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Quarry Sonnets: Artistic Methodologies in More-than-Human Reasoning

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The article proposes a posthumanist, site-led mode of reasoning in which geological, ecological, climatic, and human forces participate in shaping artistic practice. It draws on *Quarry Sonnets*, a nine-day, practice-led field project at the Vale de Meios limestone quarry in Portugal's Serras de Aire e Candeeiros Natural Park in late November 2022, involving forty-five participants from six European art schools. Treating art practice as a way of knowing, the project convened open, revisable ways of working—walking, listening, iterative making, and collective reflection—so that the quarry's tempos, weather, fossils, and working traces could co-author inquiry. Methodologies were held lightly and adjusted in practice, with decisions led by what the site made possible on a given day rather than preset outcomes. Two orienting commitments—attunement and composting knowledge—held diverse practices and partial understandings in contact without forcing consensus. The article's contribution is to foreground artistic practice as a way of organizing environmental research by expanding who participates and what counts as evidence, while refusing closure into templates, solutions, or toolkits. In this register, research proceeds with the quarry and its more-than-human relations as a co-author that sets pace and constraint, keeping political and ecological questions active without resolving them in advance. **Key Words:** artistic methodologies, environmental humanities, practice-led inquiry, quarry.

INTRODUCTION

The limestone of Vale de Meios, in the karst formation of the Serras de Aire e Candeeiros Natural Park (ICNF/PNSAC), bears the weight of epochs. Across its surface, fossilized dinosaur tracks stride openly, their forms shaped by millions of years of geological pressure, tectonic lift, and the revealing cut of quarrying. In the same stone, the marks of tools chart the seasonal rhythm of extraction, the steady cadence of hammer and chisel, and the knowledge carried in the hands of successive workers. From here, stone traveled to Lisbon and other cities, and the absences left in the mountain now act like karst basins gathering rain, harboring plants in fissures, and sounding with returning more-than-human presences.

This article asks what changes when a quarry is approached as a partner in thought and feeling rather than a problem to be solved. Drawing on the practice-led project *Quarry Sonnets*, it explores how artistic methodologies can reorganize environmental research by expanding who participates in inquiry and what counts as evidence. Through multispecies encounters—across artists, local knowledge, geological time, and material conditions—the article foregrounds artistic practice as a way of organizing research while keeping ecological and political questions open rather than resolving them.

ARTICLE HISTORY

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Quarry Sonnets was a nine-day art-based project held from November 19–27, 2022, bringing together forty-five participants from six European art schools.¹ The project advanced artistic methodologies toward a more-than-human mode of reasoning, attentive to geological, ecological, and human forces emerging through co-attention with the site. The quarry shaped what could be known, how questions were formed, and how relations unfolded. This co-authorship refuses the separation of method from site and theory from practice while keeping its implicit ignorance in view (Haraway 2016; Stengers 2018). In this sense, it aligns with what Eduardo Viveiros de Castro (2012) describes as *cosmological perspectivism*, where beings inhabit and enact distinct yet relational worlds, each with its modes of knowing.

Over nine days in late November the participants gathered in and around the Vale de Meios quarry, the nearby village of Pé da Pedreira, and the shared accommodation in the Centro Ciência Viva do Alviela: Carsoscópio. Once on site, the rhythm of the work shifted in response to rain, wind, and changing access. The weather was an organizer and a disruptor, slowing specific movements, hastening others, and attuning bodies to the specific textures of the days. Small groups, formed at the outset, remained together, combining approaches across languages and disciplines from the different institutions. Walking, listening, drawing, and improvising with materials sat alongside 3D scanning, photogrammetry, and situated storytelling. These were entangled modes of engagement, each shaped by the quarry's affordances and resistances (Ingold 2013).

