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Material Process, Authorship, and AI in Contemporary Art Practice

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ABSTRACT

EN This thesis investigates art-making as an embodied, time-based process in a cultural moment shaped by artificial intelligence and accelerated image production. As AI systems generate convincing images and stylistic variations at high speed and scale, the conditions of artistic work shift: attention is compressed, output is amplified, and the value of slowness, revision, and material consequence is increasingly questioned. The research responds by placing studio practice at the centre of inquiry and by treating ceramics, supported by drawing, as a material lens through which to analyse authorship, presence, and creative agency under technological acceleration.

The guiding research question asks: to what extent can AI-generated content replace, emulate, or coexist with art-making understood as a materially consequential process? The thesis adopts a practice-based research methodology in which knowledge is produced through making, documentation, comparison, and reflection. Ceramic production operates as a primary research method because clay enforces resistance, delay, repair, and irreversibility through drying and firing. These constraints leave visible traces, pressure, seams, revisions, and transformations, making process legible in the object. Drawing functions as a parallel space of emergence and registration, supporting the development of forms and atmospheres before and alongside their material testing in clay (Figure 1).

AI supports research and technical inquiry during making, plus a bounded generative test used for comparison. Photographs of the artist's own ceramic objects and drawings are used as the only direct input to generate speculative three-dimensional object proposals. The resulting outputs, presented as prints, are placed in dialogue with one or two ceramic works in an exhibition format, creating a comparative field between material consequence and algorithmic synthesis. The thesis also situates this practice within current debates on freedom, ethics, and AI in research, addressing issues of datasets, consent, hidden labour, and the politics of technological infrastructures. Rather than offering a binary conclusion, the research proposes a concrete method for testing coexistence: using AI as a reflective tool while preserving material practice as a site of resistance, agency, and meaning formation through time.

PT Esta dissertação investiga a criação artística enquanto processo incorporado e temporal, num momento cultural marcado pela inteligência artificial e pela produção acelerada de imagens. À medida que os sistemas de IA geram imagens convincentes e variações estilísticas com elevada velocidade e em grande escala, as condições do trabalho artístico transformam-se: a atenção é comprimida, a produção é amplificada e o valor da lentidão, da revisão e da consequência material é cada vez mais questionado. A investigação responde a este contexto colocando a prática de estúdio no centro da pesquisa e tratando a cerâmica, apoiada pelo desenho, como uma lente material através da qual se analisam autoria, presença e agência criativa sob aceleração tecnológica.

A questão de investigação orientadora pergunta: até que ponto o conteúdo gerado por IA pode substituir, emular ou coexistir com a criação artística entendida como um processo materialmente consequente? A dissertação adopta uma metodologia de investigação baseada na prática, na qual o conhecimento é produzido através do fazer, da documentação, da comparação e da reflexão. A produção cerâmica funciona como método de investigação

principal porque o barro impõe resistência, demora, reparação e irreversibilidade através da secagem e da cozedura. Estas condições deixam vestígios visíveis, pressão, costuras, revisões e transformações, tornando o processo legível no objecto. O desenho funciona como um espaço paralelo de emergência e registo, apoiando o desenvolvimento de formas e atmosferas antes e durante o seu teste material no barro (Figure 1).

A IA apoia a investigação e a pesquisa técnica durante o processo de criação, além de integrar um teste generativo delimitado usado para comparação. Fotografias dos objectos cerâmicos e desenhos da própria artista são utilizadas como o único input directo para gerar propostas especulativas de objectos tridimensionais. Os resultados, apresentados como impressões, são colocados em diálogo com uma ou duas obras cerâmicas num formato expositivo, criando um campo comparativo entre consequência material e síntese algorítmica. A dissertação situa também esta prática nos debates actuais sobre liberdade, ética e IA na investigação, abordando questões relacionadas com datasets, consentimento, trabalho invisível e políticas das infraestruturas tecnológicas. Em vez de propor uma conclusão binária, a investigação apresenta um método concreto para testar a coexistência: usar a IA como ferramenta reflexiva, preservando ao mesmo tempo a prática material como lugar de resistência, agência e formação de sentido através do tempo.

KEYWORDS : ceramics; drawing; artificial intelligence; materiality; practice-based research.

FIG. 1. TANGLED DRAWING AND SCULPTURE, 2025



INTRODUCTION

This thesis investigates art making as a human, embodied process in a cultural moment shaped by artificial intelligence and accelerated image production. AI systems can now generate images, stylistic variations, and plausible visual solutions with speed and volume that change the conditions under which images are produced, shared, and valued (Manovich, 2001). When output becomes instantaneous and abundant, the slower dimensions of making, including revision, hesitation, repetition, learning through failure, and material consequence, risk being treated as unnecessary or inefficient. The central position of this thesis is that these slower dimensions are not secondary to creativity because they are often where meaning is formed (Dewey, 1934/2005).

The research is conducted through a practice based research methodology. Practice based research treats artistic practice as a primary mode of inquiry and treats artworks, processes, and documentation as forms of research evidence (Borgdorff, 2012). This methodology aligns with the distinction between research into art, research through art, and research for art, where studio production can function as a primary research route rather than an illustration of theory (Frayling, 1993). Practice based research is also characterised by iterative cycles of making and evaluation in which process documentation becomes part of the research record (Candy, 2006). The studio is therefore not only a site of production in this thesis. It is the environment in which questions are formed, revised, and tested through material consequences. This position is also informed by Robert Wiley's lecture at FBAUP, where avoiding rigid project closure was presented as a way to protect experimentation and allow artistic practice to remain responsive as it develops (Wiley, 2025).

The project emerges from a studio practice formed through intuition, experimentation, ceramics, and drawing before entering an academic context. Within the Drawing Studio at FBAUP, this practice is developed as artistic research that combines material experimentation with critical reflection. The thesis does not approach AI as a purely technical topic. It approaches AI as a condition that reshapes how artistic work is understood, including where attention is located, what kinds of labour are made visible, and what kinds of outcomes are rewarded.

Ceramics is the primary medium of the research because clay enforces time, resistance, and irreversibility. A ceramic form must pass through stages that cannot be bypassed without consequences, including shaping, drying, joining, correction, firing, glazing, and final firing. Each stage introduces risk and uncertainty, because clay may crack, collapse, warp, stiffen too quickly, or transform unexpectedly through heat. These conditions make process legible in the object through seams, surface behaviour, repairs, pressure marks, asymmetry, and the evidence of decisions made under constraint. This makes ceramics a direct way to examine authorship, presence, and agency in relation to material consequence.

Drawing functions as a supporting and connected practice. It offers a faster space for emergence, registration, and atmosphere, allowing forms and states to appear before or alongside their testing in clay. In this thesis, drawing is not understood only as preparation for ceramic works. It is also an independent body of work that contributes to the exhibition and to

the emotional register of the installation. Drawing is important because it occupies a position between material gesture and image production, which later becomes relevant to the AI experiment.

From this position, the thesis asks: to what extent can AI generated content replace, emulate, or coexist with art making understood as an embodied, time based, materially consequential process? This question is not approached as a binary debate between human creativity and machine production. The aim is neither to reject AI nor to treat it as an inevitable replacement for artists. Instead, the research tests how AI can function inside artistic practice as support, reflection, and comparison, and what becomes visible when AI generated outputs are placed beside ceramic objects and drawings.

AI enters the research in two main ways. First, it supports technical and reflective inquiry during studio work, especially through practical questions around ceramic processes such as glaze experimentation. Second, it is used in a bounded generative experiment. In this experiment, photographs of the artist's own ceramic objects and drawings are used as the only direct source material for generating speculative object proposals. The resulting AI outputs are curated and presented as prints, not as replacements for material works. This constraint is important because the project is concerned with authorship, provenance, and responsibility.

The thesis also addresses the ethical conditions surrounding AI. Generative systems depend on large datasets, hidden labour, resource infrastructures, and forms of extraction that are often invisible to users (Crawford, 2021). A broader political economy of data also shows how cultural production can be appropriated as raw material for technological systems (Couldry & Mejias, 2019). For this reason, the project does not treat AI as a neutral tool. It uses AI within a constrained and transparent method, while acknowledging that these internal limits do not resolve the larger ethical problems of generative systems.

The exhibition is central to the research because it makes comparison perceptible. Ceramic objects, drawings, and AI generated prints are placed in relation so that viewers can encounter differences between material presence and algorithmic synthesis. Installation is therefore treated as a research instrument, because spatial arrangement allows relationships between works to become visible through proximity, scale, movement, and attention (Bishop, 2005). The exhibition is not intended to deliver one fixed interpretation. It creates a situation in which viewers can perceive how different processes produce different kinds of presence, trace, and responsibility.

The thesis is organised in three main parts. The State of the Art situates the research within debates on AI image culture, craft and material thinking, ethics, drawing, and relevant case studies. Chapter 1 develops the conceptual framework, focusing on process, trace, authorship, uncertainty, repair, and freedom under acceleration. Chapter 2 explains why ceramics, drawing, AI, and exhibition form the methodological structure of the project. Chapter 3 presents the studio process, AI experiment, final works, and research outcomes. The Conclusion returns to the research question and argues that, within this practice, AI can coexist with artistic making as support and comparison, but does not replace the embodied and materially consequential process through which the work gains meaning.

STATE OF ART

1. AI in Visual Culture: Acceleration, Variation, and Image Abundance

The rapid adoption of generative AI has reshaped visual culture by changing the speed, scale, and conditions of image production. Image making, once tied to time intensive processes such as manual labour, craft routines, and iterative editing, is increasingly mediated by systems that can generate plausible images within seconds. This shift is not only technical; it reorganises attention and value when images become cheap to produce and endlessly repeatable (Manovich, 2001).

A key feature of AI in visual culture is acceleration. Acceleration is not simply faster rendering, but the reduction of time between desire and output. This time compression matters because many artistic practices depend on delay, waiting, and returning to work after perception has shifted. These changes can be situated within theories of social acceleration, where the tempo of life reshapes attention, evaluation, and experience (Rosa, 2013).

A second defining condition is variation. Generative systems can produce rapid series of alternatives by shifting lighting, mood, composition, texture, or iconography. As a result, the practical question becomes less how to build an image and more which version to select. While this can expand exploration, it also increases pressure toward the instantly resolved and visually coherent. This dynamic echoes earlier discussions of technological reproducibility, in which reproduction reorganises value and reception by changing how images circulate (Benjamin, 1936/2008).

A third defining condition is image abundance. Abundance is not simply the presence of more images, but a transformation of the ecology of attention in which plausibility loses value because it becomes common. In such conditions, images can function less as records of events and more as products of promptable imagination, altering relationships between image, trust, and experience. This abundance also has implications for authorship and ethics because generative models are built from datasets assembled at scale. These infrastructures connect AI imagery to forms of extraction involving data, labour, and resources rather than immaterial creativity (Crawford, 2021).

At the level of perception, AI image abundance can encourage the displacement of direct encounter by representational consumption, particularly in scrolling environments where images are absorbed as content. A sensorial critique of interpretation remains relevant here because it defends the primacy of experience and attention in how images are understood (Sontag, 1966).

Finally, AI in visual culture raises questions about agency and authority. Algorithms that rank, recommend, and distribute content influence what is seen and therefore what is valued, shaping what creators feel is possible or efficient to produce. This suggests that the challenge for artistic research is not only technical but also about sustaining agency and responsibility within accelerating systems (Harari, 2016).

Together, acceleration, variation, and abundance transform not only how images are produced,

but also how they are valued and experienced. This thesis responds by shifting attention from output to process and by examining how meaning forms through time, resistance, and embodied making when these conditions meet algorithmic generation.

2. Craft and Material Thinking: Ceramics as Resistance, Agency, and Slow Knowledge

If AI intensifies speed, variation, and visual abundance, craft based practices offer a different model of knowledge grounded in material contact, duration, and consequence. In this thesis, craft is not treated as nostalgic or anti technological. It is approached as a mode of inquiry in which attention, labour, risk, and resistance shape how meaning forms (Adamson, 2007).

