolia's rich cultural heritage (Sandag and Kendall, 1999) and the deaths of over 20,000 people during the Mongolian Great Terror, with Buddhist clergy being the most severely affected (Kuromiya, 2014, p. 787).

Under the communist economic system, various safeguards were implemented to preserve livestock during the collectivization process, as pastoralism formed a critical component of Mongolia's economy (Enkhbayar, 2002; Siurua and Swift, 2002). This policy may have contributed to the preservation of certain aspects of Mongolian cultural identity and social cohesion. However, when weighed against the devastation caused by the purges, the extent to which these economic measures compensated for cultural losses remains debatable.

In 1990, Mongolia transitioned to a democratic political system and a market-based economy, leading to the privatization of state-owned resources, including livestock, which had a further impact on traditional cultural practices (Enkhbayar, 2002; Siurua and Swift, 2002). This period also saw the resurgence of Buddhism and Shamanism, though their revival may not have fully restored their pre-communist forms⁵ (Otgony Gurbadaryn, 2006).

Throughout these transformations, Mongolia's population has remained relatively small compared to its vast landmass. The population was approximately 700,000 in 1934 (Kuromiya, 2014, p. 781), 2,098,710 in 1990 (World Bank, 1990), and 3,481,145 in 2023 (World Bank, 2023).

As population growth continues, the market expands accordingly, leading to further urbanization and further privatisation of land. With this expansion, an increasing variety of occupations emerge, driven by the division of labour, many

⁵ Numerically there are now many shamans, however the preservation of traditional Mongolian shamanic practices from before the soviet regime vs post-soviet is a different matter.

of which are disconnected from the traditional pastoralist nomadic lifestyle. Over time, this gradual shift poses the risk of eroding and ultimately displacing the traditional way of life.

In such circumstances, Outer Mongolia's cultural integrity and societal cohesion may either suffer or collapse. More likely, however, the culture will adapt and transform into a new form, one that is distinct from but still informed by its nomadic heritage. If the preservation of traditional ways of life is a priority, provisions – both economic and political - must be made to accommodate and support this cultural continuity, perhaps right down to urban landscape design.

Methods/Methodology/Materials

The method of analysis is inherently a macro structuralist approach seeing how culture can support large populations, how erosion of cultural integrity can cause societal collapse, and how one can mitigate these issues by recognising and using the three following methods:

1. Maslowe's Hierarchy of Needs
2. Dunbar's Number
3. Economic approaches and their impact on cultures

These are then viewed in relation to the following three concepts:

1. Interpersonal Relationships
 - a. Interpersonal relationships, in the context of the topics discussed, refer to the connections and interactions between individuals within a society that play a crucial role in shaping social cohesion, cultural integrity, and the stability of social structures. These relationships encompass both the quality and frequency of social interactions, which are influenced by factors such as population size, cultural context, societal values, and community cohesion. In smaller, more cohesive societies, interpersonal relationships tend to be more meaningful, as individuals are able to engage more directly and personally

with one another (Dunbar 1992). As populations grow and societies become more complex, maintaining these relationships may become more difficult, potentially leading to feelings of disconnection or alienation (Hogg 1992).

b. Interpersonal relationships are crucial to human existence, but their significance is heightened in smaller societies where they are more meaningful and impactful (Carron & Spink, 1995; Sahlins, 2017). In isolated settings, human connection is highly valued and actively nurtured, as survival often depends on the cooperative efforts of small groups (Sahlins, 2017, p. 70). These smaller groups tend to be more cohesive and supportive (Carron & Spink, 1995; Hogg, 1992). However, as societies grow larger, individuals may struggle to form the same meaningful connections due to the sheer volume of people around them (Dunbar, 1993). This can lead to a sense of disassociation or alienation (Berman, 1982) and place additional stress on group dynamics (Carron & Spink, 1995, p. 88). By their nature, smaller communities foster social cohesion and promote more meaningful interpersonal relationships (Carron & Spink, 1995, p. 102; Sahlins, 2017). In contrast, the inability to form meaningful interactions in larger societies contributes to the erosion of societal cohesion (Putnam, 2000).

c. In relation to the previous two points (Cultural integrity and Societal Cohesion) and the variables mentioned below, rapid and/or excessive change, especially if it is negative, can lead to a break down in interpersonal relationships. In extreme cases this can lead to the sometimes-apocalyptic descriptions such as ‘brother against brother’ etc.

2. Cultural Integrity

a. The author defines Cultural integrity as; the ability of a culture to maintain its core values, traditions, and social structures despite external pressures or internal changes. It signifies a culture’s resilience in preserving its identity while navigating influences such as globalization, modernization, migration, conflict, and political or economic shifts. This fits within ‘*unity or*

wholeness of indigenous people' (Latayan 2022, p327; Root 2018).

b. Cultural integrity has also been used as a term in other contexts such as *'levels of cultural trust'* (Pelzang & Hutchinson 2018).

c. The author also takes culture to be a verbal and nonverbal shared language between a specific group of people that allows them to organise themselves meaningfully within or beyond the constraints of cognitive limitations. This position is established from the perspective of Dunbar's research (Dunbar 1993). Its integrity is therefore vital for the perseverance of nations and societal cohesion as well as for the wellbeing of its people.

3. Societal/Social Cohesion

a. According to Moustakas Social cohesion refers to *'The glue that binds societies, social cohesion is considered an essential ingredient to address common societal challenges. Definitions and associated conceptual frameworks usually summarise social cohesion as collective attributes and behaviours characterised by positive social relations, a sense of identification or belonging, and an orientation towards the common good. However, there are a large variety of definitions, and disagreement exists about what constitutes the core components, causes and consequences of social cohesion.'* (Moustakas 2023).

b. Societal cohesion depends on several key factors, including cultural integrity, shared values (which may extend beyond cultural beliefs), a shared religion, and formal institutions that help maintain stability. A society that is unified, with a common culture, set of values, and religion, can experience the benefits of relative peace and direct its efforts toward goals beyond mere survival. These benefits may include, but are not limited to, improved environmental sustainability, social stability, better overall health, economic freedoms, and more effective responses to crises (Moustakas, 2023). However, rapid fluctuations in; population, values, religion, or culture, can undermine societal cohesion. In extreme cases, when change occurs too quickly, the cohesion of society may falter, potentially leading to, or contributing to, societal

collapse. Examples of these factors playing into such societal collapses include the Roman Empire (Heather 2005), Maya Civilisation (Diamond 2005), The Old Kingdom of Ancient Egyptian (Shaw 2000), and the Rwandan Genocide (Straus 2006)⁶.

c. Individuals who belong to cohesive social groups tend to report higher levels of satisfaction and optimism, while also experiencing fewer social difficulties compared to those in less cohesive groups (Hogg, 1992; Hoyle & Crawford, 1994). This demonstrates that cohesion is linked to the fulfilment of human needs (I.e. the psychological needs in Maslowe's hierarchy).

d. These are then analysed to assess the relationships between them. This takes on a structuralist 'cause and effect' relationship reflected in qualitative mathematics.

Results

The more people there are in a single society, and especially a single settlement, the greater the strain is on cultural integrity, social cohesion, and interpersonal relationships (Carron & Spink 1995; Dunbar 1993). Increasingly large populations tend to require (law) enforcement to keep them in check and avoid societal breakdown in place of custom, cultural, and social pressure seen in indigenous societies (Dunbar 1993, p 687). Such increase in population size also risks facilitating the conditions for increased crime (Cabrera-Barona et al 2019; Cohen & Felson 1979, p 605; Merton 1938) as well as increased bureaucracy (Weber 1946).

The author has created the following equations to represent some of the complications facing societal cohesion in the face of population growth and density.

- The larger the population the more institutions and means of control (formal institutions) are needed to keep it operational:

⁶ Each example of societal collapse presents its own unique set of complexities and nuances. The factors discussed by the author represent only a subset of the numerous contributing elements, each of which may have played a varying role in the collapse process, either more significantly or less so.

$$I = k_1 P$$

I = Number of Formal Institutions.

k_1 = Proportionality constant representing the rate at which institutions scale with population.

P = Population Size.

This fits with Max Weber's theories on bureaucracy (Weber, 1946). Another way to interpret this equation is to apply Dunbar's cognitive limit:

$$I = k_1 (P/150)$$

$(P/150)$ = Number of Dunbar-sized groups in the society.

k_1 = Institutions required per group of 150.

- As institutions increase in scale the more impersonable they become:

$$IM_I = k_2 I + k_3 f(P)$$

IM_I = Institutional impersonality.

k_2 = Rate at which increasing number of institutions contributes to impersonality.

I = Number of formal institutions.

k_3 = Rate at which institutional size growth increases impersonality.

$f(P)$ = Institutional size change with population.

- Likewise work becomes increasingly alienating and impersonable.

$$A_W = k_4 I + k_5 S_I + k_6 P$$

A_W = Work alienation.

k_4 = Rate at which the number of institutions contributes to alienation.

I = Number of Institutions.

k_5 = Rate at which institutional size increases alienation.
 S_I = Size of institutions (e.g., employees per institution, bureaucratic layers).

k_6 = Rate at which population growth increases alienation.
 P = Population size.

- As the population grows, and especially as population density increases, the more strained societal cohesion, cultural integrity, and interpersonal relationships become:
 - Societal Cohesion, Cultural Integrity, and Population Growth:

$$C = C_0 - k_4 P$$

C = Societal cohesion & cultural integrity.

C_0 = Initial level of cohesion before population growth.

k_4 = Rate at which cohesion declines with population growth.

P = Population Size.

- Effect of Population Density on Societal Strain:

$$S = k_5 D$$

S = Societal strain (stress on cohesion, cultural integrity, and relationships).

k_5 = Proportionality constant for the effect of density on societal strain.

D = Population density.

- Crime generally increases with both population size and population density:

$$CR = k_{10} P + k_{11} D$$

CR = Crime rate (number of crimes per unit of population per unit time).

k_{10} = Rate at which population growth increases crime.

P = Population Size.

k_{11} = Rate at which population density increases crime.

D = Population Density, where is the area of the society/city.

If density is high, crime increases faster than if just population size is increasing (due to overcrowding, competition for resources, social friction, etc).

This finding aligns with previous studies that show a positive correlation between population density and crime rates (Cabrera-Barona et al., 2019; Cohen & Felson, 1979, p. 605; Merton, 1938). Furthermore, Newman (1972) examined the higher crime rates in high-rise housing projects compared to low-rise complexes. He concluded that this disparity was due to residents' lack of control or personal responsibility for areas populated by a large number of people, which diminished their sense of ownership and security.

◦ Institutional Response to Crime

Institutions (e.g., police, judicial systems, surveillance) are used to control crime, but larger populations require more authoritarian measures. As crime increases, institutions must scale accordingly.

$$I_c = k_{13}CR$$

I_c = Strength/size of crime-control institutions (police force, surveillance, prisons, legal system).

k_{13} = Rate at which institutions scale to counteract crime.

As CR scales with population size and density:

$$I_c = k_{13} (k_{10}P + k_{11}D + k_{12}D^2)$$

As crime rises, institutional responses must increase proportionally.

The results also correlate with Durkheim's study showing the higher rate of suicides observed in metropolitan areas in contrast to rural areas (Durkheim 2005). As societal cohesion, cultural integrity, and interpersonal relationships are

more unstable in such areas individuals may be more likely to experience feelings of isolation, and alienation. Population numbers in metropolitan areas far exceed Dunbar's cognitive capacity of 150 and, depending on personal circumstance, the lack of meaningful interaction with other human beings can become too much to bear. The integrated social, cultural, and interpersonal ties that would historically have been present are either strained or absent.

The author therefore argues that an ideal society is one that is generally smaller in size as institutions and laws remain more personable and local. The bigger society becomes the more impersonal and powerful institutions and certain individuals become (government, private, or otherwise) and the more stress an individual appears to face. Larger societies seem to foster greater dependency on their systems and institutions which can intentionally or unintentionally rob people of self-reliance and experience of personal agency. Almost certainly the author would hypothesize that the disassociation and mental health crisis seen in contemporary occidental civilisation is related to Dunbar's cognitive limit.

By applying Dunbar's number as a framework for measuring population size, it is possible to identify thresholds at which social cohesion and cultural identity begin to weaken. This approach allows for proactive responses to mitigate potential societal fragmentation. The underlying assumption, supported by prior research, is that population size plays a fundamental role in societal cohesion, cultural integrity, and interpersonal relationships. However, this measurement should not overlook the influence of additional factors that may also shape the stability and development of a civilization.

By considering population size and density, it may be possible to mitigate the negative effects of preexisting overburdened institutional systems by restructuring settlements or "groupings" into more manageable and personable communities. This approach could facilitate localized and scalable governance, maintaining a personal and localized sense of community across different regions. While challenging, this concept can also be incorporated into urban design, promoting community

cohesion and cultural stability within larger cities.

The goal is to achieve a balance, or “golden mean,” in which society is large enough to function as a post-industrial, continuously developing entity, yet small enough to preserve meaningful cultural stability, social cohesion, and positive interpersonal relationships. This balance can be realized by maintaining lower population densities and, where possible, keeping population sizes modest. In situations where reducing population size is not feasible, it becomes crucial to manage population density to ensure it remains within cognitive limits conducive to fostering a stable, cohesive society.

Discussion

For a country like Outer Mongolia, these dynamics hold particular significance. While the population remains relatively small, maintaining meaningful interpersonal relationships, cultural integrity, and societal cohesion is more feasible. Additionally, fulfilling the population’s needs, as outlined in Maslow’s hierarchy, is comparatively easier under such conditions. However, as the population continues to grow, careful management will be necessary to preserve cultural identity amidst these demographic shifts. Population expansion is closely linked to economic transitions—specifically, the shift from a traditionally nomadic lifestyle to a more sedentary, urbanized existence. This transformation presents a unique challenge for Outer Mongolia, as it may, in the long run, pose a threat to national identity and, consequently, to societal cohesion.

For this reason, it is worth drawing attention to the division of labour which is only possible in increasingly large populations. The division of labour is often associated with capitalist societies, as suggested by the works of Adam Smith (Smith, 2008). However, rather than being an artificial construct, the division of labour emerges as a natural consequence of population growth. In primate social groups, increasing group size often leads to fission, as the group becomes too large to sustain itself effectively (Dunbar, 1992, p. 476). Dunbar’s research suggests that

human societies follow a similar pattern, with population expansion necessitating structural changes to maintain social cohesion (Dunbar, 1993, pp. 685–687). This process is inherently linked to the cognitive limits of human brains (Dunbar, 1992, p. 471; Dunbar, 1993, p. 681).

Adam Smith's analysis of the division of labour illustrates how this natural fissioning process manifests in increasingly complex societies and economies, where large-scale social cohesion is maintained through economic specialization. Consequently, any society could develop characteristics of a capitalist system as a result of these natural dynamics. However, as Smith also noted, administrative decisions by governing bodies can influence this trajectory. Policies designed to prevent the emergence of capitalist structures may inadvertently lead to economic stagnation and entrenched inequalities, as observed in 18th-century China (Smith, 2008, p. 92).

Using Mongolia as a case study, it becomes evident that deliberately hindering economic development and growth would be counterproductive. However, the expansion of the division of labour and the continuous creation of new occupations will inevitably drive the country further from its nomadic heritage and traditional cultural practices. In the future, Mongolia may face a critical decision: whether to implement policies that safeguard and sustain its nomadic way of life or to fully embrace a sedentary lifestyle. In the former case, cultural integrity and traditional heritage would be preserved, while in the latter, Mongolia would need to redefine its cultural identity to align with a new socioeconomic reality.