Quarry Sonnets aligns with artistic practices that understand art as a mode of reorganizing the world and our relations within it (Noë 2015; Rancière 2004). This entails a reorientation away from representation, documentation, and expression per se, and, specifically in this case, from instrumental logics that dominate ecological rehabilitation and its design-oriented approaches that frame troubled sites as problems to be solved through technocratic, depoliticized processes that render the environment a passive object (Arboleda 2020; Moore 2015; Morton 2007; Povinelli 2016, 2021; Wark 2015). Here, rehabilitation is understood as a broader process through which landscapes are reorganized materially, socially, and epistemically after extraction. As David Harvey (1996) reminds us, such framings are not neutral. In a similar vein, Erik Swyngedouw (2015, 2018) shows how, in the name of efficiency, restoration projects become political spaces that manage rather than confront underlying conflicts over land, labor, and ecosystem futures. Quarry Sonnets resists this closure by keeping political, ecological, and more-than-human frictions in play, allowing them to shape method and outcome.

Two orienting commitments structure the inquiry: attunement, understood here as a practice of responsive attention to the rhythms, materials, and more-than-human presences of a place; and composting knowledge, a process of keeping different forms of knowing in contact long enough for them to transform without forcing consensus.

In more-than-human frameworks, artistic methodologies can generate forms of attention alongside ambiguity and shared vulnerability echoing Lucy Lippard's (2014) suggestion that art in post-extractive landscapes can act as witness and participant in the reweaving of place, politics, and memory. They open space for what Donna Haraway (2016) calls staying with the trouble, where the aim is to remain with uncertainty long enough for new possibilities to take shape. This approach draws attention to how knowledge is produced, circulated, and contested. As Sarah Whatmore's (2009) work on knowledge controversies has shown, ecological and environmental questions are rarely settled by data alone but are polyphonic negotiations where different epistemologies (scientific, experiential, artistic, more-than-human) meet without necessarily being reconciled. In Quarry Sonnets, this meant attuning and composting knowledge, allowing

divergent perspectives to ferment together in the quarry's air, producing resonances and feedback that could not have been planned (Hamilton and Neimanis 2018; Haraway 2016; Tsing 2015, 2022).

The project draws on Isabelle Stengers's (2010) cosmopolitical proposal, inviting the presence of those whose concerns are at stake, human and otherwise, in ways that resist the predefinition of what counts as a legitimate participant. Here, the quarry's geological time, the seasonal growth of plants, the movement of water through worked stone, and the weather's insistence on shaping the days were all active participants. They took part in making the work rather than informing the work. Following Karen Barad (2007), knowing is about intra-action, the mutual constitution of entangled agencies, and that much of that knowledge is contingent on an ability to hold ignorance close to it.

As Dipesh Chakrabarty (2021) reminds us, the Anthropocene forces an encounter between human historical time and deep geological time, challenging the narratives through which we understand action and responsibility. In the quarry, dinosaur tracks and extraction scars coexisted in plain view, folding 168 million years into the span of a human working life. This juxtaposition recognizes that rehabilitation is never a simple return and does not invite nostalgia for an imagined pre-extractive nature (Haraway 2016).

Over the nine days, a set of partial, situated propositions emerged: ways of seeing, listening, and acting rather than a unified set of findings. In this sense, Quarry Sonnets was both fieldwork and a practice with two orientations: attunement and composting knowledge.

FRAMEWORK AND METHODOLOGIES

The framework developed here is posthumanist and practice-led, treating method as something made with a site rather than applied to it, attending to more-than-human relations as they emerge. Quarry Sonnets was a way of doing rather than a way of talking about doing. Its framework grew from a simple intuition: if we decenter the human and let a place's material, temporal, and more-than-human presences participate in the development of the work, different forms of reasoning are likely to surface. Attunement and composting knowledge are processes rather than instruments to be used. They hold differences and return material to the field, before, during, and after any specific technique. Calling them methods is a reductive convenience, more precisely, they are conditions of attention that organize what can be regarded as a method. The project followed the site, which guided every arrangement: the preparatory lead-in, the week of immersion, the rhythms of food and rest, the way groups formed, the tools put to hand, and the pace set by rain.