Adamson's work provides a key anchor for this position because craft is framed as more than skill or decoration. It is a way of thinking that happens through the hand's engagement with materials (Adamson, 2007). This matters for ceramics because constraint is not abstract in clay. Clay responds to pressure, collapses when structural logic is ignored, cracks when rushed, and transforms irreversibly under heat. Ceramic authorship is therefore inseparable from negotiation between intention and material behaviour.

This emphasis becomes clearer when craft knowledge is understood as partly tacit. Many ceramic decisions cannot be fully verbalised in advance because they depend on timing, moisture, thickness, and sensitivity to state changes. Knowledge is built through repeated contact, calibration, trial, error, and return. This makes craft a strong lens for artistic research because the studio becomes a site where understanding is generated through consequence.

Ingold deepens this view by describing making as correspondence with materials rather than the imposition of form upon passive matter (Ingold, 2013). Ceramics makes this correspondence concrete because the work changes state over time and the maker must adapt to each stage. Decisions depend on when clay can support itself, when joining becomes stable, and when forcing a form will cause failure rather than progress.

Placed beside AI driven image production, this material structure becomes analytically significant. AI often presents creativity as rapid possibility, where prompts yield immediate outputs and variation can be generated without delay. Ceramics presents creativity as consequence, because stages cannot be skipped and outcomes cannot be undone. This tension clarifies two different conditions of authorship: one based on rapid selection, and another based on patience, uncertainty, and commitment.

This difference also reframes freedom. In accelerated image culture, freedom is often described as access to tools that reduce time and increase output. Craft practices support another definition, where freedom is the capacity to sustain attention and agency within constraint rather than escape limits altogether (Sennett, 2008). Ceramics can therefore be understood as a practice of freedom because it produces form through return, repair, and commitment rather than instant selection.

Ceramics also makes visible the relationship between process and presence. A ceramic object can communicate its making through pressure marks, seams, repairs, uneven thickness, and glaze behaviour. These traces function as perceptual signals of embodied decision making, often registering before interpretation begins. This aligns with a sensorial approach to viewing that prioritises encounter and attention over interpretive closure (Sontag, 1966).

Craft thinking also sharpens the ethical dimension of the thesis. If AI systems operate through extraction, infrastructure, and hidden labour, craft foregrounds responsibility by making labour and consequence visible in the work itself (Crawford, 2021). This does not solve the ethical issues of AI, but it provides a grounded counterpoint to frictionless generation by insisting that making has costs, including time, attention, failure, and repair.

In summary, craft and material thinking provide a bridge between ceramics and the broader debate around AI. Ceramics functions as a research medium because it reveals how meaning forms through resistance, delay, and irreversibility. Craft theory clarifies that these conditions are not secondary to creativity, but structure how agency and authorship become visible through process.

3. Ethics and AI Infrastructures: Datasets, Labour, Consent, and Responsibility in Artistic Research

Ethical questions around AI in visual culture are often discussed as abstract issues such as bias, misinformation, or copyright, but in artistic research they become methodological conditions. Using AI is not simply adopting a tool, because it means working inside infrastructures built from datasets, computational resources, and redistributed forms of labour. Ethics in this thesis is therefore treated as part of research responsibility, because it shapes what kinds of experiments are defensible and what kinds of claims remain credible (Crawford, 2021).

A first ethical dimension is the dataset. Generative models are trained on large collections of images that frequently include cultural production gathered without explicit consent. This matters in art contexts because style and visual language are not neutral raw materials, but forms of labour and cultural memory. This perspective also frames AI as a system of extraction in which human life and cultural production are appropriated as raw material for value, which helps situate dataset practices within a broader political economy rather than a technical issue alone (Couldry & Mejias, 2019). When models learn patterns from uncredited works, they can reproduce stylistic cues without acknowledging sources, which unsettles attribution and accountability. This critique is strengthened by the view that AI is not immaterial intelligence but a material system built through extraction and resource cost (Crawford, 2021).

A second dimension is labour, both visible and invisible. AI is often framed as automation, but automation redistributes labour rather than eliminating it. Labour persists in dataset construction, annotation, moderation, infrastructure maintenance, and energy consumption, even when these processes remain hidden from users. This matters for artistic research because it complicates the narrative of effortless creativity and requires a more honest account of what enables an image to appear (Crawford, 2021).

A third dimension is consent and attribution, which intersects directly with authorship. When a model generates outputs resembling identifiable visual languages, questions arise about who benefits and who is erased. In conventional art histories, influence is debated through traceable relationships and time, even when those relationships are unequal. With AI, influence can become anonymous and automated, because stylistic absorption does not require acknowledgement. Ethical artistic research cannot resolve these conditions globally, but it can respond methodologically through transparency and constraint.

This thesis responds to this terrain by introducing a controlled AI experiment rather than an open-ended generate-anything approach. The project restricts direct input material to

photographs of the artist's own ceramic objects and drawings. This does not erase the broader ethical complexity of generative models, but it strengthens the internal accountability of the research design. The restriction clarifies the research question by keeping the experiment focused on how an algorithm re-reads an existing studio language rather than harvesting unknown sources. The restriction also supports transparency, because outputs can be exhibited alongside the ceramic objects that produced the source material.

Ethics also intersects with freedom, specifically artistic freedom under technological acceleration. AI tools promise freedom as speed and option abundance, but this can introduce pressure to keep generating and optimising rather than forming and committing. In that sense, acceleration can narrow freedom by shifting creativity toward perpetual selection rather than sustained decision-making (Rosa, 2013).

A final ethical dimension concerns the politics of perception. Systems that rank, recommend, and distribute content influence what becomes visible and therefore what becomes valued. Even when AI is used only as studio support, artists operate inside environments shaped by algorithmic mediation of attention and legitimacy. This is why the thesis treats AI as part of a broader cultural ecosystem rather than a standalone device (Harari, 2016).

In summary, ethical questions in artistic research cluster around datasets, labour, consent and attribution, and the politics of accelerated attention. This thesis responds by making methodological constraints explicit, keeping the relationship between source and output legible, and treating exhibition as a comparative instrument that allows differences between material consequence and algorithmic synthesis to become perceptible in encounter (Crawford, 2021).

4. Drawing as a Supporting Practice in Hybrid, Material-Led Workflows

Within this thesis, drawing is positioned as a supporting practice rather than the primary research medium. Ceramics remains central because it produces knowledge through time, resistance, and irreversible consequence. Drawing contributes a different function by providing a space where forms, atmospheres, and perceptual tensions can emerge quickly and remain open before they are tested against material constraint.

Drawing is useful in practice based research because it can operate as a register of attention that does not rely on verbal explanation. Mark making can hold shifts in mood, intensity, and perception through layering, repetition, and adjustment. This supports a sensorial approach to visual work in which encounter and attention precede interpretive closure (Sontag, 1966).

Drawing also strengthens the research design by building a traceable baseline vocabulary. Across iterations, recurring tendencies become visible through continuity of gesture and form, which makes the practice legible as a system rather than a set of isolated outcomes. This baseline matters once AI mediated outputs are introduced later in the thesis because it keeps comparison accountable to an existing studio language instead of drifting into generic image production.

A material perspective helps frame drawing in this role. Drawing is not treated as execution of a fixed idea but as a responsive practice where form develops through adjustment and feedback (Ingold, 2013). In the workflow of this thesis, drawing and ceramics operate as a feedback loop rather than a linear pipeline. Drawing can lead toward ceramic decisions, and ceramic outcomes can return as new drawing problems, especially when surface, scale, and weight shift the perceived tone of a form.

In summary, drawing contributes speed, openness, and a traceable vocabulary within a research design anchored in ceramic consequence. It supports emergence during the pauses and thresholds of clay work and clarifies how the practice develops through embodied decision making before algorithmic variation enters the system.

5. Case Studies and Emerging Research Models: AI as Reflection, Not Replacement

To situate this thesis within current discourse, case studies are used as reference points that clarify how AI enters practice and where authorship is located. The goal is not to adopt these models as templates, but to sharpen the thesis method by comparing different relationships between computational generation, material consequence, and curatorial decision making.

FIG 2. TU DELFT, CRAFTING REFLECTION, 2025





FIG. 4. R. de JOODE, NOTITLE, 2026

FIG 3. BOLDTRON, CHAOS IS BEAUTIFUL. 2025

The first and most directly aligned case study is the TU Delft project Crafting Reflection Through AI and Clay (Figure 2). This work positions AI as a reflective instrument rather than as a tool for efficiency, using ceramics to slow down and rethink design decisions (van der Burg, 2025). Its relevance lies in showing that AI outputs gain meaning when they are reintroduced into material practice, where clay restores gravity, drying stress, and firing transformation as decisive thresholds. This aligns with the present thesis, which treats AI generated forms as speculative proposals and uses ceramics as the validation environment where consequence becomes visible.

A second case study is Boldtron, which offers a contrasting model based in a digital studio workflow (Figure 3). Here, AI appears inside a directed process where selection and composition remain central, rather than operating as an autonomous author (Pictoplasma, 2025). This case clarifies how authorship can remain anchored in judgement when AI is treated as a variation engine and outputs are curated through editing, assembly, and constraint.

The third focused case study is Rachel de Joode, whose practice provides a precedent for thinking about the loop between material surfaces and digital re mediation (Figure 4). De Joode works across sculpture, photography, and digital manipulation, using images of tactile materials to produce hybrid objects that oscillate between three dimensional presence and two dimensional representation (Galerie Christophe Gaillard, n.d.). Her work is relevant because it shows that the material digital relationship is not introduced only by AI, but belongs to a

longer contemporary condition in which objecthood is translated into image and back again.

Together, these cases reveal three sites of agency. TU Delft foregrounds material resistance, because clay determines what can exist under consequence (van der Burg, 2025). Boldtron foregrounds curatorial agency, because coherence is maintained through selection and editing (Pictoplasma, 2025). De Joode foregrounds translation itself, where meaning is produced through the tension between object and representation (Galerie Christophe Gaillard, n.d.). These distinctions support the thesis position that AI becomes most meaningful in artistic research when it does not bypass making, but reshapes how a practice tests, selects, translates, and validates form.

The ethical dimension remains inseparable from these models. AI based systems rely on infrastructures and datasets that complicate neutrality and attribution, which makes methodological transparency essential even in small scale experiments (Crawford, 2021). This is why the present thesis constrains input provenance and keeps the relationship between source objects and generated outputs legible within the exhibition format.

Beyond these focused examples, ARTinRARE and i2ADS provide secondary contexts for thinking about artistic intelligence and computational systems within artistic research environments. They are not treated as full case studies, but they help situate the thesis within a wider field and reinforce the need to treat AI as part of a cultural and ethical ecosystem rather than a standalone tool.

In summary, TU Delft, Boldtron, and Rachel de Joode provide three complementary models for thinking about AI and material practice: material consequence, curated decision making, and translation between object and image. Together, they support the thesis orientation that AI should be examined through practice based tests that show where meaning forms, how agency is exercised, and how responsibility can remain visible under acceleration.

CHAPTER 1. Art Making as Process Under Technological Acceleration

1.1 Art-making as Process vs. Image-as-Output

This thesis begins from a shift that is visible in everyday visual culture and increasingly explicit in AI mediated production. Images circulate as finished surfaces at high speed, often detached from the conditions of their making and from the time it took for decisions to accumulate. This shift is not only technical because it changes what is noticed, what is valued, and what is treated as credible evidence of creativity (Manovich, 2001).

For the purposes of this thesis, process refers to the time based chain of actions and decisions through which a work comes into being. Process includes repetition, adjustment, return, repair, and the consequences of earlier choices that cannot be erased without cost. This thesis treats process as a site where meaning is formed rather than as a secondary story added after an artwork is finished (Dewey, 1934/2005). In contrast, image as output refers to a mode of evaluation that treats the visible result as the work itself, judged primarily by immediate coherence, recognisability, and surface effect. This output centred model is not new, but it becomes intensified when tools produce convincing images with minimal delay and when circulation platforms reward instant legibility (Benjamin, 1936/2008).

The distinction matters because it reorganises attention. When output is prioritised, the work is experienced as a product rather than as a record of formation. The viewer may still feel something, but the conditions that shaped the work become harder to sense, and the maker may be pressured to optimise appearance rather than sustain inquiry. The thesis does not claim that the output centred mode is meaningless, because images have always been consumed as images. It argues that an exclusive focus on output can obscure how meaning develops through time, constraint, and embodied negotiation (Sontag, 1966).