It is important to acknowledge that numerous other variables, which have been excluded from this study, can significantly influence interpersonal relationships, cultural integrity, and societal cohesion. These variables can have a substantial impact on these aspects of society, including:

- Technological innovation and development
 - Social media has connected millions, if not billions, of individuals, fundamentally altering the dynamics of social interaction. While this increased

connectivity has created opportunities for global communication, it has also had destabilizing effects on societal cohesion and cultural integrity. The exposure to far more people than is cognitively manageable, surpassing Dunbar's number, has contributed to the widespread dissemination of misinformation, an overwhelming influx of information, and the rise of political tribalism. Such conditions are ideal for increased harassment (Dunbar 1993, p 682). These effects have been compounded by the emergence of online policing and social defamation, which have had detrimental impacts on individuals' lives. As previously noted, such vast exposure can lead to feelings of disassociation. On the positive side, social media has enabled people to maintain regular contact over great distances, accelerated the spread of ideas, facilitated research advancements, and supported collaborative planning and organization.

- Crises and crisis events (Natural disasters, wars, pandemics, or famines etc)
 - Even in the context of large, modern populations, events such as war can serve to unite individuals across a nation, fostering social cohesion where fragmentation and disunity may have previously existed. Emile Durkheim's study on suicide highlights this phenomenon, noting that suicide rates tend to decline during major national crises, such as wars (Durkheim, 2005). In these circumstances, the shared challenges of the crisis alter individual priorities, creating a collective sense of purpose. As a result, social cohesion is reinforced through the unifying nature of the situation, strengthening national identity and providing individuals with a sense of purpose, even if they lacked one previously.
- Internal strife, corruption and/or instability in:
 - Politics
 - Economics
 - Religion
- Influx or presence of new or different ideas and beliefs.
 - These can disrupt or change the culture and society. If it happens too

fast, then it can critically destabilize it.

- Certain types of ideas and beliefs such as political and socioeconomic ideologies or religions can have a powerful influence over portions of the population and can dramatically disrupt cultural integrity, societal cohesion, and interpersonal relationships. These can go so far as to change the culture and behaviour of the state for better or worse.

- Influx or presence of people from different origins.

- These can disrupt or change the culture and society. If it happens too fast, then it can also critically destabilize it

- Local Environment

- Hostile local environments may encourage people to work together to survive or, depending on the group, make them turn against each other.

- The local environment in Outer Mongolia has historically been unsuitable for agriculture (Christian 2010) which has allowed for the long term existence of a nomadic lifestyle.

Conclusions

Mongolia, with its vast landmass and relatively small population, offers a unique environment for managing population dynamics and preserving traditional pastoralist culture. This relatively low population density has facilitated the maintenance of cultural integrity and societal cohesion, as the Mongolian people remain deeply proud of their heritage. Traditional practices, such as the wearing of the deel (a traditional garment), continue to play an important role in reinforcing cultural identity. However, the increasing trends of urbanization, impersonal concrete architecture, economic systems disconnected from culturally significant pastoralism, and technological changes pose a threat to this cultural identity, especially as the population becomes more sedentary.

The shift from a mobile, pastoralist lifestyle to a sedentary one presents challenges for maintaining cultural integrity. Sedentary living, which often goes

hand in hand with urbanization, is antithetical to the migratory patterns inherent in pastoralism. A balance must be found between preserving the traditional pastoralist way of life and adapting to the demands of urban life. While this transition is being willingly navigated by the population, it remains uncertain whether these changes will persist or result in the erosion of the cultural elements that define Mongolia. If the pastoralist way of life fades, the unique cultural identity of Outer Mongolia may be replaced by a new cultural paradigm.

The increasing prevalence of global architecture, which is often impersonal and lacks cultural significance, further exemplifies the tension between modernity and tradition. The rise of utilitarian architectural styles that do not reflect Mongolian heritage highlights the need for more culturally tailored designs that could help bolster cultural identity and integrity. However, the cost of implementing such designs may be prohibitive. Urban planning, particularly in larger cities such as Ulaanbaatar, Erdenet, Darkhan, Choibalsan, and Mörön, could play a key role in facilitating a balance between traditional pastoral spaces and urbanized areas. More research is needed to explore how this could be effectively achieved.

While it is evident that population size and density can negatively impact societal cohesion and interpersonal relationships, historical attempts to control population growth have often resulted in disastrous consequences (Andersson et al., 2024; de Silva & Silvana, 2017). Similarly, deliberate efforts to induce economic stagnation have been shown to create significant challenges (Smith, 2008, pp. 70–71).

A major threat to societal cohesion, cultural integrity, and interpersonal relationships, is the presence of large human populations, particularly in high-density areas. For individuals to thrive, they must feel that they contribute meaningfully to society while existing within a network of meaningful relationships. When societal cohesion and cultural integrity deteriorate, this sense of purpose is lost.

Large, impersonal institutions that lack cultural embeddedness may provide financial security and systemic stability, but they fail to fulfill the deeper psychological and social needs outlined in Maslow's hierarchy. As a result, interpersonal

relationships within such environments weaken, cultural integrity erodes, and societal cohesion is further strained. Consequently, fostering adaptability to new realities—while maintaining mechanisms that support social cohesion and cultural integrity in changing conditions—becomes essential.

In conclusion, while Mongolia's cultural integrity appears to be relatively strong, future challenges loom, particularly as the rural population continues to migrate toward urban centres.

This paper primarily examines the impact of population size and density on cultural integrity, societal cohesion, and interpersonal relationships. While acknowledging the influence of various other factors, it emphasizes the significance of population dynamics, particularly in relation to Dunbar's Number.

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Cinquante années de recherches préhistoriques au Burkina Faso et nouvelles perspectives épistémologiques

TOUBGA LASSANÉ¹

Introduction

L'archéologie africaine et particulièrement celle burkinabè a vu le jour avec l'occupation coloniale française, marquée par l'attrait pour les belles pièces pour ce qui est du mobilier et le gigantisme pour l'immobilier. Aujourd'hui, l'accroissement des données tant au Burkina Faso que dans la sous-région ouest africaine avec notamment des exemples d'industries lithiques qui questionnent les modèles des technocomplexes jusque-là établis (Soriano, 2003 ; Douze *et al.*, 2021 ; Scerri *et al.*, 2021, Toubga et Koté 2023) à partir des complexes d'Afrique de l'est, du sud et du nord (Mesfin et al. 2023), la diversité des acteurs et des institutions de recherche ainsi que les nouvelles problématiques de recherches qui en découlent

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nécessitent qu'on établisse un bilan épistémologique pour une réorientation des perspectives de recherche. C'est dans ce sens d'ailleurs que de nombreux auteurs au fil de l'avancée des recherches avaient déjà tenté de dresser des bilans des connaissances archéologique et préhistorique au Burkina Faso (Bequaert, 1948, Mauny, 1957, Guittat, 1972, Millogo, 1993a, Koté, et Millogo, 2000, Koté, 2019). Parce que, le développement des connaissances n'est pas indépendant de leur contexte historiographique et sociologique (Groenen, 1994, p.351), un rappel historique permettra de comprendre que ce n'est pas seulement l'accroissement des données, mais l'interaction complexe entre l'académie, l'histoire et la sociologie des temps qui nous mènent à notre base de connaissance contemporaine et influence nos approches et nos problématiques (Anderson, 2013, p.10).

Historique des institutions de recherches archéologiques et préhistoriques au Burkina Faso

Trois grandes phases structurent les recherches archéologiques et préhistoriques au Burkina Faso. La première couvre la date de la première mention des découvertes archéologiques en 1902 (Delafausse, 1902) à 1960 correspondant à la proclamation de l'indépendance. La seconde couvre la période allant de 1960 à 1976, année de la création du Laboratoire d'Archéologie au sein de la désormais Université Joseph Ki-Zerbo et la dernière phase couvre la période allant de 1976 à aujourd'hui. Pour la première phase, les collectionneurs ou les découvreurs d'alors étaient des « amateurs » plus ou moins outillés : administrateurs, ingénieurs, agents de santé, militaires, géologues, missionnaires, etc. (Millogo, 1993, p.97 ; Bocoum et Becker, 1997, p.873; Koté, 2011b, p.2). Ces collections ont fondé les premières études sur la préhistoire et l'archéologie des espaces du Burkina Faso (Bequaert, 1948 ; Mauny, 1957). Si elles furent d'abord de façon isolée l'apanage des « amateurs », par la suite, elles ont été menées sous la coupe de l'Institut Français d'Afrique Noire créé en 1936 avec pour siège Dakar qui servait de capitale à l'Afrique Occidentale Française pendant l'occupation et rebaptisé depuis 1966 avec l'appellation Institut

Fondamental d'Afrique Noire (IFAN) (Koté, 2011a, p.2).

La coordination de la recherche archéologique et préhistorique se poursuivra dans la seconde phase d'une part par « les vestiges » de l'administration coloniale et d'autre part par les nouvelles institutions mises en place. Il s'agit notamment pour le premier cas de l'Office de la Recherche Scientifique et Technique d'Outre-Mer (ORSTOM) et le Centre National de Recherche Scientifique (CNRS), de l'annexe de l'IFAN de Ouagadougou, devenu en 1968, Centre Voltaïque de la Recherche Scientifique (CVRS) baptisé aujourd'hui Centre National de Recherche Scientifique et Technologique (CNRST) et pour le second cas du Centre d'Etudes Supérieures (CESUP) créé en 1974 et devenu aujourd'hui Université Joseph Ki-Zerbo (Millogo, 1993, p.99).

Dans la troisième phase, la création du Laboratoire d'archéologie en 1976 au sein de l'Université Joseph Ki-Zerbo marque le début de l'encrage institutionnel de la recherche archéologique et préhistorique dans l'actuel Burkina Faso (Millogo, 1993, p.99). Depuis lors, les recherches archéologiques et préhistoriques au niveau national s'effectuent sous la couverture institutionnelle dudit laboratoire et depuis 2020, dans celui de recherches en sciences humaines et sociales de l'Université Norbert Zongo. Elles se font dans le cadre de la formation des étudiants en archéologie et de la collaboration avec les institutions de recherches étrangères.

Acteurs, fondements théoriques et objectifs des recherches

L'historiographie de la recherche archéologique et préhistorique fait des premiers acteurs, des « amateurs », commis de la cause de l'occupation coloniale (Bocoum et Becker, 1997, p.873;; Koté, 2011a, p.2). Cependant, il est aujourd'hui judicieux de reconnaître en plus de ceux-ci, le rôle primordial joué par les « auteurs anonymes », ces « ouvriers de l'archéologie de la première heure » qui n'étaient autres que les populations autochtones (Toubga, 2022, p.16). En effet, comme le rapportait Mauny (1957, p.2) : « la presque totalité des pièces étudiées jusqu'à ce jour et qui existent en collections ont été recueillies par des autochtones lors du travail des

champs et remises à des chefs de village ou directement à des Européens ». Ils servaient également de guide ou d'interprète (Henninger, 1954, p.6), permettant ainsi aux chercheurs d'alors d'accéder à des endroits inaccessibles aux étrangers.

Dans un autre registre, il sied de noter au regard des profils variés de ces « amateurs » et l'intégration de ces « ouvriers » dans la recherche, la synergie d'action autour de la reconstitution du passé à travers les collections archéologiques sous la coordination d'un pôle central qu'est l'IFAN, loin de la sclérose actuelle de la recherche (Koté, 2011b, p.19). C'est ce qui justifie également le fait qu'aujourd'hui, l'essentiel des collections de l'époque se trouve encore à l'IFAN à Dakar (Millogo, 1993; Koté, 2011b). Par ailleurs, l'un des objectifs poursuivis par ces collections était la détermination de l'ancienneté de la présence de l'homme dans ces contrées (Koté, 2011a, p.18). Elles ont permis à cet effet, de dresser les premières chronologies de l'occupation humaine ancienne selon la subdivision alors en cours en Europe et au moyen Orient. Toutes collectionnées hors contexte de fouille, elles ne sont localisables qu'à travers les localités de provenance.

En plus des travaux de ces acteurs « amateurs » qui ont été coordonnés au sein de l'IFAN, s'ajoutent ceux réalisés sous la coupole de l'ORSTOM et du CNRS entre 1960 à 1976. Ces travaux sont l'apanage d'anthropologues, de sociologues, de géographes et ont permis d'identifier des sites préhistoriques (Guittat, 1972; Grouzis, 1988). Ils tranchent par leur qualité avec ceux de la période de l'occupation coloniale. En effet, la topographie des sites, les cartographies réalisées et l'étude détaillée de certains vestiges permettent aujourd'hui de les retrouver (Millogo, 1993, p.99). Il sied également de noter que la découverte et l'étude de sites archéologiques dans le cadre des travaux des disciplines connexes à l'archéologie témoignent de l'existence de programmes et de cadres de recherches pluridisciplinaires ou l'archéologie venaient consolider l'interprétation des données sur la dynamique des systèmes écologiques (Grouzis, 1988, p.243). A cette époque, la touche nouvelle concerne également les cadres géographiques desdites études qui, contrairement à l'époque des « amateurs » où les sites se referaient aux villages, chaque site a des références

GPS d'où l'existence des cartes et tous s'inscrivent dans des cadres en lien avec des cadres naturels ou historiques (Grouzis, 1988).

Les recherches systématiques sur la préhistoire au Burkina Faso ont débuté dans la décennie 1970 avec les recherches doctorales d'Andah Basse (1973) et la création du laboratoire d'archéologie en 1976 (Millogo, 1993, p.2). Pour le premier cas, lesdites recherches ont porté sur *Archaeological reconnaissance of Upper Volta* (Andah, 1973). Elles ont permis d'entreprendre les premières fouilles suivies de datations radiocarbone et d'obtenir les premières données paléoclimatiques au Burkina Faso (Andah, 1973). En définissant, le cadre chrono-culturel selon la subdivision panafricaine contrairement à celle jusque-là en vigueur, Andah ouvrait la page d'un usage pluriel des terminologies préhistoriques au Burkina Faso. Dans le cadre du laboratoire, les investigations ont été l'œuvre des étudiants durant leurs formations de 3e cycle (Sanou, 2017, Ouédraogo, 2017), mais aussi des enseignants d'une part dans le cadre de leurs travaux personnels, et d'autre part au cours des études d'impact environnemental et social. Ces recherches se caractérisent généralement par une prospection dans une zone choisie selon des critères ethno-historiques ou administratifs actuels, la collecte de quelques vestiges en surface, l'analyse typologique des outils et par la suite, une corrélation avec les industries lithiques connues de la sous-région ouest-africaine ou européenne (Toubga et al. 2024, p.2). Dans ce modèle où des archéologues ciblent d'abord un espace et non une thématique précise, les recherches menées tous azimuts, couvrent parfois de longues séquences chronoculturelles. Le bénéfice qu'on en tire est l'identification et la définition progressive des thèmes de recherche, et cela, au rythme des résultats acquis sur le terrain (Elouga, 2011).

A ces recherches systématiques menées par des acteurs locaux, s'ajoutent celles réalisées par des étrangers. Elles ont été effectuées dans le cadre soit d'une collaboration universitaire, soit à titre individuel dans le cadre de leurs recherches doctorales. C'est à ce dernier groupe d'intervenants dans le champ de l'Archéologie burkinabè que nous devons les premières recherches systématiques mentionnés

ci-dessus avec le cas d'Andah. Il est suivi dans les années 2000 par Gallagher dans le cadre de sa thèse intitulée : « Farming beyond the escarpment society, environment, and mobility precolonial southeastern Burkina Faso » (Gallagher, 2010); qui prolongera d'ailleurs la pluralité des terminologies avec l'introduction la subdivision anglosaxonne. À cette première catégorie de chercheurs étrangers, s'ajoute une seconde catégorie qui a travaillé sur la base d'une collaboration universitaire où institutionnelle. On retiendra de ces collaborations celles avec les universités de Frankfort (Allemagne) et de Padoue (Italie) (Frank, et al. 2001, Fontana, et al. 2010). Les caractéristiques principales de leurs investigations résident dans le fait qu'elles soient des projets pluridisciplinaires avec des objectifs centrés sur la connaissance des données paléoenvironnementales et couvrent des espaces naturels relativement vastes autour de deux objectifs principaux. Le premier portait sur la connaissance des environnements et des cultures matérielles au cours de l'Holocène. Le second objectif consistait à identifier la transition entre les chasseurs-cueilleurs et les économies de cultures sédentaires (Frank, et al. 2001, Fontana, et al. 2010).