The groundwork began months before anyone arrived. Early visits established relationships with the team of the Serras de Aire e Candeeiros Natural Park (ICNF/PNSAC), the commons council: Conselho Diretivo dos Baldios de Valverde, Pé da Pedreira, Barreirinhas e Murteira, and the Centro Ciência Viva do Alviela: Carsoscópio, and helped trace seasonal changes in the quarry, its surrounding karst, and test a light scaffolding for the field week. Two online sessions prepared participants with a shared orientation and a modest reading/viewing pack comprising online videos, podcasts and academic texts, and offering concepts as companions rather than rules. By the time young artists from the six art and media higher education institutions met in November at Lisbon airport, the groundwork existed as an invitation to attune (Haraway 2016; Stengers 2018; Tsing 2022).

Attunement was practical and conceptual, considering the implications of the mountain's weather that slowed and redirected movements, shifted what materials could be used on a given day, and altered the conversations. The insistence of rain folded bodies into the site's textures (wet paper, slippery limestone, the sound of runoff) and made responsiveness ordinary rather than exceptional. In that sense, attunement was the everyday embodied and situated condition through which inquiry proceeded rather than a poetic aspiration (Tsing 2022).

The workshop encouraged connection over consensus, setting up situations to promote difference among the working groups. On the first evening, participants wrote their names on a board to form small, mixed groups across institutions, languages, and practices. Those groups stayed together throughout the workshop, negotiating differences in method and pace while working with the same quarry. The arrangement resisted affinity clustering and invited friction where ideas could potentially compost.

The project favored situated practices (listening, co-presence, and proposition-making) followed by reflection in conversation and notes, often over shared meals or in the dorms, when interpretations loosen and comparisons surface. Concepts entered lightly, as tools for thinking-with rather than frames to fill. The cycle then returned to the site to try propositions, such as: a walk led by sound, a drawing made in rain, a material test with clay and plant matter, and 3D scanning. As Serres (2000, 2007) reminds us, noise can be generative, disruption becomes the condition of a new proposition. The participants worked across drawing, sculpture, media arts, and performance, allowing the toolset to remain open. However, each mode was shaped by the quarry's affordances and resistances, by the weather, and by the participants' own bodies that rendered the project methodology in these conditions and learned with(in) them.

Composting knowledge means keeping divergent practices and accounts in contact long enough for them to warm, break down, and re-form without forcing synthesis; the unit of rigor is transformation, not agreement (Santos and Wainwright 2024). This is aligned with Arturo Escobar's (2018) practices that cultivate radical interdependence and autonomy in the making of worlds. The week asked us to keep frictions in contact long enough to generate new possibilities: rain-blurred drawings beside 3D scans that misbehaved in mist; a quarry worker's demonstration resting next to a park geologist's account; moss and runoff redirecting a plan mid-stride. We let materials, stories, and partial translations lie together and warm, returning after meals to see what had changed, nurturing transformation over consensus. This is an abductive move: a site-led inference that re-specifies method in response to anomaly. What traveled out of that pile were propositions, not conclusions, composted knowledge to host new seeds.

Two fundamental infrastructures sustained this composting process. First, shared meals and local presence were built into the day. Breakfast and dinner happened where people slept, lunch at the community hall, with time to linger in cafés. These were crucially designed logistics to be part of the research itself. Local food, cooked by local people, brought localized stories of work, weather, and stone across counters and tables; gestures and demonstrations carried tacit, embodied knowledge that formal sessions would miss. For example, as a local quarry worker described during a group conversation in a café in Pé da Pedreira, Alcanede, there is an intelligence inseparable from an embodied practice and situated care: "the production of a limestone cobble is a conversation between a hammer, a hand, and a stone." The second infrastructure was exposure to traditional and institutional expertise. A visit to a small working quarry made the seasonal and embodied cadence of extraction explicit; sessions with the park team threaded geology,

paleontology, and management into the week. The workshop kept this knowledge in relation rather than attempting to translate it into a single register (Ingold 2013).