To keep this argument precise, the thesis uses two terms that remain stable throughout the text. Presence refers to the perceptual sense that a work carries lived formation rather than only visual finish. Trace refers to evidence of decision making under constraint, including seams, repairs, thickness choices, surface behaviours, and other marks that remain legible as the history of a process. Presence is not treated here as aura in a romantic sense, and trace is not treated as a guarantee of authenticity. Presence and trace describe how process becomes perceptible in an encounter, especially within materially consequential practices (Adamson, 2007).

This definition also clarifies what the thesis does not claim. It does not argue that the maker's biography provides the correct meaning of a work. It does not argue that interpretation should be controlled by authorial intention. The thesis instead argues that certain practices make process visible as evidence, and that this evidence affects how works are perceived and valued under accelerating conditions. This is why ceramics is central, because ceramics forces process into the object through delayed thresholds and irreversible transformation (Ingold, 2013).

The rise of generative AI sharpens the process versus output distinction because it compresses

stages that have historically structured creative work. Prompt based generation often collapses drafting, revision, failure, and return into a single moment of output selection. The user can iterate rapidly, but the iteration is frequently driven by comparison among results rather than by sustained negotiation with materials and time. This changes how decision making functions, because the primary task becomes choosing among variations rather than forming a work through consequence (Manovich, 2001). The thesis does not treat this as morally wrong, but it treats it as a different condition of making, with different implications for agency and authorship.

Material practices clarify why this matters. In ceramics, the work cannot be fully resolved in one moment because the medium forces sequence. A form must survive gravity, drying stress, joining, and firing. A surface must survive glaze behaviour and kiln transformation. Decisions accumulate through delayed thresholds, and outcomes appear after waiting rather than instantly. These conditions make trace unavoidable, because the object retains evidence of how it endured or failed. This makes ceramics a strong research medium for asking what kind of meaning depends on consequence (Sennett, 2008).

A material account of making also helps avoid a simplistic opposition between human depth and machine shallowness. The thesis does not claim that human making is always slow and AI making is always fast. It instead claims that different systems distribute time and consequence differently. A correspondence view describes making as a process of responsiveness rather than imposition, where the maker adapts continuously to what materials do (Ingold, 2013). Under this view, process is not an obstacle to overcome but a condition that generates knowledge. That condition becomes harder to access when the goal is instant coherence, because coherence can be achieved without having passed through resistance.

This leads to a methodological point that will structure the thesis design. If the research question concerns what AI changes in art making, then the thesis must make both sides observable. It must document material practice as a chain of decisions under constraint, and it must introduce AI in a way that produces comparable evidence rather than simply producing outputs. This is why the thesis constrains AI input provenance and treats AI generated results as a comparative layer rather than as replacement objects. This methodological stance is connected to ethical concerns about the infrastructures behind generative systems, which complicate any idea of neutral creativity (Crawford, 2021).

The process versus output distinction also connects to freedom. In many contemporary narratives, freedom is equated with speed and option abundance. AI seems to increase freedom by making more outcomes available faster. Yet speed can also narrow freedom by shifting practice toward optimisation and selection rather than sustained agency within formation. A sociology of acceleration is useful here because it describes how time compression changes experience and evaluation rather than merely increasing efficiency (Rosa, 2013). This thesis will therefore treat freedom as agency in process rather than as the maximum number of outputs produced.

A sensorial critique of interpretation is also relevant to this framework. If a viewer encounters an artwork primarily as content to decode, the work becomes subordinate to explanation. The thesis does not reject interpretation, but it argues that the first encounter should remain open to sensation, attention, and affect before being closed into meaning (Sontag, 1966). This position supports the exhibition strategy later in the thesis, where minimal framing allows the comparative method to be felt rather than only described.

In summary, this thesis uses the distinction between process and output to clarify what is being tested. Process refers to time based formation through decision, constraint, and consequence. Output refers to the visible result as a surface that can be selected, circulated, and evaluated quickly. The rise of generative AI intensifies output culture by making resolved looking images abundant and repeatable. Ceramics anchors the research because it restores consequence as a condition of meaning, making trace and presence perceptible as evidence of formation. The thesis proceeds by staging a dialogue between these conditions, not to moralise technology, but to examine what remains legible when embodied making is translated into algorithmic synthesis and returned as image.

1.2 Freedom in Making Under Acceleration: Process as Agency and Resistance

In many contemporary narratives, freedom is described as access to tools that reduce time and increase output. Generative systems appear to expand freedom through speed, convenience, and the ability to generate many visual alternatives with minimal delay. This thesis argues that such expansion is real but incomplete, because freedom in artistic practice is not only a matter of options. Freedom also concerns agency within process, meaning the capacity to decide how a work is formed, how time is used, and how responsibility is carried across stages of making (Rosa, 2013).

Acceleration changes what counts as a decision. When variation can be produced instantly, attention can shift away from formation and toward selection, and selection can become the main creative act. This can introduce a new pressure to keep comparing and optimising instead of staying with uncertainty long enough for form to develop its own logic. These conditions also alter the psychological rhythm of making, because the work can feel replaceable, and replaceability can weaken commitment (Rosa, 2013).

The thesis acknowledges that this is not a simple story of loss. Computational creativity theory proposes that novelty can emerge through exploratory search in conceptual spaces, which means that algorithmic systems may produce unexpected combinations without human planning (Boden, 2004). This position complicates any claim that freedom belongs only to human makers, because it suggests that creative variation can be generated by systems as well as by people. The thesis does not dismiss this argument. It places it under a different test by asking how freedom behaves when meaning is tied to consequence rather than to novelty alone.

Material practice offers a clear way to examine this difference. In ceramics, the medium imposes time based stages that cannot be bypassed without cost, and this shapes a slower form of agency. A ceramic decision often requires commitment without immediate confirmation, because results appear later through drying and firing. This produces a form of freedom that is not based on instant choice, but on sustaining attention, tolerating uncertainty, and returning to the work across time (Sennett, 2008).

Ceramic freedom also emerges through resistance. Clay pushes back, collapses, cracks, and transforms in ways that force the maker to respond rather than simply execute a plan. Under these conditions, agency is relational, because form develops through negotiation with material behaviour rather than through command. A material account of making describes this as

correspondence, where the maker follows and answers what materials do instead of imposing fixed form from outside (Ingold, 2013). In this thesis, such correspondence is treated as a key site of freedom because it keeps decisions grounded in real consequences.

This framework also helps avoid romanticising slowness. Slowness is not presented as virtue in itself, and speed is not presented as ethical failure. The point is that different systems distribute time, risk, and reversibility in different ways. AI can expand the range of visual possibilities quickly, and that can support exploration and reduce barriers to entry. Ceramics can restrict possibilities, but those restrictions produce meaning through commitment and trace, because the work carries the record of what survived and what had to be repaired (Adamson, 2007).

Freedom is also shaped by cultural conditions of evaluation. In fast image culture, the value of a work can become attached to novelty, recognisability, or immediate coherence, which encourages makers to deliver resolved surfaces quickly. This can narrow freedom by shifting practice toward external reward systems rather than internal inquiry, especially when visibility is governed by platform logics and recommendation systems (Harari, 2016). The thesis therefore treats freedom under acceleration as a question of both studio process and cultural environment.

In the research design of this thesis, AI is not framed as an enemy of freedom. AI is treated as one tool that can widen experimentation, assist technical inquiry, and generate comparative proposals when constrained responsibly. Ethical critiques remain relevant because tool adoption is never neutral and involves infrastructures built from extraction and resource cost (Crawford, 2021). The thesis addresses this by keeping AI use methodologically bounded, maintaining clear provenance of inputs, and returning validation to materially consequential practice in ceramics.

In summary, the thesis defines freedom as agency sustained within constraint rather than as maximum speed or option abundance. Acceleration can expand possibilities while also shifting decision making toward selection and optimisation. Ceramics clarifies freedom as commitment across time, negotiation with resistance, and acceptance of consequence as part of meaning formation. This definition will remain consistent across the thesis and will not be redefined in later sections.

1.3 Authorship as Trace: Presence, Decision-Making, and Material Consequence

This thesis treats authorship as something that becomes legible through process, rather than something guaranteed by signature or intention alone. The term trace is used here in the sense defined earlier, meaning evidence of decision making under constraint that remains perceptible in the work. Trace is not presented as proof of authenticity in a moral sense. It is treated as a perceptual and methodological category that helps analyse how making becomes visible when a work is encountered.

Ceramics makes this legibility unusually direct because the medium stores decisions as physical history. Clay records pressure, compressions, thickness choices, joins, and the timing of interventions. These marks are not always dramatic, but they accumulate as evidence that the

object passed through stages of negotiation rather than appearing fully resolved at once. Craft theory is useful here because it frames making as thought embedded in manual practice, where knowledge is enacted through the hand's engagement with constraint (Adamson, 2007).

Trace also involves choices about what to conceal and what to preserve. A ceramic surface can be polished toward invisibility, or it can remain open to signs of repair, unevenness, or adjustment. These decisions are authorial not because they express personality directly, but because they reveal a stance toward process, risk, and responsibility. A material account of making describes form as emerging through correspondence with matter, where the maker adjusts continuously to what the material permits (Ingold, 2013). Under this view, authorship is not a single act but a sequence of situated responses.

This approach becomes especially relevant in the context of AI image production. Generative systems can produce images that resemble handcrafted textures or irregularities without having passed through physical thresholds. Handmade looking cues can be simulated as appearance, which means the viewer's usual shortcuts for reading trace may become less reliable. This does not mean AI outputs lack meaning. It means that the kind of evidence they carry is different, because coherence can be achieved through synthesis rather than through consequence. The thesis therefore asks how trace is read when the same visual language exists in two forms, one shaped by irreversible stages and one shaped by repeatable generation.

This question also intersects with authorship theory that decentre the author as the stable origin of meaning. Barthes argues that interpretation should not be anchored in authorial intention as the privileged source of truth (Barthes, 1977). Foucault further describes authorship as a function that organises discourse rather than a personal essence that guarantees meaning (Foucault, 1980). These positions are important to this thesis because they prevent a return to biography as explanation. The project does not claim that the maker's inner life is the meaning of the work. Instead, it investigates how process remains legible as material evidence, and how that legibility affects perception, responsibility, and value under accelerating conditions.

The focus on trace also clarifies the ethical dimension of authorship under AI. If generative models learn from large scale datasets assembled without clear consent, then stylistic cues can circulate without attribution and without a visible relationship to the labour that produced them. This makes authorship more diffuse and makes responsibility harder to locate. Critical work on AI infrastructures frames these systems as material and political arrangements rather than neutral tools (Crawford, 2021). For this reason, the thesis treats methodological transparency as part of authorship practice, including the decision to constrain AI inputs to the artist's own works in the comparative experiment.

Trace also matters because it is tied to time. In materially grounded practice, the viewer often senses duration through weight, surface behaviour, and subtle irregularity that registers as lived formation. This duration does not need to be narrated to be felt. Under accelerated image conditions, duration can be displaced by instant plausibility. The thesis therefore treats trace as one way to keep time perceptible, not as nostalgia, but as research evidence of how decisions accumulated (Figure 5,6).

This section does not argue that ceramics is the only medium capable of trace, or that AI cannot participate in authorship in any sense. It argues that authorship changes when consequence is removed from the core of formation. In ceramics, consequence is unavoidable, and trace becomes an index of negotiation with resistance and irreversibility. In AI generation,



FIG.5. STUDIO PROCESSES, 2026

FIG.6. STUDIO IN & OUT, 2026





consequence is redistributed into selection, curation, and framing, because iteration is cheap and repeatable. These are both forms of authorship, but they operate under different conditions and produce different kinds of evidence.

In summary, this thesis uses authorship as trace to analyse how making becomes legible when a work is encountered, and how that legibility shifts under algorithmic synthesis. The definition of trace is not expanded here beyond what was established earlier. The concept will be referred back to in later chapters when the thesis describes glaze experiments, repair decisions, and the exhibition staging where ceramic objects are placed alongside AI derived proposals.