Données actuelles et nouveaux paradigmes de la recherche préhistorique au Burkina Faso

Les résultats des investigations de ces différents acteurs ci-dessus évoqués ont permis l'identification de nombreux de sites préhistoriques. L'analyse morpho-typologique des vestiges qui en sont issus montre des vestiges caractéristiques de toutes les grandes séquences chrono-culturelles préhistoriques. Pour le Early Stone Age (ESA), les vestiges caractéristiques de l'Oldowayen ont été identifiés sur la falaise de Banfora à la hauteur du village de Dramandougou (Millogo, 2000, p.12) (Figure 1). Ceux caractéristiques de l'acheuléen ont été identifiés dans plusieurs sites (Figure 1). Ils se situent dans leur ensemble sur les berges des rivières ou des torrents et les matières premières utilisées relèvent toutes issues de la géologie locale. Néanmoins, il faut noter que l'attribution *de facto* de ces vestiges aux cultures oldowayenne et acheuléenne est sujette à caution à bien des égards. En effet, en l'absence de datations

absolues et de contextes stratigraphiques précis, les données récentes indiquent que la typochronologie seule n'est pas un outil adapté dans le séquençage de la préhistoire ouest africaine, du fait des survivances des caractéristiques reconnues comme (ESA) dans les industries Middle Stone Age (MSA) (Soriano, 2003) ou encore celles relatives au MSA au Late Stone Age (LSA) (Scerri, et al., 2017 ;2021, Toubga et Koté, 2023).

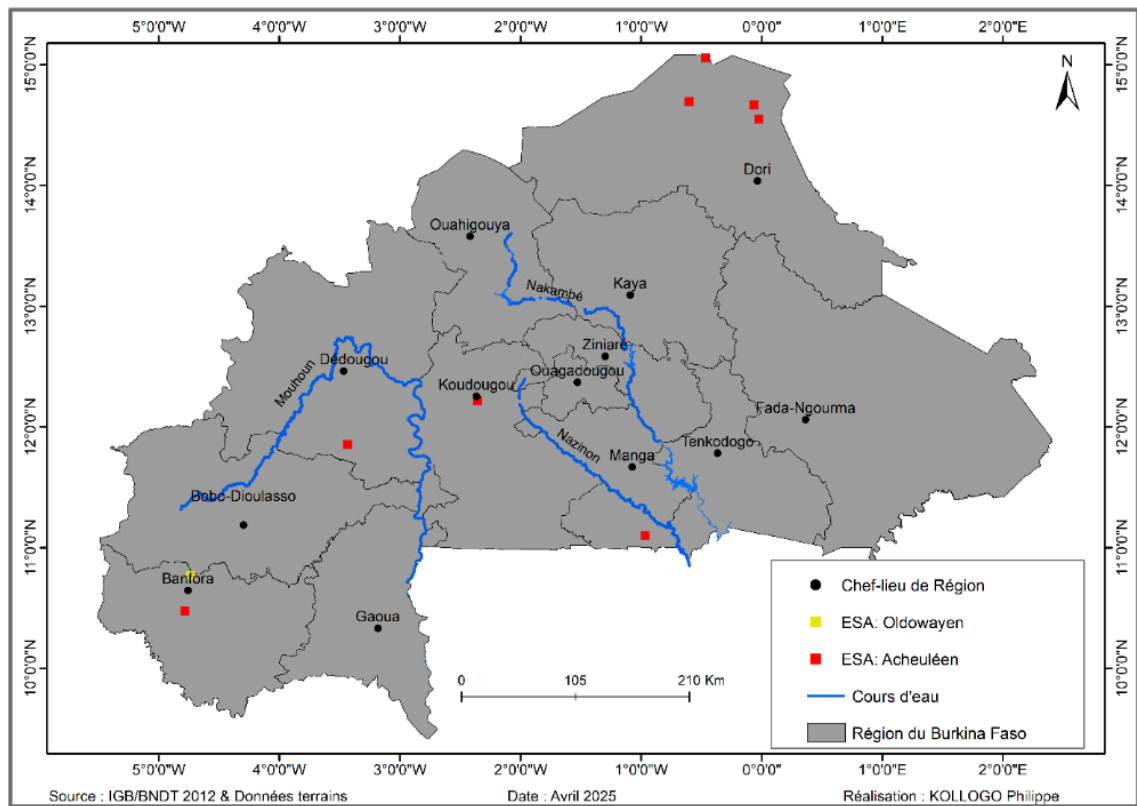


Figure 1 - localisation des sites ESA connus du Burkina Faso (Toubga et al. 2025)

Le MSA est plus représentatif d'un point de vue numérique que le ESA (Figure 2). Définis sur la base des critères du « MSA générique » (Will et Scerri, 2024), certains des sites caractéristiques ont fait l'objet de fouilles comme ceux de

l'abri sous roche de Maadaga (Frank, et al. 2001) dans le massif du Gobnangou et de Nvéto (Koté et Coulibaly, 2021) sur les falaises de Banfora. Outre ceux-ci, d'autres sites de plein air ont été identifiés à l'échelle du pays. A l'exception de la dernière phase MSA de Maadaga, les matières premières utilisées relèvent de la géologie locale comme pour le ESA (Toubga et Koté 2023). Comme le ESA, le MSA reste également privé de réponses claires puisque les sites stratifiés à l'exception des abris sous roche de Maadaga et de (Kawara ?) sont inconnus, voire inexistant. Néanmoins, les résultats des recherches sur les sites MSA de Ounjougou (Soriano, 2010), de Birrimi (Baluh, 2017) et Anyama (Ben Arous, et al. 2025) offrent désormais plus de possibilités pour une analyse comparative du MSA du Burkina Faso.

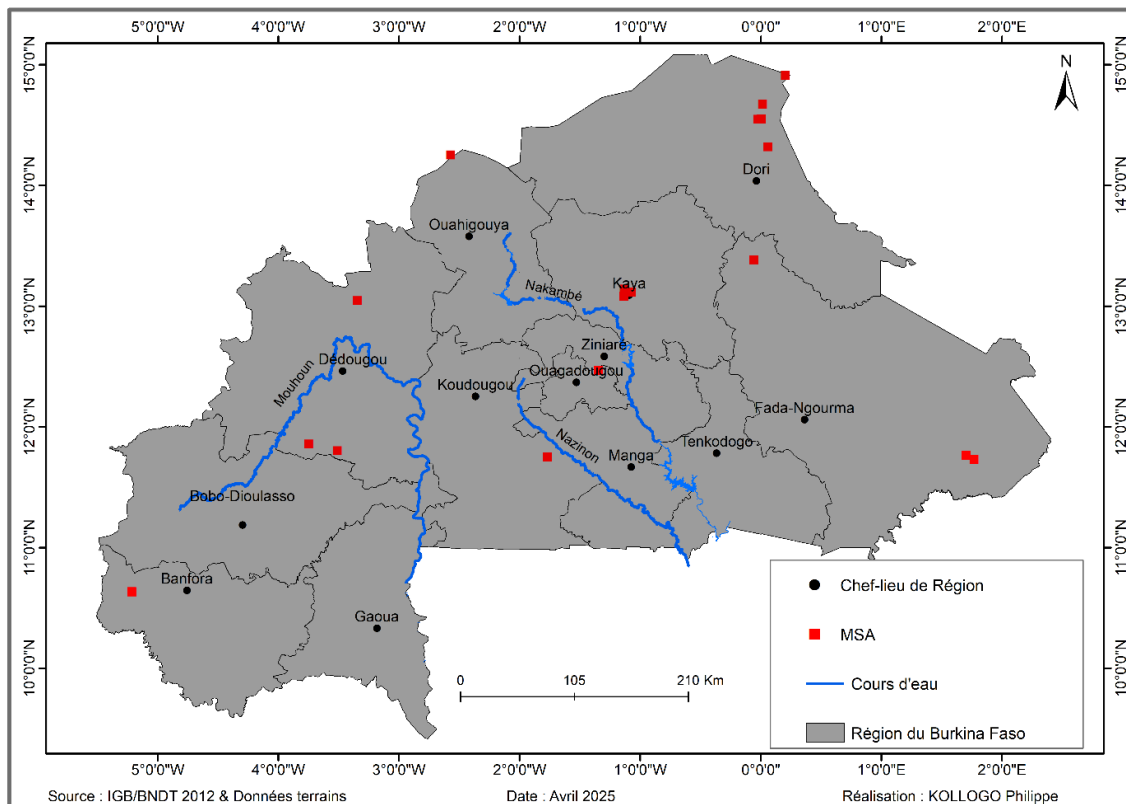


Figure 2 - localisation des sites supposés MSA du Burkina Faso (Toubga et al.2025)

La dernière séquence qu'est le LSA est la mieux connue et la mieux représentée du point de vue numérique (Figure 3). En effet, contrairement aux séquences précédentes où la plupart des vestiges découverts étaient hors contexte stratigraphique, une bonne partie de ceux du LSA présente des stratigraphies bien définies avec des séries de datations absolues. Ces données chronologiques et les caractéristiques des vestiges indiquent que le LSA présente un caractère pluriel au Burkina Faso avec à ce jour 4 technocomplexes identifiés (Koté et Toubga, 2023). Aussi, s'il est la séquence la mieux connue, il n'est pas exempté des problématiques qui empêchent sa bonne appréhension. En effet, il est confronté à deux problématiques essentielles. La première porte sur son imbrication avec des terminologies préhistoriques différentes. Déjà dans l'établissement des équivalences entre les chronologies française et anglo-saxonne (Sutton, 1980), le LSA est associé à la période des grandes mutations marquées par les faciès culturels du Paléolithique supérieur, du Mésolithique et du Néolithique. De ce fait, sa détermination se fonde sur la base d'une pléiade de « fossiles directeurs » au point que sa subdivision en double séquence : « acera-mic Late Stone Age » et « ceramic Late Stone Age » (Andah, 1979) ou en triple séquence : « Late Stone Age inférieur », « Late Stone Age moyen » et « Late Stone Age supérieur » (N'Dah, 2009) ne constitue pas une solution viable. A cela s'ajoute dans le contexte burkinabè, la problématique liée à la subdivision chronologique. En effet, la diversité des acteurs implique une utilisation plurielle des terminologies.

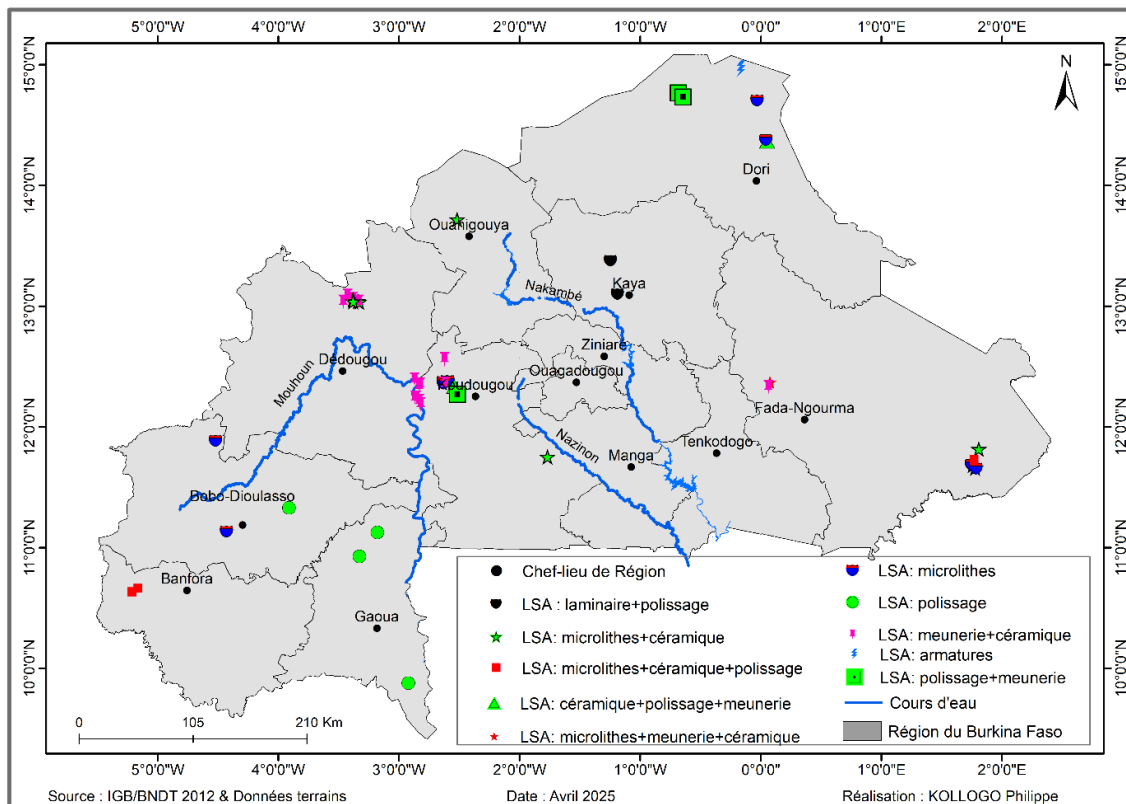


Figure 3 - cartographie des sites supposés LSA du Burkina Faso (Toubga et al. 2025)

Pour le cas du LSA, cette situation est plus perceptible parce que bien que le Paléolithique supérieur comme le Mésolithique ne soient pas définis, les acteurs n'hésitent point à faire recours au Néolithique dès qu'ils sont en face des contextes microlithiques ou d'outillage poli (Koté, 2000, Ouédraogo, 2021) malgré la persistance de ces éléments jugés néolithiques dans la vie contemporaine. La deuxième problématique liée au LSA au Burkina Faso réside dans la nature des études menées sur les sites. En effet, cette période comme celles précédentes sont des séquences dynamiques à l'intérieur desquelles des mutations et variations se sont produites qu'il sied de définir pour en filigrane tenter de comprendre la lancinante problématique de la fin de la préhistoire et du début de l'histoire.

De ce qui précède, l'absence ou l'insuffisance de certaines données collectées sur les différents sites limitent les connaissances exhaustives de la préhistoire burkinabè confrontée par ailleurs à quatre principaux paradigmes : le premier est représenté par l'insuffisance des sites datés ou en stratigraphie ; le second est lié à l'utilisation d'une terminologie plurielle, le troisième aux limites des études systématiques du matériel et le dernier porte sur la problématique de la fin de la préhistoire. S'inscrivant dans une logique de réponses à ces problématiques soulevées, la recherche préhistorique au Burkina Faso doit désormais s'inscrire dans une perspective plurielle associant données culturelles et paléoenvironnementales. Tenant compte du paradigme sécuritaire actuel, elle doit se circonscrire dans des cadres géophysiques situés dans des zones présentant des garanties de sécurité à partir desquelles des recherches pluridisciplinaires doivent être menées. Le recours au référentiel naturel dans la délimitation des champs de recherche préhistorique permettra de s'inscrire dans la dynamique des recherches de même nature en Afrique de l'ouest (Plateau d'Ounjougou, Falémé, etc.) (Huysecom et al. 2004 ; 2013). Ce nouveau modèle individualiserait des aires de recherche contrairement au modèle actuel et permettrait d'élaborer des problématiques fédératrices, transversales à plusieurs disciplines scientifiques (Elouga, 2011) à l'échelle de l'Afrique de l'ouest. D'autant plus que la position du Burkina Faso entre le Sahel au Nord et la forêt côtière au Sud en fait une zone tampon de réception et d'expansion des influences extérieures (Millogo, 1993, p.97).