The project's reasoning was both speculative, drawing on Haraway's (2016) *Speculative Fabulation* (SF) and Alva Noë's (2015) *Strange Tools*, and abductive, following C.S. Peirce's formulation of abduction (Peirce 1958) and Victor Baker's (1996) work on empirical data and hypothesis formation in geomorphology. Whereas deductive approaches start from a fixed principle and apply it to a site, and inductive approaches look for patterns to build general rules, abduction begins elsewhere: with the anomaly that unsettles both principle and pattern. It moves through context-sensitive inference, noticing what does not fit and proposing ways to live with that difference. This form of reasoning privileges situated experience, iterative adjustment, and imagination disciplined by place. It also accepts unfinishedness and intangibility as a condition of rigor. In *Quarry Sonnets*, this meant propositions could remain partial and still be valuable if they reconfigured attention or opened a path for others.

Situated knowledges (Haraway 2016) named a commitment already enacted by wet shoes and fogged devices. Intra-action (Barad 2007) described what bodies and materials were doing in the quarry long before the term entered the present discussion. Slow science (Stengers 2018) gave language to the felt need for more time and for forms of engagement that favor depth of relation. Knowledge controversies (Whatmore 2009) framed, without resolving, the frictions between scientific, local, artistic, and more-than-human claims as they emerged in the week's conversations. These references remained in the background, supporting but not substituting for the ordinary work of paying attention with others.

The choices made tracked the week's lessons about scale and duration. With forty-five participants and nine days, the emphasis fell on breadth of encounter rather than depth of co-development. The result was a choice to stage a collective rehearsal where methods could ferment and be shared back locally, rather than to deliver a single consolidated outcome. The concluding exhibition-lunch honored this. The lunch was organized and funded by the Conselho Diretivo dos Baldios de Valverde, Pé da Pedreira, Barreirinhas e Murteira, which is the elected governing board of the local *Baldios* (commons) serving those villages. *Baldios* are community-owned lands managed by an assembly of commoners to administer use, forestry, and revenues. The various groups showed drawings, texts, scans, sound recordings, augmented reality models, and material tests at the community hall. People ate, looked, asked, and answered. The exhibition layout kept materials at hand on tables, allowing for quick conversations and interactions without definitive solutions.

Throughout, the quarry remained a co-author of the work. Its karstic porosity and the absences left by extraction held water that changed surfaces underfoot and under pencil. Its trackways and toolmarks placed deep time next to recent labor without hierarchy. Its edges funneled wind in ways that shaped whether a group stayed or moved. Its dust and clay changed the odds of a test succeeding that day. Method was not layered onto these conditions; it emerged with them, at their pace. In this sense, multispecies methodology names neither a specialty nor a style. It names a disposition: to ask what a place can do with you, and to let that answer organize how you proceed.

This change in how knowledge is generated with the quarry is a consequence of relation, not a prior target. The shift from ends to process is methodological and practical: it asks future work to be slower, smaller, and longer; to keep shared time and local connection at the center; to build with, not for. Proposals that preserve memory, create spaces of exposure, or assemble stones into

a quiet garden do not repair a quarry; they cultivate conditions under which ecological and epistemic repair might begin and continue with others.

The epistemic rehabilitation that I suggest is the practical remaking of how knowledge is produced with the quarry so that the site participates in inquiry. It proceeds by situated attunement and composting knowledge, allowing relations to enable new capacities for noticing and acting. Instead of pre-specifying outputs, it keeps conditions open; where appropriate, design-oriented or engineering responses can follow from what these relations make possible.

FIELDWORK, REFLECTION, AND PROPOSALS

The participants met at Lisbon airport on the evening of November 19, then we traveled 120 km north to the Centro Ciência Viva do Alviela: Carsoscópio,² which became the base of operations for the duration of the workshop. The evening fog gathered on the windows; wet jackets lined the rails; geology displays downstairs folded the building into the work. From then on, the weather set the tempo. Rain came steadily enough to make plans provisional and attention precise. The quarry and its surroundings refused to be a backdrop. Its walls threw sound back; its ledges pooled water; the ground shifted from dust to mud and back to dust within a day.