1.4 Uncertainty, Repair, and Failure as Research Conditions in Material Practice

Material practice produces knowledge through conditions that cannot be fully planned or controlled. In ceramics, uncertainty is not an occasional interruption but a structural feature of the medium, because clay changes state over time and responds to pressure, gravity, drying, and heat. This means that making is continuously shaped by risk and delayed consequence, and the studio becomes a site where decisions are tested against thresholds rather than confirmed immediately (Ingold, 2013).

Uncertainty functions as a research condition because it creates decision points. This approach is reinforced by Wiley's position that avoiding predetermined project closure can protect experimentation and keep attention inside the process rather than the outcome (Wiley, 2025). A form may hold while wet and then slump while drying, a join may crack after appearing stable, or a glaze may behave unpredictably in the kiln. These events do not simply produce failure in a negative sense. They reveal assumptions and expose the practical logic of a method. When a wall collapses, the maker learns something about thickness, moisture distribution, or structural balance. When a glaze runs too far, the maker learns something about viscosity, application, firing range, or surface compatibility. The thesis treats these outcomes as information because they force the practice to clarify what is being tested and what must change in the next iteration (Sennett, 2008).

This understanding aligns with craft oriented accounts of learning that emphasise iterative problem solving and responsibility across time. The maker is not only forming a result but developing judgement through repeated encounters with resistance. That judgement is built in part through error, because errors reveal where a process is fragile or where a material constraint was underestimated. In this sense, uncertainty is not external to authorship. It is one of the ways authorship develops, because the maker must decide how to respond when intention meets consequence (Adamson, 2007).

Repair is a central element of this research logic. Repair turns failure into a form of continuation rather than termination. In ceramics, repair often remains visible, whether as a reinforced seam, a rebuilt section, a reattached element, or a surface that preserves the memory of correction. These repairs are not treated here as flaws to hide. They are treated as evidence of decision making under constraint, which connects directly to the definition of trace established earlier in this chapter. Repair therefore becomes a methodological practice rather than an aesthetic afterthought. It records the choice to persist, to adapt, and to accept that making includes damage and recovery rather than only smooth resolution (Sennett, 2008).

Repair also reshapes the temporality of the studio. A repaired work carries more time than an unrepaired one, because it has returned through another cycle of assessment and intervention. This extended time is not simply longer labour. It is an expanded field of decision making that becomes embedded in the work. The object is not only an output but a record of how instability was managed. This is why repair is treated as research evidence and not merely as technique. It demonstrates how the practice responds under pressure and how values such as tolerance, patience, and responsibility operate in material form (Adamson, 2007).

Failure is equally important as archive. In studio practice, failed outcomes often accumulate as references for future work. Collapsed pieces, cracked joins, unwanted glaze flows, and unexpected kiln results provide concrete data about what the material does under particular conditions. This archive of failed attempts supports comparison over time. It allows the maker to track how methods evolve, how risk is managed differently, and how decisions become more informed. It also supports the thesis methodology later, because comparison requires evidence of variation in outcomes rather than only the most successful examples (Ingold, 2013).

This section also clarifies an important distinction between material uncertainty and algorithmic unpredictability. AI systems can produce surprising variations and unexpected combinations, and those surprises can be creatively useful (Boden, 2004). However, algorithmic unpredictability is not consequence based in the same way as ceramics, because a generated output can be discarded and replaced at minimal cost, and the system does not carry forward material damage or repair history. The unpredictability of clay is costly and time bound, because it occurs inside a chain of states that cannot be rewound. This difference matters for the thesis because it shapes how agency is exercised. In ceramics, agency includes deciding what to repair, what to accept, and what to abandon after loss. In algorithmic workflows, agency often shifts toward selection and curation among outputs rather than repair under consequence (Rosa, 2013).

The psychological dimension of uncertainty is also part of the research condition. Not knowing what will happen after firing, or whether a glaze test will succeed, produces a specific kind of attention. It requires the maker to tolerate delay and to stay engaged without immediate confirmation. This tolerance is not merely personal temperament. It is a methodological stance that allows work to develop without being forced prematurely into closure. In this context, play becomes relevant not as entertainment but as a serious mode of experimentation. Play allows risk, error, and reconfiguration without demanding immediate justification (Winnicott, 1971).

Play also supports the capacity to remain with ambiguity, which is important to the wider thesis argument about accelerated image culture. When output is easy to produce and replace, there is pressure to resolve quickly and move on. Material practice resists this pressure by making resolution slow and sometimes impossible without compromise. Play becomes one way to stay in process rather than defaulting to optimisation. It supports continued exploration even when outcomes are unstable or incomplete (Winnicott, 1971).

These research conditions are especially visible in glaze experimentation. Glaze testing requires working with variables that interact across time and temperature, and the results appear only after firing. Even when a glaze behaves unexpectedly, the outcome is not discarded as meaningless. It becomes evidence that can be read and corrected in later cycles. This is one reason the thesis includes a discussion of using AI as technical support in the studio, because AI can help expand initial hypotheses or correction options, while the kiln remains the validator (Crawford, 2021). The point is not that AI replaces uncertainty. The point is that

uncertainty remains central and productive, because material consequence still determines what holds.

In summary, uncertainty, repair, and failure are treated in this thesis as research conditions rather than obstacles. They generate knowledge by forcing decisions under constraint and by producing evidence that can be compared across iterations. Repair makes continuation visible, and failure builds an archive of material behaviour that informs future practice. These conditions support the thesis methodology because they show how meaning forms through time and consequence, which later becomes essential when comparing materially grounded work with AI derived proposals that operate under different conditions of reversibility and speed.



FIG.7. TANGLED SCULPTURE CONSTRUCTION, 2025

CHAPTER2. Ceramics, Drawing, and AI as a Practice Based Research System

2.1 Why Ceramics Is the Main Research Medium

This thesis examines a practice system rather than a single artwork, so the medium functions as method and determines what counts as evidence. Ceramics is selected as the main research medium because it makes the core concerns of the thesis observable through time, resistance, irreversibility, and repair (Ingold, 2013).

Ceramics is time based by nature. Clay passes through states that cannot be skipped without altering both structure and meaning, and each stage changes what is possible and what is at risk. Drying imposes waiting and return, joining requires timing, and firing produces outcomes that can only be assessed after delayed thresholds (Sennett, 2008).

Ceramics is also resistant. Clay pushes back through gravity, fragility, moisture, and collapse, and this resistance shapes how form develops. Many decisions in ceramic work are not only aesthetic but structural, and they must be negotiated through the body in contact with material (Figure 7). That negotiation leaves trace in seams, compressions, thickness choices, and adjustments that remain legible after firing (Adamson, 2007).



FIG.8. BLOOMING SCULPTURE IN STUDIO KILN, 2026

The strongest research property of ceramics is consequence. Firing transforms material irreversibly, and this irreversibility makes commitment part of the process (Figure 8). Choices cannot be endlessly revised without cost, and the work often carries evidence of what was accepted, repaired, corrected, or left unresolved. This allows the thesis to treat repair and failure as knowledge producing conditions that shape authorship (Sennett, 2008).

This thesis is developed within a contemporary visual context where algorithmic systems can generate abundant variations quickly, which can shift attention toward output selection rather than formation. The purpose of working through ceramics is to keep the research grounded in consequence based formation, where meaning is produced through time, constraint, and irreversible thresholds (Rosa, 2013).

Ceramics also supports the thesis framing of freedom. Freedom is not defined here as unlimited options or speed, but as agency sustained under constraint. Ceramic work requires the maker to decide how to respond to resistance, delay, and uncertainty, and those responses accumulate as material history rather than disappearing behind an idealised finish. This aligns with an account of art as experience, where meaning forms through doing and undergoing rather than through output alone (Dewey, 1934/2005).

Within this research design, drawing supports emergence and vocabulary formation, but ceramics remains the core validation environment because it forces form to survive physical conditions. This is also why ceramics becomes the ground against which AI related procedures are evaluated later in the thesis. Ceramic objects provide a stable reference for consequence based making, allowing later comparisons to be read through trace, weight, and irreversibility rather than only through appearance (Ingold, 2013).

In summary, ceramics is chosen because it produces evidence that is inseparable from process. It makes time, resistance, and consequence visible in the work itself, and it supports a practice based method in which meaning develops through embodied negotiation and irreversible thresholds rather than through rapid resolution (Adamson, 2007).

2.2 What Drawing Contributes Within a Ceramics-Led Practice

Although ceramics functions as the primary research medium in this thesis, drawing remains an essential part of the practice. It operates alongside ceramic making rather than before it, providing a space where ideas, forms, and atmospheres can emerge, transform, and return throughout the process. Drawing is therefore not understood only as preparation for making objects. It is both a way of thinking and a way of observing.

One reason drawing is important is that it allows forms to appear without the immediate demands of material consequence. Clay requires decisions to be tested through weight, drying, structure, firing, and surface transformation. Drawing offers a more fluid territory where forms can emerge, shift direction, or remain unresolved. This openness supports experimentation and allows visual ideas to develop before they encounter the constraints of ceramic process.

Drawing also functions as a way of registering states, impressions, and associations that are difficult to articulate verbally (Figure 9). Through line, colour, gesture, and composition, it becomes possible to externalise moods, tensions, and intuitions that later reappear in ceramic



FIG 9 WANDERING THROUGH NIGHT FOREST. DRAWING, 2024

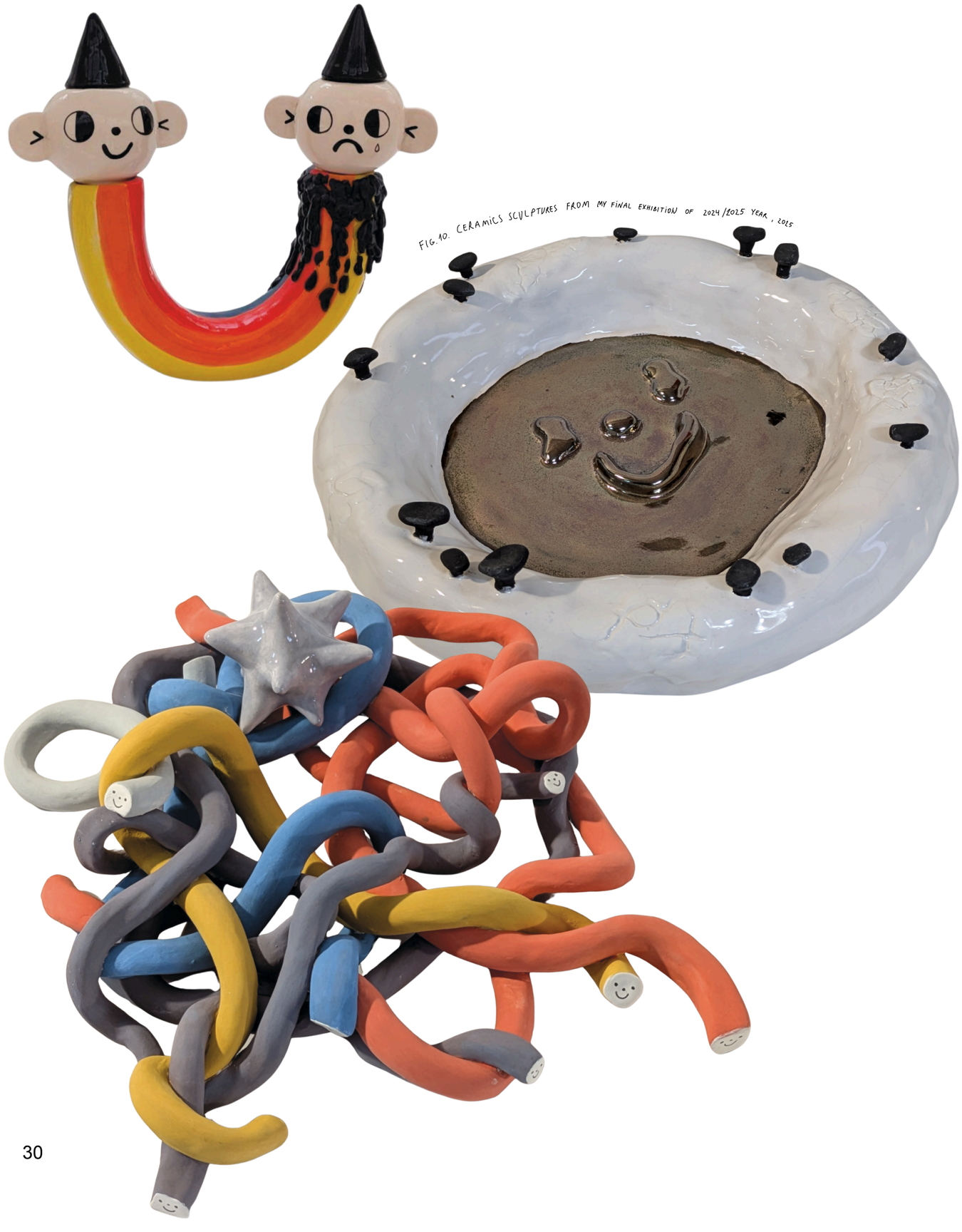


FIG.10. CERAMICS SCULPTURES FROM MY FINAL EXHIBITION OF 2024/2025 YEAR , 2025

work (Figure 10). Across repeated drawings, certain forms, rhythms, and atmospheres begin to return, gradually forming a personal visual vocabulary. Rather than illustrating fixed concepts, drawing becomes a means of discovering them.