De ce référentiel naturel, se greffera un objectif central qui sera la détermination des dynamiques des cultures matérielles dont le point d'orgue sera la définition et la caractérisation de la fin de la préhistoire. L'usage des nouvelles méthodes de datations (ESR ; OSL, etc.) contrairement aux seules datations radiocarbone jusque-là utilisées permettra de disposer de données absolues dans l'optique d'un meilleur séquençage des dynamiques d'occupation et des faciès culturels.

Conclusion

La littérature archéologique publiée depuis l'occupation coloniale française jusqu'aujourd'hui au Burkina Faso témoigne de l'existence des cultures matérielles préhistoriques. Le corpus de données disponibles apporte un éclairage morpho-typologique et chronologique sur des ensembles culturels marqueurs des phases du peuplement préhistorique. Ces résultats souffrent, néanmoins de leur caractère éparpillé dû à la dispersion des champs de recherche explorés. L'isolement des acteurs et l'absence de cadre commun tant au niveau institutionnel que national ne permettent pas une confrontation théorique et méthodologique source des divergences terminologiques observées dans la nomenclature des industries lithiques comme dans la subdivision des différentes séquences préhistoriques.

Cette historique des recherches a permis de faire un état des lieux des investigations préhistoriques des 50 dernières années au Burkina Faso et d'oser de nouvelles perspectives épistémologiques en phase avec les nouvelles techniques et méthodes de recherches et les problématiques de recherches préhistoriques actuelles à l'échelle de l'Afrique de l'ouest.

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What to preserve? The discourse of the (re-) production of local knowledge for prehistoric heritage sustainability

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Introduction

The demarcation line dispute between Thailand and Cambodia escalated again in July 2025. In the heart of a conflict area, there is an archaeological site in which an ancient Prasat Ta Moan Thom Temple stands (Al Jazeera, 2025). Five months earlier, in March 2025, the 7.7-magnitude earthquake killed civilians in Myanmar and destroyed the capital's new airport (Euronews, 2025). Unfortunately, it happened fifty years after the earthquake that devastated the Pagoda in Pagan in 1975.

From the perspective of humanity and heritage management, the natural and the Anthropocene events have threatened human and heritage sustainability. Southeast Asia has a wealth of heritage resources. In July 2025, UNESCO recorded 211 cultural heritages, 73 natural heritages, and 12 mixed in Asia and

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the Pacific, from a total of 1,223 World Heritage Sites (WHS) worldwide. It constitutes the second largest position after Europe and the North American region. Nonetheless, in Asia, heritage management facing natural conditions encompasses humidity, soft soil, tropical weather, and natural disasters. In addition, the imbalance contestation in several aspects, including social, economic, and political (see Henderson in Timothy and Nyaupane, 2009), religious, tourist activities (Miura, 2022), changes in land and building use.

Prehistoric heritage, as part of the WHS categories, has specific types and management. In recent heritage management, encouraging active community involvement is an endeavor to acknowledge the agency and impact of the community and avoid the exclusivity of scholarly authority (Acabado, 2020). Community, thus, is a prominent element that is revised as the “fifth” C of Credibility, Conservation, Capacity Building, and Communication. Highlighted community means recognize and value the local community in all process of sustainable heritage management (Göttler and Ripp, 2017). It aligns with the integration of the Sustainable Development Perspective into the processes of the World Heritage Convention, which was declared in its 20th session in Paris. To undertake inclusive and interdisciplinary approach both natural science and culture in heritage research and conservation was also initiated by UNESCO thematic program, Human Evolution: Adaptations, Dispersals and Social Development. The program invited policy-makers, scientific academic, experts, institutions, and local communities to take part in discussion of challenge, best practice and empower local, national, and global networks (Sanz, 2011).

In the general framework, this article focuses on the prehistoric heritage management debate of the Sangiran Early Man Site, Central Java, Indonesia. Sangiran is a dense population of protected area that contains plethora documentations of human evolution in 56 km² site. The Sangiran dome provides a pivotal prehistoric value. Scientifically, the sites reveal the evidence of dispersals of the earliest islanders in human history, which evolved through biological and cultural adaptations in

dynamic changing natural dan environmental circumstances. This is proven through series of human remains dating back from 1.6 and 0.6 million years ago, artifacts, ancient occupations' traces and animal fossils in the documentation.

Community involvement in Sustainable Heritage Management

Several efforts to encourage local community in Sangiran are conducted by stakeholders, such as government, academics, and artists. The table 1.1 shows some programs that discuss to depict the endeavor community involvement.

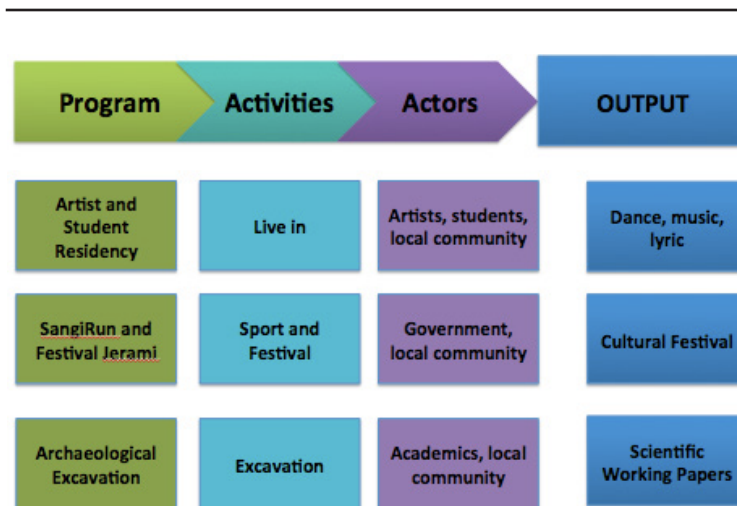


Figure 1 - Community involvement program

The first program is artist and student residency. The program conducted by Indonesian Institute of the Arts (ISI), Surakarta co-collaborated with Balai Pelestarian Situs Sangiran (BPMPS) or the Conservation Office of Sangiran Early Man Site that allowed academic to live in and have strong intensive interactions with the local people in Manyarejo, one area in Sangiran Dome site. They explored local knowledge in social, art and cultural tradition to create the performance or cultural festival. Gejog Lesung is a rural agricultural traditional music with playing rhythmic percussion by hitting bamboo or wood on a rice pounder. In prior,

Javanese farmer played this instrument during solar eclipse ritual to chase away bad things or leisure time after harvest and pounding rice all day long. Nonetheless, the ritual shifted as well as use of rice milling machines.



Figure 2 - Gejog Lesung performance (Photo credit: Sih Natalia Sukmi)

Based on this potential, some attractions are yielded encompass dance, music and lyric that contains the local beliefs, communities habits and way of thinking, and prehistoric value. The following lines are the lyrics that created by lecturers that used by local people in their performance.

Balung Buto, "Galo kae butone gedhe-gedhe, koyo wewe rambute-rambute trus diore e e. Dasar buto goro goda ndang minggato. Ora wedi ora, tak dongane rina wengi. Sumingkiro buto-buto ilang musno."

Buto Galak, “Buto-buto galak, solahmu lunjuk-lunjuk, sarwi sigrak-sigrak, nyandak konco nuli tanjak, bali ngadeg maneh, rupamu ting celoneh, iki buron opo tak senggung buron kang aneh. Lha wong kowe we we sing mara marai ihi-ih, aku wedi ayo konco pada bali, galo kae galo kae, mripate plerak-plerok, kulite ambengkerok, hi hi, aku wedi, ayo konco podo bali.”

The lyrics talked about the Balung Buto myth. Previously, Sangiran inhabitants believed that the fossils they found in backyards, fields, rivers, etc were the bones of the Giants. Etymologically, *balung* is a Javanese word that refers to a bone, and *buto* means the Giant. Inspired by the myth, a lyric of the Gejog Lesung was born. Furthermore, in some festivals, the Brayat Krajan (a local Manyarejo community) plays the arrangement and lyrics.



Figure 3 - Balung Buto dance (Photo credit: Sih Natalia Sukmi)

Figure 3 depicts the creative contemporary dance played by the local children in the cultural festival on June 14, 2023. It celebrates *Hari Purbakala*, the Indonesian festivity to increase public awareness of the national cultural heritage. The students,

lecturers, and artists designed dance choreography and costumes about the story of the myth. Afterwards, they regularly trained the children during residency. While at the cultural festival, they also built some prehistoric ornaments, including a cast of ivory, human skulls, and artifacts.

The second program is SangiRUN and Festival Jerami (Prasetyo, 2023). Besides culture and art, the endeavor to entangle the local community is also employed in sports and festivals. Initiated by the Indonesian government and BPSMPS, SangiRUN, the night trail run is held around 25 villages in the Sangiran sites and finishes in the Prehistoric Lighting Festival. In the same event, the local communities are also invited to follow a contest of a giant replica of a prehistoric animal and a human made from rice straw.

The third program connected with archaeological excavations. Andojo is an Indonesian worker in the archaeological excavation of the Dutch geologist, J. Duyfjes. He discovered the little juvenile calvaria of Peking, Mojokerto, in 1936. Another story of the invention of fossils in Sangiran often began from the information provided by the local people. Von Koenigswald, a German-Dutch paleontologist and geologist who discovered fossils and artifacts, including Homo Erectus, acknowledged his companions, Atma, a Javanese person who helped with his work (Tobias, 1976). In development, the archaeological excavations have allowed the local people to participate, even though on some occasions, the local people still focus on field labor.

Knowledge production or pseudo-participation

For heritage sustainability, community involvement is in conjunction with knowledge production participation. According to (Zhang, Yan and Hassman, 2013; Rasoolimanesh *et al.*, 2017; Zhang *et al.*, 2020), there are three levels of community participation, including coercive participation, induced participation, and spontaneous participation. Three degrees of participation connect with the power of self-determination of the community in the decision-making process. The coercive

participation refers to the fact that the outside community has a stronger power than the community, and the level goes up from induced participation to spontaneous participation. In the highest level can encourage trust, ownership, and social capital among citizen (Rasoolimanesh *et al.*, 2015).

This study has been conducted to elaborate on the aforementioned efforts of some stakeholders to involve the Sangiran community in the prehistoric heritage management. Interaction of local inhabitants with artists and students who lived in Manyarejo village demonstrated dance, music, and lyrics that contain a combination of traditional and scientific knowledge of prehistoric heritage value. Nonetheless, the interview with a teenager who actively participates in the program reveals that knowledge transmission linearly occurred from the artists and students to the inhabitants. As a result, after the end of the residency program, the activities also finished. Figure 4 depicts the ambience in the Manyarejo village during the Human Origins Heritage program in 2024, in which the students from ISI stayed.



Figure 4 - The situation of students live in program in the Manyarejo Village (Photo credit: Sih Natalia Sukmi)

In SangiRUN and Festival Jerami, the government took a prominent role in initiating and organizing the cultural festival. Cooperation among the community members produced beautiful giant ancient animals and human figures. However, instead of the key holder, the community tended to work based on top-down instruction to participate in the festival competition. Decision-making actor in co-creating activities and knowledge worked within the government. Similarly, archaeological excavations that emphasize the research protocol to answer research goals, the community plays a lesser role in the knowledge production process.

The debatable claim about community involvement merely occurred in the result rather in process. The terminology of participation often is signified as a check list noted rather than fully position in whole process of heritage management since planning to evaluation. Freire argued that conscientization for oppressed or marginalized people is challenging. They believe that their voices and perspectives were irrelevant, that they were powerless, and that literacy was not necessary for “people like us” (Freire, 1993; Briziarelli, 2011) since disappearance of the dialectic would require the disappearance of the social structure itself and thus of men. Developing literacy was intertwined with learning to critically “read” dehumanization. This transformational change only happens in dialogue communication that has an equity space for all humans, including community (Servaes, 1996).

Conclusion

Several studies have highlighted the crucial role of community position in heritage conservation. The discussion revealed the lack of participation in the whole process of the heritage management program. In practice, local communities have not yet become key holders in heritage conservation. In order to achieve a spontaneous level, the community participation program has to take the communities’ trust and sense of belonging into account. Implementing community involvement, then, needs collaboration between stakeholders. Whether these initiatives were useless or not should be reviewed and re-implemented through various studies that also underpin the interests of the community.

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Archaeology, Arts and Crafts for Research and Education. The Experience in Southern Italy's Molise with Archaeometallurgy, and Abstract Art in Molise's State Museums

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Introduction

According to research and cultural management planning for 2024-2025 to Archaeological Parc of Sepino- Regional Direction of National Museum of Molise, we present the activities carried out within a multi-year project and a programmed exhibition,

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- 1 Ministry of Culture, Italy
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 - 5 University of Molise, Italy
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 - 7 Artist. Genova, Italy

focused to put in to practice the ICOM definition of museum, above all in the part in which it is stated that “museum offering varied experiences for education, enjoyment, reflection and knowledge sharing”. First, the project “Interventions for the innovative use and scientific valorization of the collections- Archaeometallurgy of Pentrian Samnium”, founded by Ministry of Culture conceived and managed by Archaeological Parc of Sepino- Regional Direction of National Museum of Molise, aims to carry out an archaeometallurgical study of the protohistoric bronze collections and Samnite contexts, with the aim of creating both tactile bronze copies faithful to the originals and of creating a pluridisciplinary museum storytelling. In this project the University of Genova, Department of Chemistry and Industrial Chemistry is a scientific partner. Second, the plan of expositions “Abstraction of archaeology: wings” it was born from the idea of the artist Hanne Blitz and was included in the temporary exhibition plan with the aim of offering the visitor a non-traditional vision of the shapes in archaeological finds.

Archaeometallurgy of Pentrian Samnium: from chemical of bronze to pluridisciplinary museum storytelling and tatical tools

Replicating ancient metallic artefacts using traditional casting techniques plays a key role in advancing the field of archaeometallurgy and in promoting a deeper understanding of historical metallurgical knowledge as applied to cultural heritage, including sciences within archaeological exhibit (Copley 2017). Within this framework, the experimental reproduction of copper-based alloys, primarily involving Cu, Sn, and Pb, provides a means to systematically investigate not only the technological processes used in antiquity but also the cultural and functional motivations behind the selection of specific alloy compositions. The artefacts under study, preserved at the National Archaeological Museum of Campobasso (Molise, Italy), include a range of metallurgical materials dated to protohistoric and classical contexts (Di Niro 2007; Santone 2010: 32-39). The category of artefacts analyzed includes votive Hellenistic figurines of Heracles, a demigod highly venerated by

the Samnite populations who inhabited ancient *Samnium*, as well as various types of tools from Bronze Age such as spearheads, axes, and swords (fig. 1) (Delfino,. Carbonara 2020). All the artefacts were previously subjected to analytical investigation to better understand their composition and to ensure that the experimental replication would be as faithful as possible to the original materials and techniques. This approach allows researchers not only to infer the manufacturing processes employed in antiquity, but also to observe, for example, the original color and appearance of the artefacts, features that are typically obscured for modern viewers. Due to the long periods of burial (in tombs, hoards, or deposits) and the specific burial conditions, such as soil humidity, pH, oxygen exposure, and the presence of organic agents, ancient metallic objects are now covered with corrosion products (patinas) that alter their surface appearance. As a result, visitors usually perceive these objects in shades ranging from green to brown or grey green, rather than in the golden metallic hues they originally displayed. Metallographic observation of cross-sectional samples can, however, reveal crucial information about ancient production techniques. For instance, it is possible to determine whether an artefact can be classified as *as-cast*—that is, produced directly by casting without further modification, or whether it underwent post-casting treatments such as thermal processing (e.g., annealing) or mechanical deformation (e.g., cold or hot hammering, rolling) (Campbell 2011). These insights are fundamental to reconstructing the *chaîne opératoire* that led to the creation of the final object, offering a more nuanced understanding of the technological and creative processes involved in ancient metalworking. These objects exhibit complex alloy systems characteristic of ancient bronze metallurgy, where the controlled addition of tin and lead was not only functional (e.g., improving castability, hardness, or workability) (Paul, Ghosh, Boettinger 2011) but also carried technological and possibly symbolic significance.