Days built a rhythm that kept the quarry close and the village in reach. Some mornings started with the park team, who brought the place into focus through strata, paleontology, and management. One visit to a small working quarry clarified the scale of handwork and the seasonality of extraction; a single owner operated the machinery and the tools himself, setting a cadence that registered in bodies as much as in notes. Afternoons belonged to walking, listening, and trying things. Groups returned to the same paths and faces, letting repetition bring forward what speed hides: the pitch of runoff in a corner, the way moss holds a seam, the moment the echo falls away at the base of a wall.

Evenings lengthened the day rather than ending it. Dinner at the base sent conversations out into the dorms, where sketches and recordings spread across tables, and accounts from the village returned with new weight. These details are easily missed in formal sessions—how dust settles on flowers, how bats mark a cave entrance, how the wind feels in the throat, but they entered through the shared meals that kept people fed and held open a space that resurfaced the following day.

Proposals emerged from this tempo to keep the relation alive and legible for others. One proposal was about a digital ecosystem archive. It aimed at keeping memory reachable: short oral histories; field observations recorded without forcing them into a grid; sound files from a ledge after rain; small clips that show how a seam looks when it first shows wet; images that carry the texture of a day rather than the image of a site. The point was to keep openings open, especially those that cross between expert knowledge and lived practice.

Another line of work proposed modest gestures that invite being in the quarry with care rather than passing through it in search of a view. A guided walk led by sound rather than by signage; a drawing station intentionally placed in a windy corner so that marks register the conditions that make them; small collaborative assemblies at the foot of a wall where plant matter and limestone dust can be moved but not fixed; instructions simple enough for a school group or a neighbor to adapt. These acts mattered because they reset what counts as doing. They put presence and co-attention ahead of interpretation, and in doing so made it easier to notice what the site brings to the encounter.

A third thread arranged stones as companions rather than specimens, inspired by the idea of a garden rather than a sculpture park: an unlabeled, loosely spaced assembly of local rock in which the order emerges from walking and being present. Only later, in the process of writing this article, did these gestures find resonance with the work of Hugo Reinert (2016) and Alexandra Toland (2023) on geologic conviviality. Visitors would enter without instruction and find their own duration among mineral presences. The proposal remains deliberately small, sketching links to nearby trails and features. In that movement across spaces, the garden would act as a hinge between the quarry's histories (industrial, paleontological, domestic) and the living textures that have returned since extraction ended.

The various works exhibited offered distinct perspectives that came together on the final day at the community hall. The works were laid on tables, so that pages, samples, scans, and small objects could be shared with the local communities. People drifted between plates, proposals, and drinks.

Post-workshop reports arrived in fragments with many participants naming similar pressures: the number of people, the short duration, the shared rooms, and the difficulty of learning a place while also learning one another. These accounts emphasize what the format made possible: breadth of contact, sharing of methods, and the importance of small repeated acts.

The village's response was diverse, suggesting curiosity, caution, kindness, and indifference, sometimes in the same conversation. The critical point is that the invitation did not presume agreement. It offered time and attention in exchange for stories, gestures, and the chance to get things wrong within reach of correction. That stance carries obligations forward: return, share back, keep the archive porous, and test whether the exposure practices and stone garden can be held locally without becoming another demand on already busy lives. If rehabilitation arrives anywhere in this, it comes in those obligations—in the way a practice continues in relation rather than in the way an outcome satisfies a plan.

The quarry itself held the week open. Dinosaur trackways shifted the scale of every conversation, even when they were not in view. Tool marks from extraction sat beside lichen and runoff in a present tense that refused hierarchy. Edges that caught wind taught where to stand and for how long; hollows that pooled water taught when to stop and listen. The site organized the work by what it could and could not do that day. The group learned to accept that organization and to take it seriously. That acceptance did not mean passivity. It meant letting method and proposal arise from contact rather than from intention.