The relationship between drawing and ceramics is not linear. Drawings sometimes precede ceramic objects, but ceramic objects can also generate new drawings. A sketch may suggest a sculptural direction, while an unexpected ceramic outcome may return to drawing as a new question. The two practices therefore operate as a feedback loop in which images and objects continually influence one another.

Drawing also contributes to the exhibition itself. The drawings included in the final installation are not presented as supporting documents or process records. They function as works in their own right, creating atmosphere and extending the emotional and visual field established by the ceramic objects. Together, drawings and sculptures form an environment in which different modes of making coexist rather than occupy separate categories.

This role becomes especially relevant in relation to the AI experiment. Photographs of drawings, together with photographs of ceramic works, are used as source material for image generation. Drawing therefore becomes part of the visual language through which AI is asked to respond to the practice. At the same time, the drawings retain qualities that cannot be reduced to image generation alone: gesture, pressure, hesitation, repetition, and the traces of embodied attention accumulated through making.

For these reasons, drawing is not treated as secondary to the research, even though ceramics remains the principal medium. It provides a space of emergence, observation, and translation that complements the slower and more materially consequential conditions of clay. Together, drawing and ceramics establish the visual and conceptual foundation through which the thesis investigates authorship, process, and the relationship between material and algorithmic forms of production.

2.3 How AI Is Integrated as Reflective Companion and Practical Studio Tool

AI is integrated into this thesis as part of the wider practice system being studied, not as a substitute for studio work and not as a separate digital phase detached from making. The central aim remains unchanged: to examine art making as an embodied, time based process and to understand what shifts when algorithmic systems enter that process. This positioning treats AI as one element within a research ecology that can support inquiry, assist experimentation, and create comparative material for reflection.

AI functions in three connected ways throughout the project. It operates as a reflective companion that supports critical inquiry around studio decisions. It operates as a practical tool that assists technical exploration in ceramics. It also operates as a bounded generative procedure used for comparative presentation in the exhibition context.

Practice based research depends on cycles of making, observing, and re evaluating. Reflection is therefore not separate from the studio but part of the method. AI is used reflectively as a conversational instrument that helps keep inquiry active, especially when the studio process produces ambiguous or evolving outcomes. It can suggest angles of consideration, outline possible interpretations of a process problem, and propose variables worth testing. This

function is treated as secondary to studio evidence, because material outcomes and direct observation of clay behaviour remain the basis for claims. This understanding of making as responsive adjustment rather than execution supports the use of tools that widen inquiry without replacing material verification (Ingold, 2013).

This reflective role also affects how experimentation feels in practice. AI can create a sense of support at moments of uncertainty, particularly when deciding whether to attempt something unfamiliar or risky. By offering multiple possibilities to consider, it can expand the perceived space of action and reduce the feeling of being stuck. This is especially relevant in ceramics, where materials, time, and firing outcomes make experimentation costly and slow. The purpose is not to outsource judgement but to widen the field of possibility and prompt the maker to try, compare, and decide.

Ceramic practice contains technical systems that require research, comparison, and troubleshooting, including clay bodies, firing temperatures, kiln curves, glaze chemistry, surface treatments, and material behaviour across stages. Within the studio workflow, AI is used as practical support for this technical dimension. This includes assisting in identifying variables that affect outcomes, proposing structured test approaches, clarifying terminology related to temperature ranges and firing stages, and helping recognise techniques commonly used in ceramic practice. This use does not replace ceramic knowledge or hands on learning. Information must still be verified by physical consequence, because a recipe suggestion must be tested and a firing schedule must be run before it can be trusted (Figure 11).

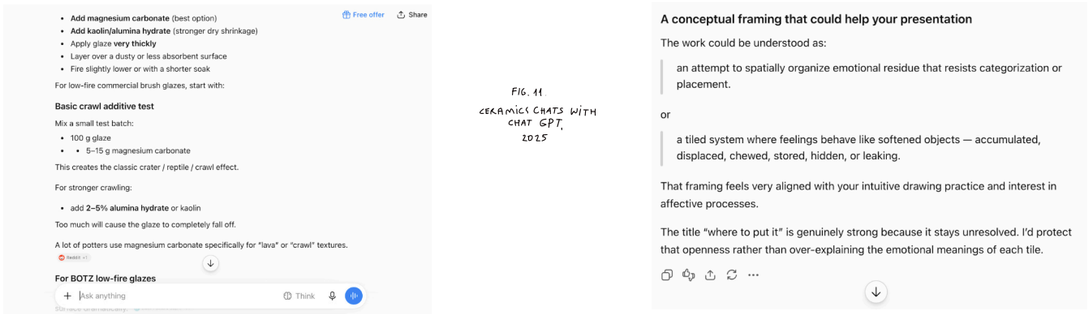


FIG. 11
CERAMICS CHATS WITH CHAT GPT, 2025

In this sense, AI functions as an assistant to inquiry. It can speed up initial orientation and help organise experimentation, but it cannot bypass the kiln. This practical use remains consistent with the thesis understanding of freedom under acceleration. AI can expand options and reduce hesitation, but ceramics maintains the discipline of consequence, because the work must survive time, gravity, and heat.

Alongside these ongoing roles, the thesis includes a bounded AI experiment designed specifically for comparative inquiry and exhibition presentation. This is not the dominant way AI is used in the project. It is a focused test that makes the research question visible. Photographs of the artist's ceramic objects and drawings are used as direct source material to generate speculative three dimensional object proposals. The procedure is constrained so that AI responds to the existing visual language of the studio work, including its forms, surfaces, and recurring tendencies, rather than generating unrelated imagery. The outputs are then curated and presented as prints in the group exhibition alongside one or two ceramic pieces.

This pairing is methodologically important because it places two production logics side by side.

The ceramic object is shaped by resistance, delay, repair, and irreversible transformation. The AI derived object image is shaped by synthesis, speed, and pattern based variation. The mismatch becomes analytically productive, because AI can propose coherent forms that ignore gravity or structural fragility, while clay clarifies what can exist under consequence. This ethical and infrastructural dimension also matters, because AI systems operate inside extractive conditions that complicate neutrality and authorship (Crawford, 2021).

2.4 Exhibition as Research Instrument: Display as Method, Comparison as Knowledge

In practice based research, exhibition can function as an instrument of inquiry rather than a final presentation. This thesis adopts that position by treating display as a method that makes the research question observable through encounter. The exhibition tests how presence, authorship, and meaning are perceived when materially consequential objects are placed in dialogue with AI derived outputs.

FIG. 12 EXHIBITION MAP CHECK-IN, 2026



The exhibition produces evidence by placing two forms of making into the same perceptual field. Ceramic works carry the time based history of their formation through drying, joining, repair, firing, and surface transformation. AI derived outputs circulate as printed proposals generated from photographs of the artist's own work and therefore remain image objects rather than materially validated objects. The research value is not in declaring one mode superior, but in making the difference legible through proximity (Figure 12,13).

The display strategy remains deliberately minimal. One or two ceramic works are presented as



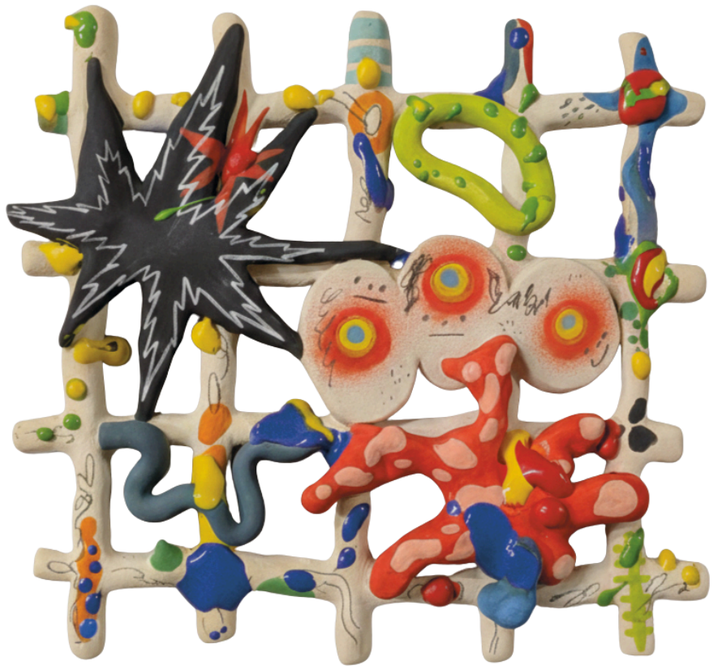


FIG. 13. MY WORKS FROM MAP CHECK-IN EXHIBITION:

DRAWING
CERAMICS SCULPTURE
AI GENERATED OBJECT PROPOSAL



physical reference points for consequence based formation. A set of prints presents AI generated object proposals as a comparative layer derived from the same visual vocabulary. This arrangement allows the viewer to move between object and image and to sense differences in trace, weight, surface credibility, and resolution without requiring extensive explanation.

Exhibition also prevents the thesis from remaining purely conceptual. It introduces perception in shared space as a second form of evidence alongside studio documentation. Installation theory supports this emphasis on encounter by treating meaning as shaped through bodily presence, spatial relation, and attention over time (Bishop, 2005).

Framing is kept light so the encounter can lead. Excessive explanatory text risks closing interpretation in advance and turning the exhibition into demonstration. Minimal contextual information clarifies the procedure while leaving interpretation open, which aligns with spectatorship theory that emphasises the viewer's agency in producing meaning (Rancière, 2009).

Reception becomes part of the research record because it reveals how viewers read authorship and presence under contemporary conditions. Responses are not treated as measures of value, but as indicators of what becomes perceptible when material objects and algorithmic proposals share the same encounter field. The exhibition therefore completes the bridge of Chapter 2 by turning the research design into a situation that can be observed, discussed, and documented in Chapter 3.

CHAPTER3. Studio Practice, AI Experiment, and Exhibition Outcomes

3.1. Studio Conditions, Routines, and the Practice System Under Study

This chapter documents the development of the thesis through studio practice and treats that practice as research evidence. The project is practice based: knowledge is produced through making, testing, revision, documentation, and the consequences of material processes over time. The object of study is therefore not one isolated artwork, but a practice system in which ceramics, drawing, AI assisted research, documentation, and exhibition work together as method.

During the second year of the Master's programme, especially the first semester and the current studio period, the work became more directly aligned with the thesis question. Three connected bodies of work developed: ceramic objects, drawings, and AI generated outputs derived from the practice. Within the ceramic body, the main works include sculptural objects and a tile panel, all made in clay. Some works are still developing and will only be presented fully in the September exhibition, but their process already functions as research evidence because it makes visible time, resistance, uncertainty, and consequence.

The studio routine is structured by the tempo of ceramics. Clay requires stages that cannot be fully compressed: shaping, resting, drying, joining, firing, surface work, and sometimes firing again. This creates a rhythm of pauses and returns rather than continuous production. Forms are revisited after resting, drying, or firing, and outcomes are evaluated after delay. Ceramics is therefore not only the medium of the project. It is the condition through which the research question becomes material.