Chemical analysis and experimental casting

To reconstruct ancient manufacturing pathways, a series of experimental replications

were carried out at the *Pontificia Fonderia Marinelli in Agnone* (IS)m (fig.2 and 3), one of the oldest operating bell foundries in the world. Using the lost-wax (*cire perdue*) casting technique—documented in historical sources and still practiced in *Agnone*, at *Marinelli's* foundry, faithful replicas of the original artefacts were produced. This approach enabled a comparative analysis between ancient and modern recreations, yielding critical data on alloy behavior during melting, pouring, and solidification phases under historically plausible conditions. Such experimental procedures are essential for interpreting metallurgical data derived from destructive and non-destructive analytical techniques. In this context, both compositional and metallographic investigations were conducted at the Metallurgy Laboratory of the Department of Chemistry and Industrial Chemistry at the University of Genoa (Italy). These analyses, which included scanning electron microscopy with energy-dispersive spectroscopy (SEM-EDS), X-ray fluorescence (XRF), and optical metallography, provided detailed insights into microstructural features, manufacturing processes, and alloying practices. Replication also supports a multidisciplinary dialogue between archaeology, materials science, chemistry, and metallurgy, enabling hypotheses on ancient craftsmanship to be tested in practice. Moreover, these replicas will play a central role in the development of a new multidisciplinary musealization project that aims to integrate scientific and humanistic perspectives. From a methodological perspective, compositional and metallographic analyses were carried out through a combination of non-destructive and micro-invasive techniques. Samples were embedded in epoxy resin, polished using progressively finer abrasives, and etched with appropriate chemical reagents (e.g., FeCl_3 solution) to reveal the microstructure. Optical microscopy was used for the characterization of metallographic features such as grain size, phase distribution, and evidence of thermo-mechanical treatments. In addition, scanning electron microscopy with energy-dispersive spectroscopy (SEM-EDS) provided high-resolution imaging and semi-quantitative elemental composition, while X-ray fluorescence (XRF) was employed for bulk chemical analysis of the artefacts' surface and subsurface layers.

The lost-wax casting process used for the replication phase involved several carefully controlled steps aimed at faithfully reproducing the original artefacts. Initially, a negative plaster mold of the object to be replicated was created, into which hot wax was poured to produce a detailed positive wax model. This wax replica served as the core around which the subsequent casting mold was built. Once the wax model was formed, it was fitted with wax rods known as sprues and vents (*sfilatoi*), which served dual functions: to allow the molten metal to flow into the mold and to permit the escape of air and gases during casting, thereby preventing defects such as porosity or incomplete filling. The wax model, complete with sprues, was then coated in successive layers of clay, starting with extremely fine-grained material to capture surface detail, followed by coarser layers to provide structural strength. This multi-layered ceramic shell was then left to dry and subsequently fired in a kiln. The firing process had a dual purpose: it hardened the clay mold and caused the wax to melt and evacuate through the sprues, a process that gives the technique its name, “lost-wax casting” (*cire perdue*). The resulting hollow mold cavity, which precisely mirrored the geometry of the original object, was then filled with molten bronze alloy. Upon cooling and solidification of the metal, the outer clay mold was broken away, revealing the final cast object. The metal artefact thus produced required only minimal finishing work, and its structural and aesthetic properties closely reflect those of the ancient exemplary. This traditional and labor-intensive technique, still practiced today at the *Pontificia Fonderia Marinelli*, not only allows for high-fidelity replication of ancient forms but also provides valuable experiential insight into the physical and technical challenges faced by ancient metalworkers (Piccardo, Ghiara, Vernet 2017). It serves as a critical experimental tool for archaeometallurgists aiming to reconstruct historical technologies in a rigorous and reproducible manner. By incorporating analytical chemistry, archaeometallurgical research, and material science within a museological framework, the project seeks to offer visitors a comprehensive and interactive understanding of ancient technologies. This approach not only enhances the interpretative potential of the artefacts

themselves but also promotes public engagement through tangible reconstructions grounded in rigorous experimental methodology. A key element of this initiative is the creation of educational modules and interactive exhibits designed to make complex scientific data accessible to a broader audience, including students, educators, non-specialist visitors and blind people (Fornasari 2020). Through the use of multimedia content, reconstructed objects, and hands-on experiences, the exhibition will serve as a dynamic space for exploring the intersection between science and cultural heritage (Randaccio 2017: 187,202). This not only contributes to the valorization of local traditions and materials but also fosters scientific literacy and interdisciplinary awareness in the context of museum education. In this sense, the integration of archaeometric analyses with historically informed replication offers a powerful model for the study of ancient metallurgy as both a technical system and a cultural practice, while simultaneously contributing to the valorization and dissemination of regional heritage.

Exhibition Wings. Abstractions of Archaeology. At the Crossroads of Memory, Material Culture and Contemporary Abstraction

Origins

As an art historian, classical archaeologist, and visual artist, H. Blitz draws inspiration for his creative work from the field of archaeology, textile design (Bieri Thomson et al. 2018), and the work of other artists (Vasarely 2014, Locher et al. 1971). In 2019, for example, Galleria Gino Marotta - Aratro presented his collection of realistic oil paintings, The Acanthus Series.

Despite the exhibition's success, Blitz felt that his work, inspired by archaeology, would benefit from the possibility of different interpretations. He concluded that, to accomplish this, he needed to abandon the faithful depiction of the physical object and instead take an abstract approach.

He decided to apply his research findings to a series of 30 drawings inspired

by a recurring motif in ancient art and architecture that appeared as a decorative element and as a carrier of meaning from Mesopotamia to ancient Rome: the wing.

Concept

In an archaeological context, sculpted wings are often damaged or exist as fragments of larger works (Stuart 1990). What appeals to Blitz as an artist for this project are not the ancient wings' reconstruction drawings, but rather proportion, repetition, and balance for new compositions. Thus, the appearance of a wing becomes the starting point for developing rhythms and original shapes. In this way, he designs autonomous works that nevertheless carry the reminder of their remote origins.

Technique

Wings. Abstractions of Archaeology is the result of a hybrid approach. The digital tool Adobe Illustrator provides variations and spatial relationships in design impossible to find by hand alone, and the machine-like accuracy in the linear designs printed on Hahnemühle Bamboo sheets of paper. The final, hand-coloring stage using Caran d'Ache Luminance 6901 pencils gives each drawing its hand-crafted appearance.

Interestingly, the interplay between ancient source material and contemporary technique mirrors the element of time in archaeology itself: the digital realm is capable of immediate formal transformations, just as the passage of time can cause an object's sudden alterations. On the other hand, the manual coloring of the drawings positions them in a millennia-long tradition of slow-paced craft. Likewise, the paper's texture catches the pencil's pigment in unpredictable ways, recalling the unpredictability of how time erodes abandoned artefacts.

Wings. Abstractions of Archaeology - the exhibition

Placing the abstract drawings within a museum's archaeological collection would

create proximity to real archaeological objects. An exhibition would be a unique opportunity to share the ongoing interaction of artist with archaeology, and for the museum visitor to reflect upon the changes that an archaeological object's form can experience.

Consequently, an archaeological collection would not only be a repository of age-old physical objects and of tangible traces of past ideas. It would also emphasize the enduring legacy of ancient art as a source of original, artistic research, become a meeting point for a visual dialogue between past and present, and show the transformation of ancient material culture's shapes into a contemporary, abstract language.

In December 2023 Blitz presented an exhibition proposal for his new color pencil work to the director of the National Archaeological Museum of Campobasso. A presentation to the management team of Sepino's Archaeological Park, led by Dr. Enrico Rinaldi, director of Molise's Regional Directorate of Museums, and Dr. Lorenzo Canova, art critic and art historian at the University of Molise's Department of Humanities, Social Sciences, and Education, followed in early 2024. This meeting confirmed the exhibition *Wings. Abstractions of Archaeology* would be held at Sepino's lapidarium from summer through October 2024, and at the National Archaeological Museum of Campobasso from December 2024 through February 2025.

Archaeological Park of Sepino

A site visit to the lapidarium revealed the limited exhibition space, the untouchable walls, and the humidity as a collective challenge. The management team agreed with Blitz' suggestion to hang his drawings from the wooden ceiling. Dr. Lorenzo Canova immediately offered UNIMOL's dehumidifier for the duration of the show. This was greatly appreciated and became crucial for maintaining their good condition.

Regarding the small exhibition space, Blitz decided to hang 21 unframed drawings at a fair distance from the walls to offer interplay with the stone monuments.

It would remind visitors of birds' natural environment, the air. Most of the drawings hung in a way that suggested triangles to eliminate any impression of flatness in the exhibition design. This way, the display itself became an asset.

Labels attached to the walls were not allowed; the exhibition provided loose, bilingual, informative sheets with QR codes.

Sepino's Fountain of the Griffin was the inspiration for one of Blitz' drawings. This drawing became the central image of the official Sepino exhibition poster.

National Archaeological Museum of Campobasso

Conditions in the National Archaeological Museum of Campobasso contrasted with those of Sepino's lapidarium: three exhibition rooms, walls without restrictions, and no humidity. However, the charm of Sepino's lapidarium had been unique. Thus, the challenge this time was to organize the drawings in a way that would be attractive and largely independent of the location. To meet the challenge, Blitz distributed the complete collection of 30 drawings according to color and formal similarity across the three rooms first. Then, he positioned them differently for each wall, so each wall had its spatial composition.

The museum staff placed one object of the archaeological collection next to its drawn abstraction. This drawing became the central image for the official Campobasso exhibition poster. The Campobasso edition of the show had bilingual labels with a QR code instead of the loose, informative sheets in Sepino.

Visitors could understand the creative process from two panels that showed the different steps from the original photo of an archaeological object to the final, abstract drawing (fig. 4).

In retrospect

The formal language of Wings. Abstractions of Archaeology was a surprise for most visitors. Still, it resonated with their curiosity for a new approach to archaeology

and their understanding of the changeability of things. And yes, visitors aired multiple interpretations.

Last but not least, both exhibitions have demonstrated the commitment of Molise's Regional Directorate of Museums to embrace similar research.

Conclusions

Both activities contributed to the synergy between research, technology, and communication of archaeological heritage to offer local communities and museum audiences in general a diversified cultural experience. The “Archaeometallurgy of Sannio Pentro” project is still in its incomplete, though advanced, phase and could have significant positive effects on museum accessibility thanks to the study of, and experimentation with, ancient technologies. The two exhibitions *Wings. Abstractions of Archaeology* were an excellent starting point for thinking about innovative ways of presenting archaeological finds, in synergy between archaeologists and artists.

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Figure 1 - Showcase in the National Archaeological Museum of Campobasso with weapons of Bronze Age studied



Figure 2 - Casting in the Marinelli Foundry of experimental replicas



Figure 3 - One of the final results of making experimental replica



Figure 4 - One of the works in the exhibition "Abstraction of archaeology: wings"

An Analytical Overview of Pigments and Binders in Prehistoric Rock Art

AYESHA AROBI¹

Introduction

Prehistoric rock art remains one of the most important records of human symbolic activity, offering insight into the cognitive, social, and technological worlds of early societies. For much of the twentieth century, scholarship on rock art was dominated by iconographic and stylistic analysis, with the scientific investigation of painting materials considered too invasive for most sites (Edwards et al., 1999). However, the last few decades have witnessed a major methodological shift. The development of non-destructive and micro-destructive analytical techniques including portable X-ray fluorescence (μ XRF), Raman microscopy, Fourier-transform infrared (FT-IR) spectroscopy, and gas chromatography–mass spectrometry (GC-MS) has enabled

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researchers to probe the chemical and mineralogical makeup of pigments and, to a lesser extent, organic binders, while minimizing sample loss and site impact (Domingo and Chieli, 2021; Hernanz et al., 2006).

These advances have contributed to a growing global database of pigment compositions and, where preservation allows, to the first secure detections of organic binders in prehistoric paints (Garcês et al., 2022; Golovanova et al., 2024). Notably, iron oxides such as hematite (Fe_2O_3) are now recognized as the dominant red and brown colorants in many regions, while black pigments display more varied sources, including charcoal (amorphous carbon), manganese oxides, and, in rare cases, plant or animal residues (Brook et al., 2018; Gomes et al., 2024) has provided median probability ages of 3190 cal BP for two reddish dots, and 520 cal BP (1430 CE). The detection of organic materials and binders, however, remains a persistent analytical challenge due to their molecular fragility, rapid natural deterioration, and the instrumental limitations (Domingo Sanz et al., 2021; López-Montalvo et al., 2014). Understanding the full composition of prehistoric paints is vital for several reasons. Firstly, it illuminates the technological choices and resource networks of past societies, as specific pigments and binders often reflect careful selection, processing, and sometimes long-distance procurement (Batiashvili et al., 2023; Garcês et al., 2022). Secondly, identifying paint components aids in reconstructing application techniques and ritual or symbolic practices linked to paint recipes. Finally, thorough chemical and mineralogical profiles underpin efforts to date, conserve, and manage these fragile cultural resources (Guillamet et al., 2019; Rowe et al., 2013).

Analytical Framework

This research follows a strictly bibliographic research methodology, relying exclusively on data gathered from secondary sources, such as peer-reviewed publications, academic articles, and authoritative reports in the field of archaeometry and prehistoric rock art studies from the Upper Paleolithic to the Late Holocene (ca. 14,000 BCE–1500 BCE). Among the most widely used methods are Raman spectroscopy,

FTIR (Fourier-transform infrared spectroscopy), reflectance spectroscopy, SEM-EDS (scanning electron microscopy with energy-dispersive X-ray spectroscopy), and GC-MS (gas chromatography–mass spectrometry). Each technique contributes unique insights. Raman spectroscopy, for instance, is capable of identifying iron-based minerals such as hematite and goethite with high specificity (Gomes et al., 2024, p.1129; Hernanz et al., 2006, p.1113). FTIR enables the detection of organic and inorganic functional groups, including those found in clays and oxalates (Garcês et al., 2019, p.184; Oliveira et al., 2017, p.1069). SEM-EDS yields compositional and morphological data on pigment particles (Mas et al., 2013, p.4643), while GC-MS allows for the detection of degraded organics such as lipids and proteins, which are crucial for binder identification (Livingston et al., 2009, p. 143).