By the time the bus departed for the airport, the quarry felt like a collaborator whose pace had begun to alter the group's own. The proposals carried that pace forward: records keep memory close to practice; gestures that privilege co-presence; arrangements that invite dwelling without demand. They are unfinished, waiting for weather, neighbors, and the more-than-human contingencies that make a place live. In that waiting sits a different understanding of what it means to work in a landscape. It does not seek closure. It keeps company.

CONCLUSIONS

Quarry Sonnets asked a question and stayed with it: what changes when a quarry is approached as a partner in thought and feeling rather than a problem to be solved? The week showed that artistic methodologies—walking, listening, improvising with materials, eating and talking

together—can grow speculative, plural, and accountable ways of knowing that open and hold more than they close. The value of this approach did not come from its novelty or its scale. It came from how it made attention collective and situated, and how it allowed weather, stone, and stories to redirect the work in real time.

Quarry Sonnets demonstrates how artistic practice can reorganize environmental research, expanding participation and what counts as evidence while keeping ecological and political questions open.

The workshop addressed the idea that rehabilitation begins with habits of knowing by keeping the quarry's tempo, reading rain as instruction, taking a worker's phrase as method. Lunches at the community hall and evenings at the base became the inquiry's backbone, knowledge moving across tables as easily as along ledges. This is epistemic rehabilitation: a reconfiguration of where knowledge lives, how it is produced and shared, and who carries it.

Composting knowledge combined divergent practices and accounts: drawings blurred by drizzle, scans that slipped on mist, a geologist's explanation, a villager's demonstration, without asking for translation into a single register or demanding resolution, but instead keeping frictions in contact. This practice can travel and be carried into other places, folded into longer collaborations, and used to convene different participants without insisting they speak the same language from the start.

These methods can be improved with reflections on duration and number of participants: slower work, smaller groups, and a more extended stay would probably invite richer reciprocity with local rhythms and more room for partial understandings to settle. In this frame, accountability looks like proximity and, where possible, return. The concluding lunch with the community did not close anything; it made circulation visible. Materials were kept at table height, within reach, as if to say that proposals belong among meals and voices. As the project was conceived as a nine-day pilot with no planned follow-up phase, we did not subsequently organize a return project due to post-project capacity limits. Nevertheless, the project acknowledges that landscapes are sites of ongoing care—formal and informal, human and more-than-human—and that any contribution worth keeping will be one that others can pick up at their own pace.

The week showed that technical measures live better when they are preceded and accompanied by changes in how attention is organized. In a quarry that carries both trackways from deep time and scars from recent labor, artistic practice helped participants stay with layered realities without sorting them into separate columns. If there is a proposal here, it is attunement to hold diversity together long enough for them to alter one another. Let weather, fatigue, and multispecies presence shape the day. Invite partial connection, resist consensus, and leave traces that others can take up. Quarry Sonnets does not offer a template; it provides a way of staying in relation.

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NOTES

1. The six participating institutions were: Escola Superior de Artes e Design, Caldas da Rainha (Portugal); Limerick School of Art and Design, Technical University of the Shannon (Ireland); Bauhaus-Universität Weimar, Media Art and Design (Germany); Lucerne School of Art and Design (Switzerland); Vilnius Academy of Art (Lithuania); and Vorarlberg University of Applied Sciences, Department of Design (Austria). A detailed public report documenting logistics, activities, and community feedback for the nine-day workshop is available online (Santos 2023).
2. Centro Ciência Viva do Alviela—Carsoscópio (Alviela Living Science Center) is part of Portugal’s Ciência Viva network. Located at the Alviela River spring inside the Serras de Aire e Candeeiros Natural Park, it offers interactive exhibitions on karst hydrology, geology, and bat ecology, with education spaces (auditorium/classrooms); the site also includes group dormitory lodging used by schools and field teams.

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