The ceramic forms often begin from subconscious images, emotional states, or visual impressions that are not completely defined before making starts. I usually begin from a state I want to transmit. Sometimes I make a quick sketch, and sometimes I begin directly with clay and allow the form to emerge through improvisation. This way of working shows that the work is not simply planned and then executed. Form develops through a negotiation between intention, touch, technical experience, and material behaviour.

Making is therefore a correspondence with materials rather than the imposition of a fixed idea onto passive matter. (Ingold, 2013)

One sculptural work began from the image of blooming trees (Figure 14). During spring, these trees were present around me, and their organic shapes stayed in my mind as a possible

FIG 14. PHOTO OF BLOOMING TREE, 2026

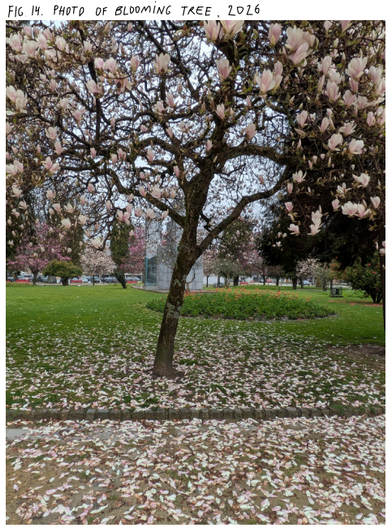
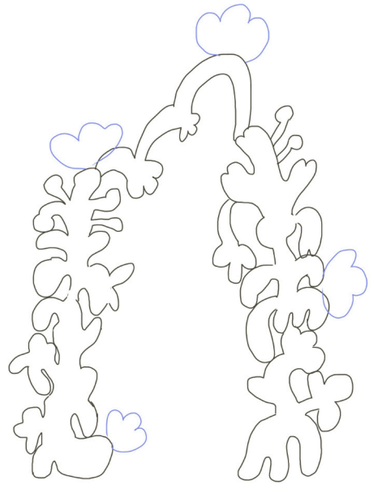


FIG 15. PROCREATE SKETCH, 2026



direction for a ceramic form. I made a simple sketch in Procreate to register the first impulse before moving into clay. The digital sketch was not a strict plan (Figure 15). It worked as a temporary visual note that allowed me to hold the image long enough to begin building. From there, the form developed intuitively through hand building techniques.

The blooming piece could not be built in one continuous session because of its complexity and

FIG. 16. BLOOMING SCULPTURE IN CONSTRUCTION, 2026







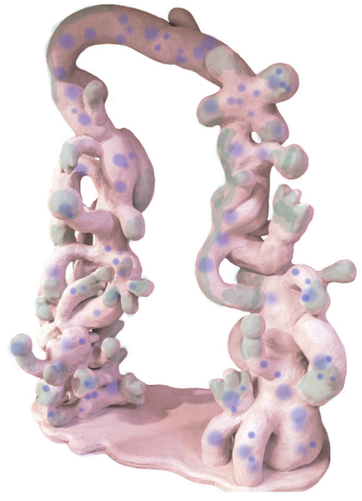


scale. Clay deforms under its own weight, which makes the process dependent on gravity, moisture, timing, and support. For this work, I chose a clay body with chamotte because it has more texture and holds shape better, especially in larger sculptural objects. The sculpture had to be built in several stages over several days, allowing the clay to dry slightly between sessions so the structure could support itself (Figure 16). This waiting is part of ceramic knowledge, because the maker has to observe the state of the material and return to it at the right moment. Craft knowledge develops through attention to timing, pressure, and material limits (Sennett, 2008).

At the time of writing, this blooming sculpture is still unfired. After it dries completely, it will be fired at 980°C. Until then, the piece remains uncertain. The kiln will confirm whether the structure has been built successfully enough to survive firing. Once the form is fired, I will begin working with colour and surface. I currently have two possible directions for the colour treatment (Figure 17). I often photograph a piece before colouring it and test palettes or



FIG. 17.
POSSIBLE COLORING OPTIONS (PROCREATE), 2026



surface possibilities in Procreate. This digital step helps me imagine possible outcomes, but it does not replace the final material decision. The surface still needs to be verified through ceramic material and firing.

Another sculptural object began in the first semester, when I wanted to create a form that could later become a surface for colour and glaze experimentation (Figure 18). I imagined a complex, smooth shape and chose a clay body without chamotte because I thought it would support that visual direction. In practice, this became a difficult material decision. The clay body was less suitable for building a large form, and the object quickly became unstable (Figure 19).

FIG 18. BLOBS OF UNCERTAINTY PROCREATE SKETCH, 2025

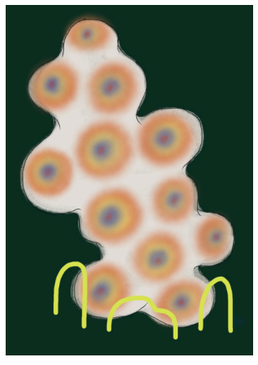


FIG 19 BLOBS SCULPTURE IN CONSTRUCTION, 2026



This situation made the physical limits of clay clear. Large ceramic sculptures usually need to be hollow to reduce the risk of cracking or exploding in the kiln. The maker is not building a solid mass, but constructing walls of clay that must be thick enough to hold the form and thin enough to dry and fire safely.

While the clay was still moist, it could hold the form only up to a certain point. A moment later, the weight of the material became too much, and parts of the form began to collapse. I tried to dry some areas faster and build supports around the object, but clay can crack when forced to dry too quickly. This created a practical contradiction: the clay needed to stay moist enough to be worked, but dry enough to support itself. My experience of working with clay for around ten years became important here. It helped me recognise when to stop, when to let the piece rest, and when to return to it. The final shape was completed over several days, dried, and successfully survived firing.

This example shows why ceramics is central to the research question. The object was shaped not only by an idea, but also by a wrong material choice, instability, waiting, support, and adaptation. These moments are not external to the final work. They are part of how the work gains meaning. In ceramics, making is not only a movement from concept to result. It is a process in which the material continuously tests the maker's decisions.

FIG. 20. BUTTERFLY SKETCH IN PROCREATE & CERAMICS SCULPTURE, 2026



A further sculptural work in process is a butterfly covered in eyes (Figure 20). This work is made from a heavy clay body, and I plan for it to have a dark surface with bright eyes. Its working idea is metamorphosis through observation. The object is still in development, and its progress is currently affected by kiln problems in the studio. This delay is relevant to the research because it shows how ceramic work depends on technical infrastructure, firing access, and material thresholds. This dependency contrasts with instant image production, where variation can appear immediately on screen.

A further work developed for the final exhibition is a ceramic centipede sculpture composed of interconnected sections, each containing a small drawn face (Attachement 5). In this work, drawing becomes part of the ceramic object itself through repeated characters and facial expressions. The combination of sculpted form and drawn surface brings two recurring aspects of my practice together within a single object. The centipede also became additional source material for the AI image experiment.

Documentation is also part of the method. Sketches, Procreate studies, photographs of work in progress, clay body choices, firing moments, surface tests, and notes about uncertain stages

form a traceable research record. Documentation supports later analysis of decisions and material behaviour. It also enables the AI experiment, because photographs of ceramic objects and drawings become the controlled reference material for generating speculative outputs. In this sense, documentation is not only archiving. It is a tool that makes process comparable and discussable.

This section establishes the working conditions through which the thesis question is tested. The studio is shaped by intuition and improvisation, but also by material discipline, technical knowledge, waiting, failure, and delayed confirmation. Ceramic works may begin from inner states or visual impressions, but they only become objects through physical negotiation with clay. The next section focuses on surface research, especially glaze, texture, controlled unpredictability, and the practical use of AI as support for glaze experimentation.



FIG. 21 BLOBS SCULPTURE IN PROGRESS, 2025

3.2. Surface Research: Glaze, Texture, and Controlled Unpredictability

Surface is not treated in this practice as a final decorative step. It is a research zone where unpredictability can be provoked, redirected, accepted, or corrected. In ceramics, surface is produced through clay body, drying, firing temperature, application thickness, glaze viscosity, kiln behaviour, and the physical movement of materials under heat. For this reason, surface research extends the thesis question into another layer of material consequence. The form may survive the first firing, but the surface introduces a new threshold where intention again meets chemistry, gravity, and uncertainty.

In the second year, glaze experimentation became more deliberate. One sculptural object was first developed as a form on which colour and glaze behaviour could later be tested. After the object had dried and survived firing, I applied engobe with an airbrush as a first surface layer (Figure 21). This stage allowed colour to enter the work before glaze, while also opening the question of how far the surface should remain controlled and how far it could become an event in itself.

FIG. 22. ONREEE, NO TITLE, 2024



At that time, I became interested in intense glaze effects: large blobs, glops, cracks, vibrant colours, and surfaces that looked like colourful explosions. These effects attracted me because they make material behaviour visible. A glaze that drips, pools, thickens, cracks, or flows records movement under heat. It shows that the surface has passed through a threshold and that the final image is partly produced by forces beyond direct control. In this sense, glaze supports the thesis argument that meaning can form through process and consequence rather than through visual planning alone.

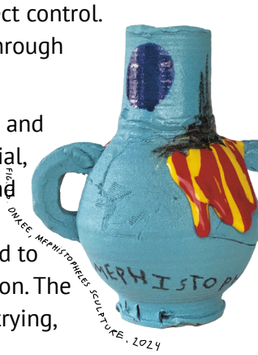


FIG. 23 ONREEE, METAMORPHOSES SCULPTURE, 2024

A strong reference for this direction was the ceramic artist Onreee, who lives and works in Porto. His glaze surfaces, with large accumulations of colour and material, became important because they felt contemporary, joyful, physically excessive, and alive (Figure 22,23). I also found commercial glaze mixtures online that promised similar effects. However, instead of simply using a ready made effect, I wanted to understand whether I could develop my own version through experimentation. The aim was not only to obtain a particular surface, but to learn through trying, misjudging, adjusting, and accepting partial results.

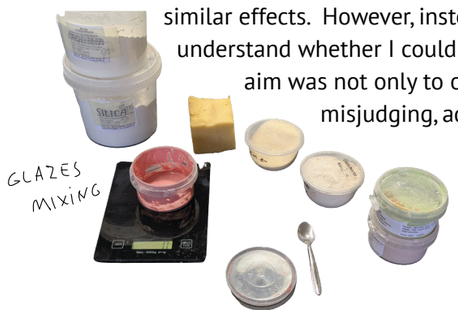




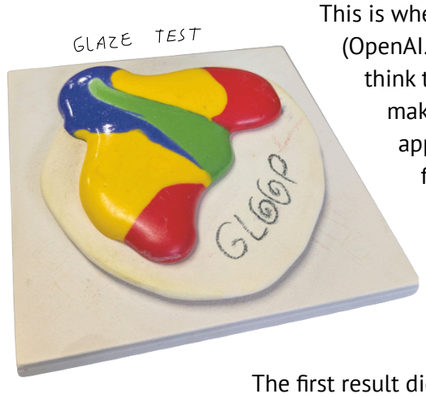
FIG. 25. BLOBS OF UNCERTAINTY SCULPTURE, 2025

Glaze is a specialised field within ceramics. It involves material composition, clay body compatibility, firing range, melt stability, application thickness, and kiln conditions. Normally, glaze work depends on testing, because test tiles reduce risk and make outcomes more predictable (Figure 24). In this project, however, I decided to apply experimental glaze mixtures



FIG. 24. GLAZE TESTS, 2025

directly onto the fired sculpture rather than keeping all experimentation separate on test tiles. From a technical perspective, this was risky because an unknown glaze can run too far, stick to kiln shelves, or damage the kiln. From the perspective of the thesis, the risk was meaningful because it made consequence part of the object itself.



This is where AI entered the studio in a practical way. I used ChatGPT (OpenAI. (2026). ChatGPT (GPT-5.6 Luna)) to help me search for and think through glaze recipes, additives, viscosity, and possible ways to make glaze less runny and more able to hold volume after application. AI was useful because it helped organise a complex field of technical information, propose possible variables, and suggest directions for adjustment. However, it did not provide certainty. A glaze recipe only becomes meaningful when tested through the specific conditions of clay, application, kiln, and firing. This keeps ceramic knowledge grounded in material verification rather than information alone .