Chronology

The chronological framework of prehistoric rock art sites spans a broad temporal range, reflecting diverse cultural expressions and technological practices across millennia. Among the sites considered, some of the earliest dated examples, such as Tito Bustillo and El Buxu in the Iberian Peninsula, are attributed to approximately 14,000–13,000 BCE based on stylistic analysis (Hernanz et al., 2012). These Upper Paleolithic representations are often characterized by sophisticated animal motifs and polychromatic techniques. In contrast, later sites such as Frizo del Terror and Dehesilla Cave are placed around the 3rd to 4th millennium BCE, with dating methods including contextual and stratigraphic associations (Cornellà et al., 2024; Gomes1 et al., 2014). The Damirgaya rock shelter in the Caucasus, recently investigated, has been dated to approximately 3500 BCE through stratigraphic context (Batiashvili et al., 2023, p.12), while Viuda Quenzana, dated to around 1500 BCE, relies on direct radiocarbon analysis (Brook et al., 2018, p.48). Sites like Ciervos Negros and Minateda, dated respectively to around 4500 BCE and 4000 BCE, are interpreted based on stylistic and surface analyses (Guillamet et al., 2019, p.43; Mas et al., 2013, p.4636). The chronology of Cova Remigia extends even further

back, with an estimated date of 5000 BCE supported by oxalate dating and stylistic comparison (López-Montalvo et al., 2014, pp.535–536). These temporal markers not only help situate the production of rock art within specific cultural phases but also shed light on the persistence and evolution of symbolic traditions across different geographic zones.

Archaeometric Method and Techniques Usage

In the study of prehistoric rock art pigment and binder composition, non-invasive and non-destructive analytical techniques have become central to archaeometric investigations, reflecting a growing emphasis on the preservation of cultural heritage. Raman spectroscopy stands out as the most frequently employed method, due to its capacity to identify mineral pigments with high precision directly on-site, without the need for sampling. This technique is particularly effective in characterizing iron oxides, carbon-based pigments, and other mineral components, making it indispensable for pigment analysis. FTIR spectroscopy also features prominently, valued for its ability to detect both inorganic and organic compounds, including potential binders and degradation products. SEM-EDS, while slightly more invasive, remains widely used for its capacity to provide high-resolution imaging and elemental composition of microstratigraphic layers, especially when minimal sampling is permitted. Techniques such as GC-MS and THM-GC-MS are commonly applied for the identification of complex organic substances, including lipid-based binders and resins, contributing valuable insight into the technological choices of prehistoric artists. Reflectance spectroscopy and micro-FTIR imaging, though less frequently used, offer specialized applications, often constrained by technical or contextual limitations. Overall, the prominence of Raman and FTIR reflects not only their analytical effectiveness but also a methodological and ethical commitment to studying prehistoric rock art in ways that minimize physical impact while maximizing informational yield.

Pigment Composition and Regional Patterns

Among the most consistent findings in the study of prehistoric rock art is the extensive use of iron-based minerals as primary pigments, reflecting both their natural availability and the aesthetic or symbolic preferences of prehistoric communities. Hematite (Fe_2O_3) emerges as the most frequently identified pigment, reported in twelve independent studies. This iron oxide, responsible for producing red hues, features prominently in the Iberian schematic traditions and in the ritual motifs of the Caucasus (Batiashvili et al., 2023, p.5; Gomes et al., 2014, p.39). Its dominance is likely due to its abundance in various geological contexts and its stable coloration properties over time. Manganese oxides, such as pyrolusite (MnO_2), represent another widely used pigment group, particularly for producing black tones. These are especially prevalent at Levantine and open-air sites across the Iberian Peninsula, where their deep black chromatic qualities were employed in both figurative and abstract motifs (Domingo and Chieli, 2021, p.6).

Charcoal or other carbon-based pigments, though chemically less stable across millennia, are still frequently identified in several contexts. Their presence is often associated with organic binders, such as lipids, suggesting an intentional use of composite painting mixtures (Brook et al., 2018, p.25). Goethite (FeOOH), a yellow-brown iron hydroxide, also appears in several assemblages, alongside kaolinite and anatase-based white pigments. These latter materials, while less common, indicate regionally adapted pigment palettes and the selective use of mineral resources based on local geological availability and desired visual outcomes. Recent advances in non-invasive analytical techniques, particularly reflectance spectroscopy and Raman mapping, have significantly improved the in-situ identification of pigment phases without requiring destructive sampling (Horn et al., 2020, p. 7). These methods not only support more accurate pigment characterization but also align with conservation ethics in heritage science. For instance, Raman analysis at Puerto Roque revealed deliberate layering of mineral pigments, suggesting a sophisticated approach to colour mixing and possibly symbolic layering strategies (Gomes et al.,

2024, p.1130). Such findings emphasize the complexity and intentionality behind prehistoric pigment use, revealing practices that were both technologically advanced and culturally meaningful.

Binders and Organic Residue

Compared to inorganic pigments, organic binders in prehistoric rock art are significantly more difficult to detect, primarily due to their susceptibility to environmental degradation and diagenetic processes. Nonetheless, targeted analytical techniques often invasive in nature have yielded important insights into the composition and use of these binding agents. Among the binders identified, lipids, such as animal fats and oils, are the most frequently reported, appearing in six studies. These substances likely enhanced the workability and adherence of pigments to rock surfaces and reflect deliberate material selection based on their adhesive and preservative properties. Similarly, proteins, including egg-based and collagen compounds, are noted in four studies and suggest the use of animal-derived substances beyond dietary contexts. Plant gums and resins, detected in three studies, point to a sophisticated understanding of botanical resources and their functional applications in paint preparation. (Livingston et al., 2009, p.143) identified a complex resin-based binder in red pictographs from La Casa de las Golondrinas, Guatemala, using thermally assisted hydrolysis and methylation gas chromatography–mass spectrometry (THM-GC-MS). In South America, lipid residues associated with charcoal-based motifs were detected at Viuda Quenzana, Argentina, through molecular analysis, reinforcing the idea of compound paint mixtures (Brook et al., 2018, p.57). In the Iberian context, studies employing FTIR spectroscopy such as those by Rosina (Rosina et al., 2019) and Oliveira (Oliveira et al., 2017) have successfully identified calcium oxalate crusts, aiding in the differentiation between original pigment layers and post-depositional alteration films. At Puerto Roque, integrated SEM-EDS and FTIR analyses have revealed the presence of iron, silicon, and manganese particles stratified in discrete layers, suggesting complex material preparations. The FTIR

spectra further confirmed the presence of natural clays and calcium oxalates, which may be linked either to intentional binder use or to secondary mineral accretions (Gomes et al., 2024, pp.1130–1131). Despite the analytical challenges, these case studies collectively highlight the diversity of organic binders employed in rock art and underscore the necessity of multi-method approaches for their identification.

Regional Case Studies 1: Archaeometric Analysis of Pigments from Puerto Roque Rock Shelter

The Puerto Roque open-air rock art shelter is located on the southern façade of the Peñas de Puerto Roque Mountain range, within the municipality of Valencia de Alcántara in Extremadura, Spain. Positioned at an altitude of 725 meters, the site lies on a quartzite escarpment that hosts a series of schematic rock paintings characteristic of the Iberian Peninsula tradition. The shelter measures approximately 7.5 m in length, 5.4 m in height, and 4.2 m in depth, and is visually accessible from the valley below, suggesting a potentially public or communal function for the painted imagery (Gomes et al., 2024, p.1124). The region forms part of a broader cultural landscape associated with Neolithic and Bronze Age socio-economic transitions, marked by extensive use of schematic motifs and anthropomorphic figures (Gomes et al., 2024, pp.1124–1124).



Figure 1 - Location and natural setting of Puerto Roque rock shelter

A total of 19 samples 16 pigment fragments (Puerto_01 to Puerto_16) from rock art panels and 3 ochre samples from the shelter floor (Puerto_17 to Puerto_19) were analyzed using a multi-instrumental archaeometric approach. Raman microspectroscopy was employed to identify mineral phases, while ATR-FTIR spectroscopy provided information on the molecular structure of pigment constituents and possible heat treatments. Elemental composition was analyzed via Energy-Dispersive X-ray Micro fluorescence (EDxrf), and microstructural and compositional analyses of one selected sample (Puerto_12) were performed using Scanning Electron Microscopy with Energy-Dispersive Spectroscopy (SEM-EDS) (Gomes et al., 2024, pp.1127–1129). These complementary methods facilitated a comprehensive investigation of raw material selection, pigment preparation, and alteration processes.

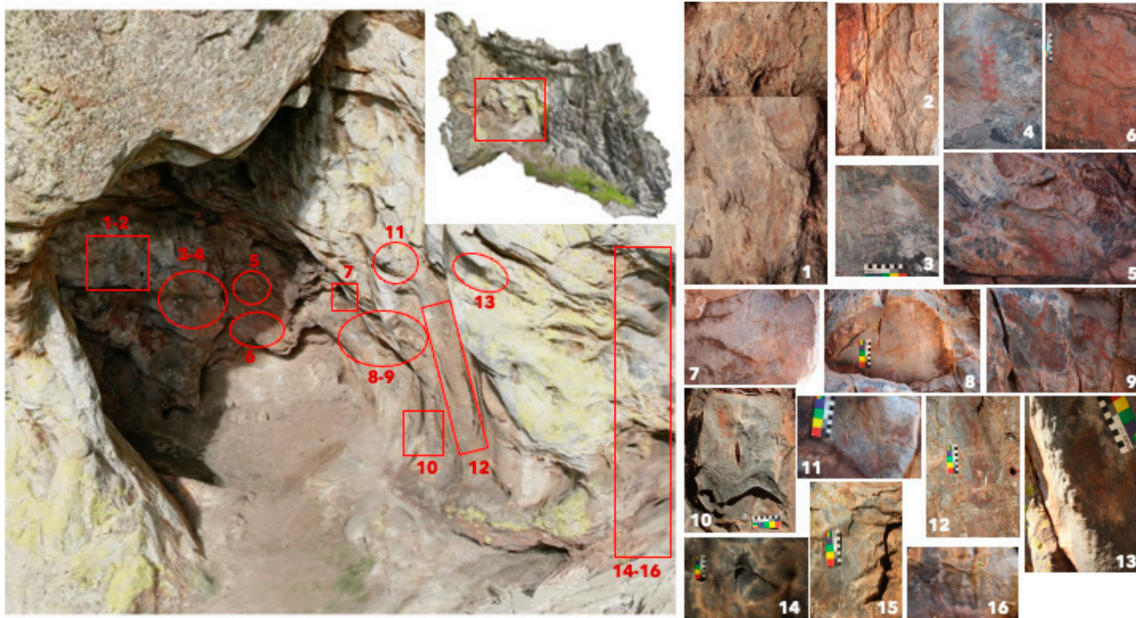


Figure 2 - Location and natural setting of Puerto Roque rock shelter (Gomes et al., 2024, p.1125)

The pigment types identified across the shelter display a dominance of iron-based reds, with hematite (Fe_2O_3) as the primary chromophore, supplemented in some cases by goethite ($\text{FeO}(\text{OH})$). Dark red and bright red figures were generally associated with hematite, while some orange-toned motifs (e.g., Puerto_08 and Puerto_10) included goethite or a goethite–hematite mixture (Gomes et al., 2024, p.1130). EDxrf data confirmed that Fe and Ca were the most prevalent elements, suggesting the use of local ochre sources. The ochre samples collected from the shelter (Puerto_17 to Puerto_19) showed strong elemental and mineralogical similarity to the pictorial pigments, reinforcing the hypothesis of in situ raw material procurement (Gomes et al., 2024, pp.1133–1134).

Sample-by-sample analysis showed consistent results across the different techniques. EDxrf data revealed high Fe concentrations in most samples, especially Puerto_01, Puerto_03, Puerto_05, Puerto_07, Puerto_09, and Puerto_11,

paralleling the ochre samples in composition. Raman spectroscopy identified hematite in most samples, with Puerto_04 also showing carbon and red ochre, suggesting the addition of charcoal in pigment mixing. Sample Puerto_08 exhibited both goethite and hematite. SEM-EDS results for Puerto_12 confirmed the presence of Fe, Al, K, and P, likely indicating a mixture of red ochre, clays, and patination products (Gomes et al., 2024, pp.1130–1135). ATR-FTIR results supported the identification of hematite and heated clay in Puerto_01, Puerto_03, and Puerto_05, while samples like Puerto_07 revealed additional quartz and organic incrustations, pointing to post-depositional changes (Gomes et al., 2024, pp.1130–1131).



Figure 3: Archaeometric research findings of Puerto Roque rock shelter. [Data extracted from (Gomes et al., 2024)]

The ATR-FTIR spectral profiles of Puerto Roque samples presented key diagnostic peaks. Puerto_01 displayed bands at 1013 cm^{-1} and 450 cm^{-1} , associated with heated clay minerals and Fe-O bonds, respectively. Puerto_03 showed internal hydroxyl bands around 3627 cm^{-1} , characteristic of heated clays, alongside hematite-related peaks at 531 cm^{-1} . Puerto_05 included H-O-H stretching at 3430 cm^{-1} and hematite features at 520 and 462 cm^{-1} . Puerto_07 exhibited a complex profile with peaks indicative of hematite, quartz, and calcium oxalate (possibly whewellite), highlighting alteration processes. Puerto_08 and Puerto_09 confirmed quartz and hematite presence, while Puerto_11 was consistent with clay-dominant composition (Gomes et al., 2024, pp.1130–1132). Ochre samples Puerto_17–19 displayed peaks confirming natural goethite and red earth components, suggesting minimal processing beyond collection (Gomes et al., 2024, p.1132).

In conclusion, the archaeometric study of Puerto Roque underscores a technologically sophisticated approach to pigment preparation by prehistoric artists, involving selective use of mineral resources, thermal treatment, and possibly mixing techniques. The consistency between local ochre and painted motifs highlights the intimate relationship between the artists and their landscape, while the multi-analytical data reveal a nuanced chaîne opératoire (López-Montalvo et al., 2017) that reflects both cultural knowledge and environmental adaptation (Gomes et al., 2024, pp.1135–1136).

Regional Case Studies 2: Investigation of the Damirgaya Rock Art Site, Georgia

The Damirgaya rock art site is located in southern Georgia, in the Lesser Caucasus foothills near the village of Kasumlo, at an elevation of 687 meters. The site is situated within the Marneuli geological block, a region marked by Pleistocene to Quaternary volcanic and sedimentary formations, including hydrothermally altered rocks. Rock Shelter 1 at Damirgaya features over sixty red-painted motifs

geometric, zoomorphic, and anthropomorphic executed on quartz-rich rock, likely formed through secondary silicification processes (Batiashvili et al., 2023, pp.3–4). Although no absolute dating is available, the motifs are stylistically compared with those from the Geghamavan-1 cave in Armenia and Gobustan in Azerbaijan, supporting a Late Neolithic to Early Bronze Age chronology (6th–3rd millennium BCE) (Batiashvili et al., 2023, p.4). Archaeometric analysis was conducted using a multi-instrumental approach including XRPD, micro-FTIR, Raman spectroscopy, optical and scanning electron microscopy (SEM-EDS), and fluorescence staining to investigate both inorganic and organic components (Batiashvili et al., 2023, pp.6–7).

Pigment samples DS1 and DS2 from the painted walls were examined. Hematite was identified as the principal pigment in DS1, while DS2 exhibited a more complex composition dominated by goethite. Accessory minerals included kaolinite, quartz, and gypsum, with phosphate and oxalate traces likely resulting from biological alteration processes such as bat or bird droppings (Batiashvili et al., 2023, pp.8–10). The pigment layers varied in thickness and composition, indicating that different ochre sources or preparation techniques were used. SEM-EDS elemental mapping confirmed the presence of iron, aluminium, silicon, and phosphorus, while Raman and FTIR spectra provided additional mineralogical identification (Batiashvili et al., 2023, pp.9–10).

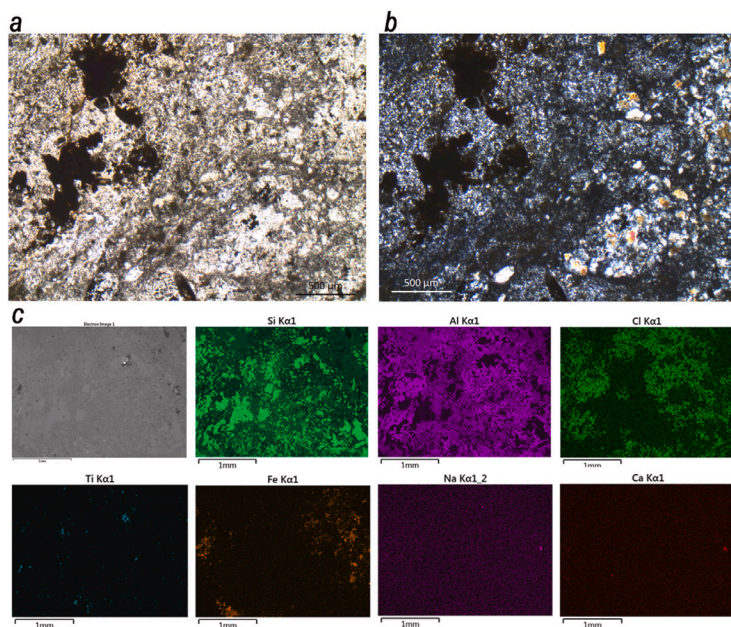


Figure 4: Optical microscope images of a representative area in the thin-section of Damirgaya (DRS2), under visible light, a) PPL, b) XPL, with SEM-BSE image of a different area of the same thin section, and corresponding chemical maps of Si, Al, Cl, Ti, Fe, Na and Ca (Batiashvili et al., 2023, p.7).

Archaeometric study of Damirgaya presents the first comprehensive scientific investigation of painted rock art in Georgia. The results suggest a deliberate use of local mineral resources, including iron-rich ochres, and point to possible symbolic or technological differences in pigment preparation. Secondary products like gypsum and phosphates indicate post-depositional alterations common to semi-confined rock shelters. This case study offers a critical reference point for future research in the South Caucasus and highlights the value of integrated mineralogical and chemical analysis in rock art studies (Batiashvili et al., 2023, pp.11–13).

Conclusion

Emerging technologies offer new avenues for pigment and binder analysis. Advances in portable instrumentation such as handheld GC-MS and miniaturized FTIR could

allow for in-field identification of organic residues. AI-driven image processing and spectral analysis, already in experimental use, may reveal spatial patterns in pigment use across regions (as referenced by Gerces, 2024, in seminar discussion). Isotopic fingerprinting presents another promising frontier, enabling the precise sourcing of mineral materials and offering insights into prehistoric trade or mobility (Horn et al., 2020). The study of pigments and binders in rock art is central to understanding prehistoric cultural expression and technological practice. Multimodal archaeometric approaches, applied with conservation sensitivity, have illuminated both universal trends and regional distinctions. As scientific tools evolve, so too will our ability to interpret the material heritage of early human creativity.

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Arts & crafts and the territory. Rethinking Vernacular Heritage through Architecture, Craft and Participatory Mapping

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The research presented here forms part of a doctoral investigation entitled “*Experimental Territory – The Matrix Architecture as Heritage in Cape Verde.*” This work is centred upon the system of vernacular knowledge and its inherent relationship with the territory, with particular attention to the mechanisms through which this knowledge is preserved, transformed, and mobilised in contemporary contexts. The methodology employed is intentionally non-linear, positioning itself at the intersection of research and practice through architectural, artistic, and design-based experimentation. Such an approach seeks not merely to describe but to engage with the processes of cultural production and transmission within the territories studied.

The investigation draws extensively on the analysis of inventories of tangible and intangible heritage developed in Cape Verde and Portugal. These

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inventories serve as both objects of study and instruments of practice, informing the development of a methodology for interpretative cultural mapping intended to support safeguarding actions. This mapping process acknowledges the fluid and constructed nature of heritage, recognising it as an evolving system of practices, beliefs, and materials rather than a fixed or static entity. Within this framework, arts and crafts emerge as privileged fields of inquiry, understood as complex systems of collective knowledge deeply embedded in their environments and reliant upon locally available resources. They are framed as endogenous responses to the pressing contemporary challenges of environmental degradation, social transformation, and economic resilience.

The first axis of analysis focuses on the symbiotic relationship between vernacular knowledge and the territory, paying particular attention to how community practices are shaped by and, in turn, shape local natural resources. In this context, the territory is understood not simply as geography but as *landscape*—a living, dynamic environment that encompasses both natural elements and human interventions. This conception aligns with theoretical positions that view landscape as a cultural construct, shaped by and reflective of the communities that inhabit it. Cultural manifestations within this landscape are considered dynamic expressions of communal identity, evolving through time in response to shifting socio-economic and environmental conditions. Following Julia Watson's (2019) work on traditional ecological knowledge, the research proposes that these manifestations are intrinsically linked to notions of belonging and rootedness, embodying collective responses to place and circumstance.

An analytical model has been developed (image1), to elucidate the interrelations within the vernacular knowledge system. This model identifies the following interdependent components:

- The community as the organising social structure capable of coordinating knowledge;
- The individual as the bearer of lived experience and tacit know-how;

- The ecological system, encompassing biodiversity and habitat;
- resource management practices which demonstrate an accumulated understanding of ecological cycles;
- Built vernacular structures which respond directly to functional and domestic needs;
- Local materials sourced from the immediate environment;
- Culture and identity as dynamic repositories of shared values and practices.

The study of these interrelations is concretised through an examination of *matrix habitation* in Cape Verde, with particular attention to the domestic sphere as both a physical and symbolic space of memory. The traditional Cape Verdean house exemplifies a material economy grounded in efficiency, functionality, and the intelligent use of available resources. These structures are typically modest in scale, constructed with locally sourced materials, and respond to specific environmental and social conditions. Beyond the individual dwelling, associated infrastructures—such as pathways, cultivation terraces, and water management systems (including basins and *levadas*)—reveal an integrated approach to landscape management. These elements, taken together, reflect a cumulative body of knowledge embedded in the landscape and transmitted across generations.

Objects of daily use further illuminate the continuities between architecture and craftsmanship. The same materials and techniques underpin both domains: artisans skilled in constructing straw roofs also produce baskets and other utilitarian items from cane, sisal, banana leaves, and corn straw. These practices exemplify a circular economy, rooted in longstanding traditions of reuse and material conservation, preceding contemporary sustainability discourses by centuries.

The second axis of the research interrogates the relevance of this vernacular and artisanal knowledge in contemporary contexts, focusing on questions of transmission and the potential for these practices to address current socio-economic and environmental challenges. A pertinent case study concerns a proposed

cultural centre designed to utilise local materials and techniques, such as plant fibre roofing. Despite the project's alignment with vernacular construction logics and environmental considerations, it was deemed unsuitable by local authorities on the grounds of incompatibility with the institutional status of a cultural facility. This example highlights persistent biases against vernacular practices, frequently dismissed as outdated or inadequate, despite their continued relevance and material intelligence. This resistance underscores the necessity for educational strategies that advocate not for a romanticised vision of tradition but for a critical recognition of the ongoing viability and value of these practices.

Institutions such as the Cape Verde National Centre for Craftsmanship and Design (CNAD) are actively engaged in the revitalisation and validation of vernacular knowledge through initiatives including design competitions² and creative residencies. These programmes foster dialogue between past and present, supporting the development of prototypes that reinterpret tradition within contemporary design languages. Such initiatives contribute to a broader discourse on the adaptive capacity of vernacular knowledge systems and their potential to inform sustainable futures.

An illustrative example is the POTE project, a prototype developed within the framework of a CNAD creative residency (image2). This project exemplifies the convergence of traditional craftsmanship and contemporary design methodologies, resulting in artefacts that straddle both worlds. These objects reframe domestic space as a locus of individual and collective experience, where heritage and innovation intersect in the material culture of everyday life.

Through an examination of the interrelations between scales—object, house, landscape—this research positions arts and crafts as expressions of collective intelligence, embedded within and responsive to environmental contexts (image3).

² Salão Created In Cabo Verde, promoted by the National Centre for Crafts and Design - IP, Ministry of Culture of Cape Verde, between 2017 and 2023.

Such practices represent a valuable heritage resource, fundamental to the construction and reinforcement of identity and belonging. They warrant recognition as intangible cultural heritage, necessitating safeguarding and valorisation not solely for conservation but as a means of ensuring continuity and relevance in addressing contemporary challenges.

The third axis of the research addresses the methodological and ethical challenges inherent in the processes of inventorying and musealising vernacular knowledge. Particular attention is given to the potential of digital technologies to facilitate preservation and dissemination. The development of a methodology capable of valorising and transmitting this knowledge requires careful consideration of a range of factors: the definition of the research scope; curatorial strategies capable of navigating the subjectivities inherent in selection; participatory approaches that engage with communities; and the broader impacts on sustainability, ethics, and identity. Moreover, the question of dissemination raises complex issues related to appropriation, intellectual property, and the commodification of heritage. The balance between analogue and digital communication models, resource allocation, and the necessity of systematic fieldwork also present significant challenges. Effective engagement with the territory demands immersive, sustained interactions, supported by appropriate temporal frameworks.

This work builds upon previous research concerning build heritage inventories³ and, particularly, those focused on crafts and artisanship⁴. Several case studies inform the construction of a state-of-the-art review concerning digital platforms for knowledge dissemination within the fields of arts, crafts, and their territorial entanglements.

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4 Coordination of the creation and implementation of SIART - National Centre for Art, Crafts and Design, Ministry of Culture of Cape Verde (2018-2023).

Among these, the SIART platform⁵ (Cape Verde) operates as a national tool for managing and disseminating information on artisanal activities. It aims to consolidate data, promote accessibility, and foster connections between heritage valorisation and contemporary production. The platform privileges the relationship between artisans, materials, and their territories, offering a mapping of typologies and practices.

The Saber Fazer programme⁶ (Portugal) provides a digital platform documenting craft activities, with an emphasis on techniques, raw materials, and their territorial contexts. It serves as a repository of curated selections, offering geographic and organisational data, and employing cartographic tools to support on-site observation and thematic mapping.

Rede Artesol⁷ (Brazil) constitutes a network mapping and promoting actors within the craft production chain, seeking to strengthen cultural heritage while fostering socio-economic development. Its platform offers extensive multimedia resources—interviews, articles, and profiles—focused on promoting income generation and sectoral visibility.

The Rural Memory Museum⁸ (Portugal), with its multi-nucleated structure, centres on rural culture and intangible heritage, using digital archives (photography, video, audio, texts) to document and preserve collective memory and know-how. This museum positions its digital archive as the primary repository of its collection.

The Craftsmap platform⁹ (Netherlands), developed by the Crafts Council Nederland, identifies leading craft practitioners, addressing gaps in formal education provision. While lacking geographic mapping, it offers detailed profiles and

5 siart.cv | Centro Nacional de Artesanato e Design | Ministério da Cultura de Cabo Verde

6 programasaberfazer.gov.pt | Direção Geral das Artes | Ministério da Cultura Português

7 redeartesol.org.br | Associação Artesol

8 museudamemoriarural.pt | Câmara Municipal de Carrazeda de Ansiães

9 craftscouncil.nl | crafts council

highlights affiliations with cultural and educational institutions.

Finally, the Landscape Museum¹⁰ (Portugal) serves as a digital resource promoting landscape literacy and citizenship through multimedia content. It encourages engagement with mapped locations, facilitating reflection on the interrelation between landscape and cultural practices via observation points and thematic routes.

Collectively, these case studies demonstrate the potential and diversity of digital platforms in heritage documentation and dissemination. They highlight the necessity of context-sensitive approaches that respect the specificity of practices, materials, and communities while embracing the opportunities afforded by technology to enhance accessibility and visibility.

This research ultimately advocates for the recognition of vernacular knowledge as a dynamic, evolving system crucial to the construction of sustainable futures. By framing these practices within broader discourses of heritage, sustainability, and cultural identity, it calls for strategies that move beyond conservation towards active engagement, adaptation, and innovation. Through this lens, digital platforms and participatory inventories emerge as critical tools, bridging heritage and contemporary life, and ensuring the continued relevance and transmission of vernacular knowledge in the face of ongoing socio-environmental transformations.

Conclusion

This research aims to test pedagogical approaches for the valorisation of vernacular knowledge embodied in the landscape, with particular attention to architecture, arts, crafts, and lived experiences. It proposes the development of museological mediation tools designed to foster awareness and education in support of landscape citizenship, with a focus on recognising, valuing, and safeguarding vernacular knowledge as a foundation for building more sustainable landscapes.

10 museudapaisagem.pt | Escola Superior de Comunicação Social

Earlier fieldwork prompted critical reflections on methodology, particularly regarding the prevalent tendency to interpret territorial elements from an external perspective, often constrained by limited timeframes and pre-established procedures. In response, this research adopts an inverse approach: reading the territory from the inside out, where contextual understanding informs the interpretation of the multiple dimensions of the vernacular landscape. This process is grounded in cultural mapping—or ethnomapping—drawing on direct engagement with local populations through participatory methodologies that enable a holistic reading of the landscape’s material and immaterial components. Here, the house is conceptualised as the core of the relationship between people and their environment, serving as the starting point for dialogue with inhabitants and for collecting narratives and testimonies about the territory. These accounts contribute to representations that reflect community identity and allow for integrated readings of cultural heritage.

Mapping thus encompasses not only physical infrastructures—roads, houses, agricultural structures—but also the social relations and empirical knowledge developed through daily life. The goal is to produce prototype cultural maps that serve as tools for heritage valorisation and education.

Despite notable advances in the protection of cultural and vernacular heritage¹¹, existing measures have often fallen short in ensuring the continuity and recognition of traditional knowledge. Beyond institutional frameworks, it remains vital to deepen our understanding of the contemporary relevance of this knowledge and its potential for creative adaptation.

Documenting and representing vernacular knowledge requires a sensitive approach, attuned to the time necessary to observe, understand, and value the elements in question. Establishing genuinely collaborative work processes with

11 Convention Concerning the Protection of the World Cultural and Natural Heritage (1972): This is the main UNESCO convention governing the protection of sites with cultural and natural value and the Convention for the Safeguarding of the Intangible Cultural Heritage (2003): This convention aims to protect practices, representations, expressions, knowledge and skills that communities, groups and individuals, recognise as part of their cultural heritage.

communities is essential to guarantee the relevance, legitimacy, and sustainability of outcomes.

The anonymous micro-histories uncovered in this research reveal interconnected forms of resistance and resilience, shaping collective memory. Recognising and giving visibility to these elements through research, documentation, and dissemination is a crucial step towards their safeguarding. In this sense, cultural mapping operates as a means of questioning dominant narratives about the territory and of valuing local and community-based knowledge.

With the aim of informing public safeguarding policies and mediating a deeper interaction with the place—particularly regarding vernacular heritage—this research proposes mapping as a tool to represent both tangible and intangible heritage. These cartographic representations offer pathways for reflection and serve as instruments to promote awareness (image4). In this context, digital tools should serve to enhance the connection with the territory rather than create virtual systems that tend to replace the direct experience with the place.

Ultimately, this work advocates for a methodology of sensitive and collaborative mapping, bringing architecture closer to the lived landscape, and recognising the value of local practices and sustainable modes of inhabiting and shaping place. This approach contributes to a broader reflection on the innovative potential of research by testing how such methodologies can influence contemporary ways of designing or intervening in territories marked by deep cultural and environmental entanglements.