The first result did not behave exactly as imagined. The glaze was still too fluid, and the raised accumulations moved more than expected during firing. The result could be described as a failure in relation to the initial goal, but within this research it became useful evidence. It showed the gap between intention, recipe, prediction, and fired outcome. It also clarified the difference between digital support and ceramic consequence. AI could suggest strategies, but the kiln determined what actually happened.

After firing, I returned to AI to help think through possible corrections. The question shifted from how to achieve the effect to how to correct the behaviour: to reduce runniness, increase viscosity, stabilise the melt, and adjust application thickness, firing variables (Figure 25). This second use of AI responded to an actual material outcome. The fired piece became evidence, and AI became a tool for reflection on that evidence. Some suggestions remained too general, while others helped organise possible next steps. In this sense, AI became part of a feedback loop, but not the authority within. The material result remained the basis for further decisions.

This example shows a specific form of coexistence between AI and ceramic practice. AI did not replace testing, experience, or judgement. It supported orientation inside a complex technical field and made experimentation feel more accessible when the number of possible variables

was difficult to manage. At the same time, the ceramic process kept the limits of that support clear. The kiln remained the validator. AI could propose, but glaze, clay, and heat decided.

Surface research also appears strongly in the tile panel (Attachement 3). The recent turn toward tiles developed from a longer relationship with tiles in Porto. Since arriving in the city, tiles have been constantly present in the surrounding environment. I also worked in a ceramic design atelier where we produced hand painted tiles, often in contemporary approaches rather than traditional azulejo forms. Later, I organised tile painting workshops for tourists. These experiences made the tile format feel familiar, portable, functional, and open to experimentation. A tile is both object and surface. It can hold an image, a texture, a glaze test, or a raised element, while also belonging to a larger grid.

Several artistic references contributed indirectly to this direction. I met the Lithuanian artist Egle Norkute, whose work with painted fabric tiles opened another way of thinking about tile surfaces and image based composition (Figure 26). I was also interested in the work of the

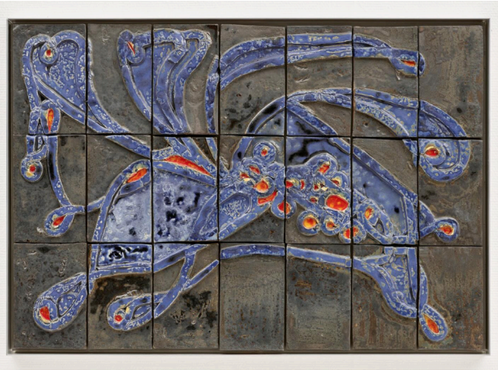


FIG. 25. ISABEL CARVALHO, CONSTELAÇÕES, 2015



FIG. 26 EGLE NORKYTE, HOMEBODY, 2015

artist Blueberry, whose tile based language can be seen around Porto and does not follow traditional tile painting. Another artist, Isabel Carvalho, was temporarily working on tile projects in my atelier coworking space, making tiles from scratch (Figure 27). These encounters helped confirm the tile as a format where object, image, surface, and context could meet.



FIG. 28. HANDMADE TILES, 2026

I hand build all the tiles, and some include raised elements attached while the clay is not completely dry (Figure 28). The drying process of tiles is technically demanding because flat and thin slabs easily warp. They need to dry slowly and under pressure, and this becomes more complex when raised elements are added to the surface. Some tiles are therefore not completely flat. Rather than hiding this, I treat it as evidence of material behaviour. Clay has taught me to see beauty in imperfection. Over time I learned that clay is never fully obedient, and this difficulty can become part of the work's meaning rather than something to erase.

The central phrase of the tile panel is "Where to put it?". It is made from small pieces of pink porcelain attached to the glazed tile surface (Figure 29). When I first bought the pink porcelain to try in the studio, it immediately reminded me of bubble gum. This association became the starting point for the text. While working with clay for long periods, thoughts often drift



between impressions, memories, concerns, and practical questions. I think about what to do with a feeling or an idea, and I also think about the object itself: what will happen to this piece after it is made, and where will it go? The phrase therefore becomes both practical and existential. It asks where to place an object, where to place an inner state, and where slow handmade work belongs in a culture increasingly shaped by fast image production.



FIG 29. PORCELAIN BUBBLE GUM, 2026

The phrase is serious, but it is presented through a naïve and playful material gesture, as if made from pieces of bubble gum stuck onto the tiles. Around it, the surrounding tiles function as different moods, states, emotions, and experiences. Some are empty, some are dark, some have spikes, some carry drawings or personal symbols, and others are glazed in bright or strange ways. The panel becomes a modular field where things need to be organised, but the logic of placement remains uncertain. Some tiles are already finished, while others are still in process. I often use Procreate to plan possible colours, drawings, and surface designs before applying them materially (Figure 30).

Across the glaze experiments and tile panel, surface becomes a place where the thesis question is tested directly. A glaze that is supposed to hold volume either holds or runs. A tile that should remain flat may warp. A porcelain letter may become playful, fragile, excessive, or unstable depending on how it is attached and fired. These outcomes cannot be fully decided in advance. They must be lived through materially. This is why surface research is not secondary within the project. It shows how colour, texture, glaze, and image can carry uncertainty, consequence, acceptance, and the possibility of meaning forming through what the material does.

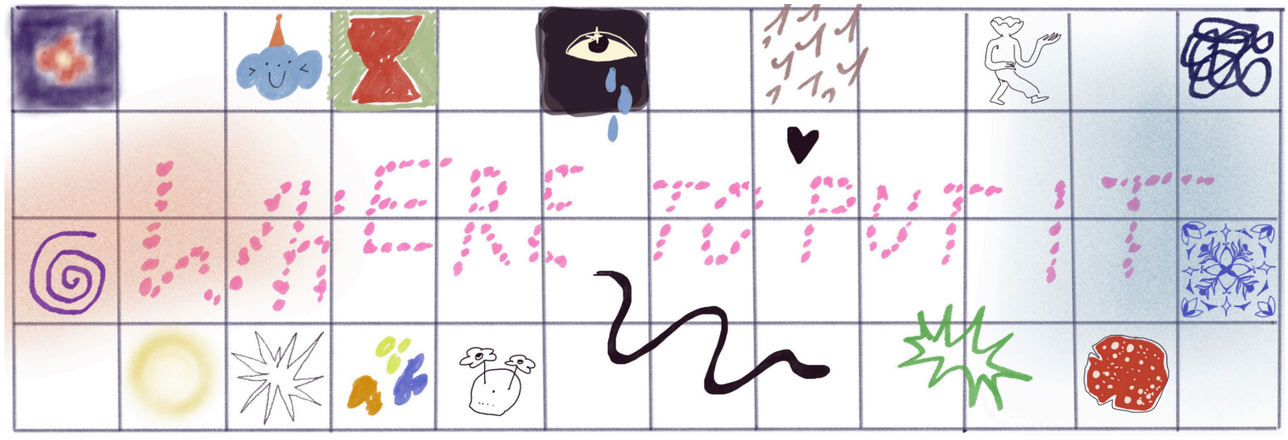


FIG. 30. TILE PANEL SKETCH MADE IN PROCREATE, 2026

3.3 AI Within the Practice System: Studio Support and a Bounded Generative Procedure

AI enters this thesis in two connected but different ways. First, it appears as a practical support tool inside the studio, helping me navigate technical questions during ceramic experimentation. Second, it appears as a bounded generative procedure, producing image outputs later used for comparison with ceramics and drawings. This distinction is important because the thesis does not treat AI only as an image generator. It also examines how AI can become part of the thinking process around materials, decisions, uncertainty, and authorship.

The first use of AI was practical and conversational. During surface research, especially while experimenting with glaze viscosity and raised glaze effects, I used ChatGPT to help me search for possible recipes, additives, and corrections. This use did not produce an artwork directly. It helped me organise technical possibilities and think through what might make a glaze less runny or more able to hold volume during firing. However, the suggestions remained provisional. The knowledge only became meaningful after being tested through clay, glaze, heat, and kiln conditions. A suggested recipe did not guarantee a result. The kiln remained the place where the proposal was confirmed, altered, or rejected.

The second use of AI developed later, during the last year of the project. By then, many artists were already using AI image generation, and some were presenting works made entirely through AI. My own response was hesitant. I was curious, and I sometimes liked the images produced by AI, but I also found them difficult to accept. They could appear visually convincing, strange, attractive, or close to something I might like, while also feeling artificial and detached from the material conditions that usually matter in my work (Figure 31,32). This uncertainty became a reason to include AI in the thesis rather than avoid it.

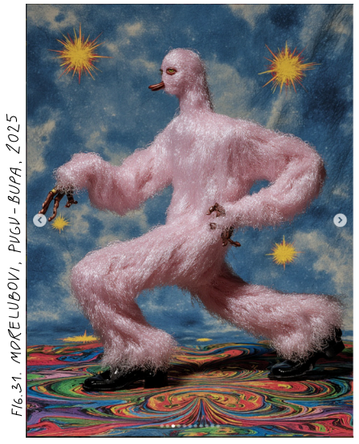


FIG.31. MORELUBOVI, PUGU-BUPA, 2025

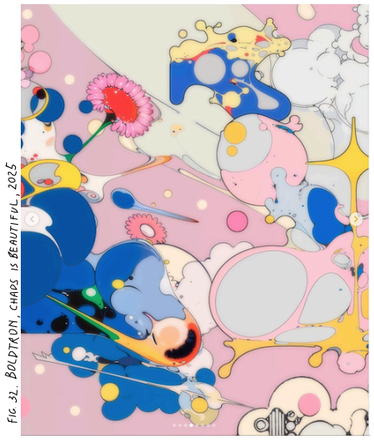
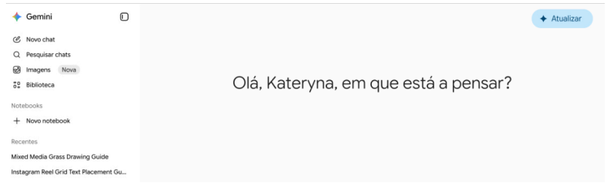


FIG.32. BOLDTKOH, CHAOS IS BEAUTIFUL, 2025

The image experiment began from a question of recognition. I wanted to test whether AI could respond to my existing works, not by copying one object directly, but by translating something less fixed: the feeling, atmosphere, mood, and visual character of the practice. I wanted to see whether generated objects could feel connected to my ceramic sculptures and drawings, and whether someone familiar with my work might recognise something of my visual language in them. This question connects directly to the thesis research problem because it tests the difference between surface resemblance and deeper process based identity.

The experiment was carried out using Nano Banana Gemini 2(Figure 33). The direct reference material was restricted to photographs of my own ceramic objects and drawings. This rule was essential because the project is concerned with authorship, provenance, and responsibility. By limiting the direct inputs to my own works, the experiment stayed anchored in the studio practice under study. It also made the relationship between source material and generated output easier to explain in the thesis and clearer within the exhibition context.

FIG.33. NANO BANANA GEMINI 2 INTERFACE, 2026



Generate 3D objects that could appear as a continuation of the existing series, using only the uploaded images of my works - ceramics and drawing.

The prompt was intentionally simple. Instead of constructing a highly descriptive prompt that would push the system toward an unrelated fantasy, I asked it to generate possible object continuations using only my works as reference. The aim was to observe how the system would read the visual information already present in the source images. I wanted to see what it would select, exaggerate, smooth, distort, or misunderstand when asked to continue a materially grounded practice through image synthesis.

These prompt rules created a controlled frame for the experiment. The AI outputs were not produced from general aesthetic keywords or from references to other artists. They were produced from the internal visual material of the project: ceramic sculptures, drawings, surface details, colours, forms, characters, and atmospheres already present in the studio. This made the experiment more specific and more accountable. The outputs could be evaluated in relation to the practice itself, rather than only as attractive images.