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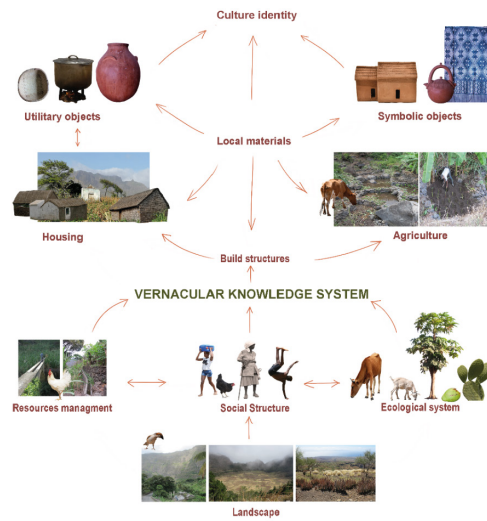


Figure 1 - Author's mental map based on Julia Watson's Traditional Ecological System concepts. @martaclemente



Figure 2 - Images of the research and a prototype of the POTE bottle piece, created and produced as part of the 'POTE' creative residency promoted by the Cape Verde National Centre for Art, Crafts and Design, 2021, with a project by me and collaborative production with Emanuel Soares, Mindelo, Cape Verde.



Figure 3 - Images from field research in preparation for the PhD thesis project 'Experimental territory - vernacular architecture as heritage'. Image top right: Photo from the book page image - The three Sister Cycle of Companion Planting in WATSON, Julia, Lo-TEK Design by Radical Indeginism, 2019, page 211.



Figure 4 - Mapping the place of my memory, made in clay. Piece by Ana Marta Clemente, Workshop uma casa na cabeça, belém Cultural Centre, 2024. @martaclemente.

Community Water Heritage: Bridging Tradition and Resilience for Sustainable Water Management

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Introduction: Water Heritage as Living Knowledge

The intersection of water management and cultural heritage represents one of the most promising domains in sustainable development discourse. As communities worldwide confront escalating water insecurity, degraded ecosystems, and climate volatility, traditional knowledge systems offer proven approaches that have sustained populations through generations of environmental change. These systems, collectively termed Community Water Heritage (CWH), encompass not merely physical infrastructure like ponds, springs, and irrigation networks, but entire socio-cultural frameworks that govern water access, distribution, conservation, and spiritual significance. Recent initiatives, such as the Blue Papers journal launched in 2022, highlight the importance of integrating water heritage into broader sustainability

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efforts. By examining the relationship between water, culture, and heritage, these efforts aim to inform inclusive and resilient water systems, while also advocating for a more holistic interpretation of water's role across all UN Sustainable Development Goals—not just Goal 6—recognizing water as a foundational element in achieving a sustainable future.

This chapter explores how traditional water knowledge systems can enhance modern sustainable water management, bridging cultural heritage preservation with environmental resilience. Drawing from diverse regional examples, it demonstrates that cultural water heritage represents living knowledge systems with practical applications for contemporary challenges, with communities maintaining traditional practices showing greater resilience to external pressures. Despite their proven effectiveness, these systems face mounting threats from urbanization, industrial development, tourism expansion, and climate change, while conventional management approaches often prioritize technical efficiency over cultural integration. The chapter advocates for an integrated approach that reconceptualizes water heritage as a dynamic resource for building climate resilience rather than merely preserving static relics of the past.

Conceptual Foundations: Reconnecting Water Management with Cultural Heritage

Drawing from Carola Hein's (2019) seminal edited volume, this chapter addresses the artificial separation between water management and cultural heritage—a division Hein identifies as limiting our ability to develop truly sustainable approaches that respect both technical requirements and cultural contexts. Hein's framework conceptualizes water heritage as unfolding across interconnected scales, each revealing a distinct dimension of humanity's relationship with water. At the intimate level, she observes that individual structures like water mills, wells, and fountains reflect local ingenuity in balancing necessity with creativity. Hein further elaborates that at the community scale, systems of irrigation channels, aqueducts,

and drainage networks demonstrate collective knowledge developed over generations. Her analysis extends to the landscape level, where wetlands, riverbanks, and coastal zones represent the dynamic interplay between water and earth that shapes both ecosystems and cultural identities. Completing this multi-layered perspective, Hein recognizes how water persists in the realm of tradition through festivals, governance practices, and conservation ethics that integrate spiritual, social, and practical dimensions. Through this comprehensive framework, Hein presents water heritage as a rich tapestry demanding holistic appreciation and stewardship—a perspective that guides our approach in this chapter to integrating traditional knowledge with contemporary water management challenges.

Nowadays, climate change presents significant challenges to these traditional systems. Heritage structures designed for specific climatic conditions may no longer function as intended due to shifting rainfall patterns, temperature changes, and altered hydrological cycles (Rajabi, 2023). Additionally, urbanization, tourism development, and agricultural modernization often disrupt traditional water systems without adequate consideration of their value. In Bali, for example, the *subak* irrigation system—recognized by UNESCO as a cultural heritage—has been increasingly fragmented due to land conversion for tourism infrastructure and urban expansion, leading to reduced water availability and weakened community governance (Budiasa et al., 2015).

However, existing literature firmly establishes that heritage should serve as inspiration for contemporary solutions rather than being preserved merely as historical relics (Mager, 2020, Hein, 2019, Willems & van Schaik, 2015). This forward-looking perspective frames CWH as a living resource rather than a museum artifact—an approach that integrates traditional ecological knowledge with modern engineering, community-based governance, and cultural dimensions of water. The result is management systems that are technically effective, culturally appropriate, and socially sustainable.

Looking back, the significance of cultural heritage in water management

gained international recognition during the 2019 World Water Week in Stockholm, where a dedicated panel highlighted three key insights that continue to shape our understanding of CWH.

Traditional Water Wisdom and Modern Challenges

From Oman's aflaj channels to Petra's sophisticated water capture systems, traditional technologies demonstrate remarkable sustainable adaptations to challenging environments. These systems were not merely technical solutions—they integrated cultural practices, spiritual beliefs, and social structures. India's step wells, for example, served as both critical infrastructure and sacred spaces, demonstrating the holistic approach of traditional water management. These examples illustrate how effective water management historically incorporated multiple dimensions of human experience rather than treating water as merely a technical or economic resource.

The Growing Disconnect

Despite this rich heritage, many regions face severe water stress today. In rapidly urbanizing areas, traditional systems are frequently neglected or destroyed, community involvement diminishes, and engineering solutions prioritize technical efficiency over cultural integration and social sustainability. This disconnection has led to water management approaches that may be technologically sophisticated but fail to engage local communities or respect cultural contexts, ultimately limiting their effectiveness and sustainability.

Learning from Success Stories

Several regions demonstrate that traditional wisdom and modern approaches can be complementary rather than contradictory. The Netherlands provides a compelling example, where water management systems dating back centuries continue functioning today, continuously adapted and integrated with modern technology. Similarly, Oman's aflaj irrigation systems remain operational, providing sustainable water distribution while maintaining cultural significance. More recent, in the United States, the city of Tucson, Arizona, blends centuries-old

water stewardship traditions with cutting-edge technologies such as aquifer recharge, acoustic fibre optic monitoring, and data analytics. This integration has enabled Tucson to maintain water use levels despite population growth, showcasing how heritage and innovation can jointly ensure long-term water resilience.

These insights raise a crucial question that this chapter seeks to address: How can we reconnect water management with cultural heritage in meaningful and practical ways? The answer lies in recognizing Community Water Heritage not as an obstacle to modernization but as a valuable resource for developing context-appropriate, sustainable water management approaches.

Community Water Heritage as a Resource for Climate Resilience

Community Water Heritage (CWS)—particularly traditional ponds and springs—represents a vital yet frequently undervalued resource for enhancing water resilience in climate-vulnerable regions across Asia. These systems, rooted in centuries of local knowledge and ecological adaptation, have demonstrated significant potential in supporting water security and climate adaptation. When properly managed, ponds can serve as reliable water sources by capturing and preserving local rainfall, especially during dry periods (Kalra, 2020). Their strategic placement across landscapes enables them to recharge aquifers, helping to mitigate water scarcity and sustain agricultural productivity. Moreover, these water bodies contribute to local climate regulation, acting as natural buffers that moderate temperature extremes and create more stable microclimates (Díaz et al., 2018; Hill et al., 2021).

Beyond their environmental functions, traditional ponds and springs are deeply embedded in the social and cultural fabric of many communities. They are often the centre of rituals, governance practices, and shared responsibilities, fostering a sense of cohesion and enhancing collective adaptive capacity. However, this heritage faces growing threats. Inadequate management can lead to unintended consequences, such as the emission of greenhouse gases, turning these systems from climate solutions into environmental liabilities (Peacock et al., 2021). Additionally,

the pressures of industrial development and the shift toward centralized infrastructure frequently result in the abandonment of traditional water systems (Rajabi, 2023). Perhaps most concerning is the erosion of intergenerational knowledge transfer, which jeopardizes the continuity of sustainable management practices that have evolved over centuries.

Despite these challenges, the restoration and proper management of water heritage systems represent nature-based solutions that can simultaneously meet community needs and provide broader ecosystem benefits. This dual function is central to strengthening their role in building water resilience (Bartrons, 2024). CWS systems, when properly maintained and integrated with contemporary approaches, offer proven methods for water conservation, flood management, drought mitigation, and sustainable agriculture—precisely the capabilities needed to address climate change impacts. To fully realize the potential of these traditional systems, they must be reimagined not as relics of a bygone era, but as dynamic, community-centered solutions that are essential to building a climate-resilient future.

Indonesia's Water Heritage Paradox: Untapped Potential for Climate Adaptation

Indonesia presents a striking paradox: a nation rich in natural and social water heritage yet failing to leverage this potential for climate adaptation and resilience. The challenges facing CWH in the Indonesian context are fundamentally structural rather than technical. Current regulatory frameworks fall critically short, with only fragmented and indirect policies addressing the preservation of traditional water systems. The 2020-2024 National Medium-Term Development Plan exposes this gap, offering no dedicated funding for preserving these vital cultural water systems.

Research conducted in Yogyakarta reveals a telling narrative: Indonesia's water management remains fixated on modern pumped and piped supply infrastructure, systematically overlooking the intricate traditional systems that have sustained communities for generations (Sandang et al., 2024). This approach represents a

missed opportunity for building climate resilience through proven, locally adapted water management approaches. The contrast with regional approaches is striking. While Vietnam has successfully preserved or built hundreds of climate-resilient ponds (UNDP, 2023), Indonesia’s approach to traditional water systems remains limited and fragmented.

Meanwhile, communities in southern Java face mounting pressures from national strategic projects, environmental degradation, and changing climate patterns (Hartono et al., 2024). Infrastructure development accelerates habitat loss and biodiversity decline, threatening the ecological heritage that forms the basis of regional identity and water security. This situation underscores the urgent need for research that can bridge traditional water heritage with contemporary climate resilience policies. By documenting, analysing, and revitalizing CWH, Indonesia has the opportunity to develop water management approaches that are not only technically effective but also culturally appropriate and socially sustainable.

An Ongoing Case Study: Mapping Water Heritage in Gunung Kidul, Yogyakarta

Current research efforts in Gunung Kidul Regency of Yogyakarta Province demonstrate the potential for integrating CWH into contemporary water management frameworks. This region is particularly significant due to its distinctive karstic landscape characterized by limestone formations, underground rivers, and caves—geological features that have shaped both water availability and traditional management approaches. Part of Gunung Kidul has been recognized as a UNESCO Geopark, acknowledging its geological significance and cultural heritage value.

Indonesia’s karst landscapes are more than geological marvels—they are living archives of human-water relationships spanning millennia. Found in Java, Sulawesi, and Kalimantan and protected under UNESCO frameworks, these formations—caves, sinkholes, and underground rivers—combine striking geology, rich biodiversity, and evidence of ancient human presence. From a water

heritage perspective, their value is profound. Cave sediments and mineral deposits like stalactites and stalagmites preserve detailed records of freshwater circulation, rainfall patterns, and drought cycles. Flood layers and alluvial deposits reveal how past communities adapted to shifting water conditions—offering insights into both sudden catastrophes and long-term resilience (Sémah et al., 2024). By studying these natural archives, researchers can trace historical water management strategies and settlement patterns, providing essential context for today’s climate challenges. Preserving Indonesia’s karst landscapes is thus not only about protecting natural and archaeological heritage—it is about safeguarding deep reservoirs of ecological and cultural knowledge that can inform sustainable water futures.

The research sites in Gunung Kidul reveal a rich tapestry of water heritage, each illustrating the deep interplay between nature and human ingenuity. In Tepus, subterranean rivers flow through cave systems, reflecting a sophisticated local understanding of underground hydrology. Tanjungsari and Paliyan are shaped by ancient telaga—natural ponds that have long served as vital water sources and influenced settlement patterns. In Girisuko, perennial springs sustain both ecological balance and community livelihoods. Meanwhile, Purwosari exemplifies the integration of traditional knowledge and engineered solutions through its well-maintained embung, or artificial ponds.

Despite their significance, these water heritage sites face a range of pressing challenges that threaten both their functionality and cultural relevance. One major issue is the lack of comprehensive documentation; without detailed mapping and recognition of CWH, efforts to protect and integrate these systems into formal planning remain limited. Policy frameworks also tend to be top-down, with national-level water regulations often overlooking local contexts and the value of traditional practices. This disconnect is compounded by an infrastructure bias, where investments in conventional water supply systems risk marginalizing community-based approaches and eroding valuable indigenous knowledge. In some areas, tensions are emerging over the management of natural springs, particularly

amid fears of privatization that could restrict community access. These practical concerns are further complicated by deeper debates over the nature of water itself—whether it should be treated as an economic commodity, a public good, or a communal resource.

To address these issues, ongoing research aims to develop a collaborative inventory, documenting the physical conditions, ownership patterns, and traditional management practices of water heritage sites. This effort integrates insights from multiple disciplines, exploring water and karst cave systems through hydrosocial, archaeological, and historical lenses. Additionally, the research seeks to identify and revive innovations in water management, drawing on both historical practices and contemporary adaptations that align with local needs and environmental conditions.

The revitalization of community water heritage represents a timely and essential step toward strengthening Indonesia's climate resilience. By reconnecting communities with their water heritage and fostering knowledge-sharing between stakeholders, this initiative will contribute to more adaptive water governance. Ultimately, the preservation and integration of traditional water management practices will play a crucial role in supporting Indonesia's climate policies and achieving its broader development goals.

Conclusion: Bridging Tradition and Innovation for Water Resilience

Community Water Heritage offers more than a window into its past—it provides a vital foundation for building a resilient and sustainable water future. Rather than viewing traditional systems as outdated, this chapter advocates for an adaptive approach that honours their enduring wisdom while embracing modern technologies and scientific insights. When thoughtfully integrated, these systems can support water management strategies that are not only technically robust but also culturally rooted and socially inclusive.

For Indonesia—and other regions confronting water insecurity and

climate volatility—recognizing water heritage at multiple scales, from physical infrastructure to socio-cultural practices, is a strategic imperative. This integration can be guided by key principles: collective governance that balances individual and communal needs; holistic approaches that recognize water’s ecological, social, and spiritual dimensions; adaptive capacity grounded in generations of lived experience; and intergenerational knowledge transmission that evolves traditional practices through innovation.

Designing frameworks that respect cultural heritage without romanticizing the past is key to resilient water governance. Traditional knowledge offers time-tested insights that, when integrated with modern science, can create systems that are both adaptive and locally grounded. Revitalizing Community Water Heritage is not just about preserving the past—it’s a strategic response to today’s environmental challenges. By reconnecting people with their water traditions and fostering inclusive collaboration, we can strengthen climate resilience and advance sustainable development goals.

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