The experiment was conducted across four sessions during August 2026. In total, 50 images were generated and evaluated in relation to my existing practice (Figure 35) Four images were selected for the final exhibition and 46 were rejected. The selection was based on my judgement as the artist and author of the source works. The main criterion was recognisability within my own artistic language: whether an image could plausibly belong to, or develop from, the visual world established through my ceramics and drawings. This included its relationship to the forms, colours, characters, composition, and overall visual language already present in the work.



FIG.34 AI GENERATED OBJECT (REJECTED), 2026



FIG.35. AI GENERATED OBJECT (REJECTED), 2026

FIG 36. 4 AI GENERATED OUTPUTS SELECTED FOR EXHIBITION, 2026









The four selected outputs became candidates for exhibition (Figure 36). Selection was intentionally holistic rather than based on a quantitative scoring system. Form, colour, characters, and composition were considered together rather than evaluated independently. The central question was whether I recognised the generated image as a convincing continuation of my practice. The rejected images were therefore not necessarily technical failures. They were excluded because, in my judgement, they did not establish a sufficiently convincing relationship with my artistic language. The selected images did not simply reproduce the ceramics or drawings, but extended elements already present in them into speculative object proposals. Selection therefore became an important part of authorship within the experiment: the system generated possibilities, while I decided which of those possibilities could meaningfully continue the work.This selection process also became a way to test authorship. The AI outputs are generated by a system, but they are not independent of the artist's decisions. They depend on the choice of source images, the prompt rule, repeated attempts, rejection, selection, and exhibition framing. Authorship therefore shifts toward curation, responsibility, and the ability to define limits. The outputs are not presented as autonomous AI artworks. They are presented as part of a practice based experiment, where the artist remains responsible for what is shown and for how the relationship between handmade source and generated result is made visible.

The status of the AI outputs is deliberately different from the status of the ceramic objects. The generated images are not treated as material works and are not presented as if they had passed through the same processes as clay. They do not carry weight, drying time, firing risk, glaze behaviour, repair, or physical resistance. They exist as speculative visual proposals. This distinction is important because the thesis does not ask only whether AI can make something visually interesting. It asks what changes when visual possibility is detached from material consequence.

For this reason, the AI generated outputs will be presented as prints within the exhibition. They are not shown as ceramic objects and are not treated as equivalent to works made in clay. Their role is to create a comparative field beside the ceramic sculptures, tile panel, and drawings. In this arrangement, the viewer encounters different kinds of presence: handmade objects shaped through material resistance, drawings that carry atmosphere and state, and AI generated images that translate the practice into speculative form. The prints therefore function as a reflective layer, making visible both the attraction and the distance of AI.

This method also responds to the ethical questions raised earlier in the thesis. Even though the direct source material is restricted to my own works, the AI system itself still belongs to broader infrastructures of training data, automation, and technological opacity. This means that the experiment cannot be considered ethically neutral. However, the project creates a clearer internal boundary by making provenance visible and by refusing to present the outputs as independent creations without context. The AI prints remain attached to the studio practice that generated their reference material, and their role in the exhibition is comparative rather than substitutive.

The experiment does not resolve my hesitation about AI, and that unresolved position is part of its value. The process showed that AI can produce images that are visually compelling and sometimes surprisingly close to the feeling of the work. It also showed that this closeness remains unstable. The generated outputs may suggest objects, but they do not pass through clay, gravity, drying, firing, repair, or touch. They can emulate appearance and atmosphere, but they do not carry the same material history. The experiment did not include a controlled repetition of identical prompts and reference images across separate sessions. It therefore cannot determine whether the same inputs would produce comparable results in a later session.

In summary, AI functions in this chapter as both support and test. As studio support, it helps organise technical questions and sustain experimentation, while ceramic process remains the validator. As a bounded image experiment, it generates speculative outputs from my own works

and makes comparison possible. In both cases, AI is useful when its role is limited and made visible. It can extend the field of possibilities, but it does not replace the embodied process through which the work gains consequence.

3.4 Drawing and Its Relationship to Ceramic Thinking

Drawing functions in this thesis as both a supporting process and an independent body of work. It is connected to ceramic thinking, but it is not limited to preparation for clay. In the studio, drawing allows forms, states, and atmospheres to appear before or alongside their material testing. In the exhibition, drawings stand as works in their own right, contributing to the mood of the installation and expanding the emotional field created by the ceramic sculptures, tile panel, and AI generated prints.

In relation to ceramics, drawing offers a faster and more flexible space of emergence. Ceramic work often depends on waiting: clay has to rest, dry, firm up, be fired, and sometimes return to the kiln after surface treatment. During these pauses, drawing keeps the practice active. It allows me to observe a state I want to externalise and to continue working with its colour, rhythm, shape, or emotional tone without immediately confronting gravity, wall thickness, drying stress, or firing risk. Drawing has a different tempo from ceramics. It can move quickly and remain open while the ceramic process develops more slowly.

The drawings made during the Master's programme use several materials and approaches, including digital drawing, gouache, watercolour, crayons, acrylic inks, pastels, and drawing on ceramic surfaces. These methods are part of the same attempt to visualise something from an inner world and give external form to a state that may not yet be clear verbally. Sometimes the drawings follow a recognisable visual direction, and sometimes they shift between materials and styles. This variation is important because the research is not based on establishing one fixed aesthetic formula. It is based on observing how certain moods, gestures, and characters return through different media.

Drawing supports ceramic thinking by allowing possible forms to be tested without becoming fixed too early. A drawing can suggest a shape, a tension, a body, a surface rhythm, or a character like presence. It can create a direction that later enters clay, but it does not determine the ceramic object completely. (Figure 37,38,39,40) Once the idea moves into clay, it changes through the material's behaviour. The ceramic object may become heavier, less symmetrical, more fragile, or more resistant than the drawing suggested. In this way, drawing and ceramics form a feedback loop rather than a linear sequence. Drawing proposes, clay tests, and the result often returns to drawing as a new question.

This feedback loop is also visible in the use of Procreate. Digital drawing is often used to test colour possibilities or imagine surface treatments before they are applied materially. A digital sketch can help me hold an idea, but the final result still depends on clay, glaze, firing, and surface behaviour. This distinction matters because the thesis is concerned with the difference between visual possibility and material consequence. Drawing can open possibilities quickly, while ceramics asks whether those possibilities can survive physical conditions.

At the same time, drawings are not only process documents. They have an independent role in the exhibition. They add atmosphere, rhythm, and emotional density to the installation. The ceramic sculptures and tile panel carry weight, surface, and material history, while drawings

FIG. 37. DRAWING FROM A SKETCHBOOK, 2025



FIG. 38. DRAWING FROM A SKETCHBOOK, 2025

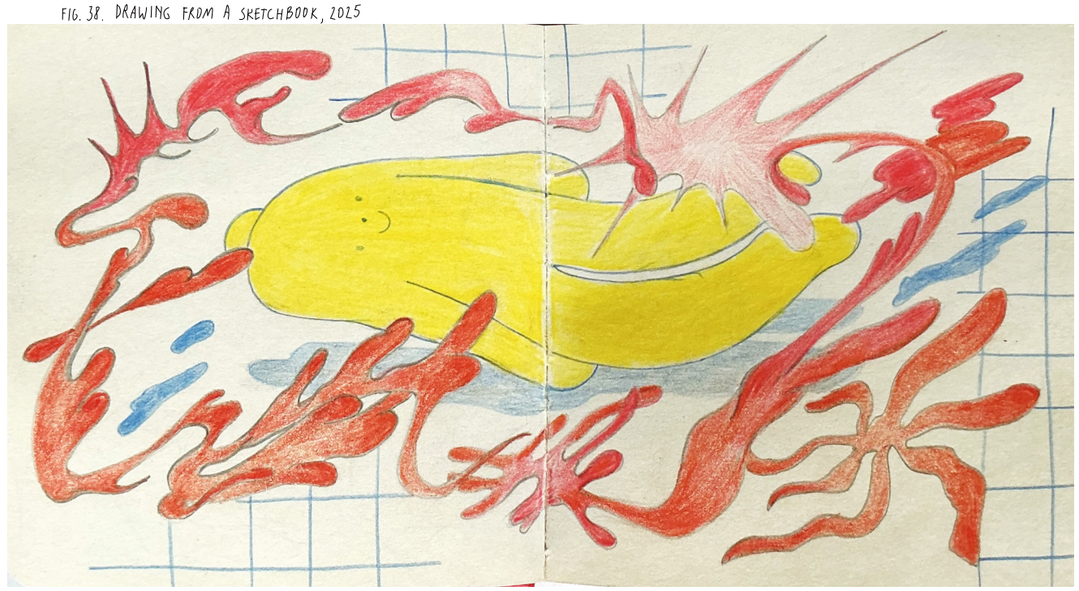


FIG. 39. WELL, DRAWING FROM 1ST YEAR MAP EXHIBITION, 2025





FIG. 40. SKETCH IN PROCREATE, 2026

bring another form of immediacy. They can hold a state through line, colour, gesture, and composition. Their role is not to explain the ceramic objects, but to coexist with them and create a shared environment (Figure 41). Together, the works form an installation where different elements act on each other rather than functioning as isolated pieces.

Drawing also appears directly on ceramic surfaces, especially in the tile panel. This creates a point where the two approaches merge. Drawing on tiles is not simply decoration applied to a ceramic support. It becomes part of the material system of the work, together with glaze, texture, raised elements, and firing effects. The tile surface allows drawing to become physically embedded in clay while still keeping its character as image, line, sign, or gesture. This hybrid use of drawing is important because it makes the relation between image and object visible within the work itself (Figure 42).

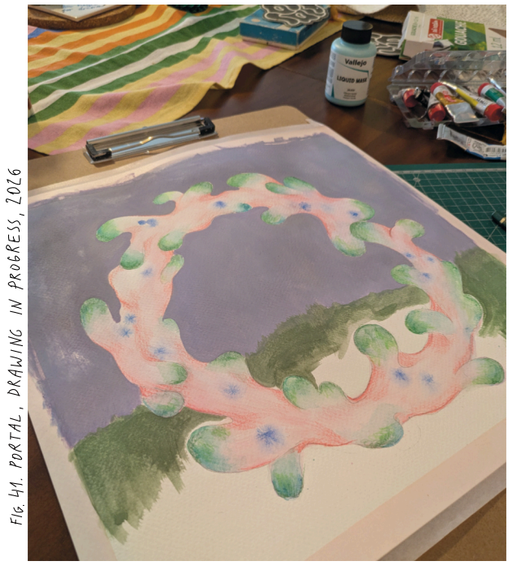


Fig. 41. PORTAL, DRAWING IN PROGRESS, 2026



Fig 42. TILES PANEL IN PROGRESS, 2026

Drawing also has a methodological role in the AI experiment. Because drawings can be photographed, scanned, and used as visual references, they become part of the controlled source material for AI generated outputs. In this project, the AI image experiment uses only photographs of my own works, including ceramic objects and drawings. Drawing therefore contributes not only to the studio process and the exhibition atmosphere, but also to the visual material that AI is asked to interpret.

This relation creates a useful tension. Drawing is one of the easiest forms of practice to translate into digital input, but it is also one of the clearest examples of embodied trace. A drawn line carries pressure, rhythm, hesitation, and duration. When AI uses drawings as reference, it may recognise and reproduce certain visual features, but it does not reproduce the lived movement through which those features appeared. This distinction supports the thesis argument that AI can emulate aspects of appearance and atmosphere, but it does not automatically reproduce the process conditions that produced them.

In summary, drawing in this thesis functions as a space of emergence, registration, atmosphere, and translation. It allows internal states to become visible before or alongside their testing in clay. It contributes to the final exhibition as an independent body of work that shapes the

installation's mood. It merges with ceramics through drawing on tiles and surface based work. It also provides source material for AI generated outputs. Through drawing, the thesis shows that artistic process is not located in one medium alone, but in the relationships between materials, images, gestures, and states as they move through time.

3.5 Final Works: What Is Shown, and Why

The final exhibition is conceived as a presentation of a practice system rather than as a display of separate finished objects. The works are selected because they make the thesis question visible through encounter: what changes when embodied, materially consequential making is placed beside AI generated image production? The exhibition brings together three bodies of work: ceramic objects, drawings, and AI generated outputs. Each body has a different role, but they are intended to act together within one installation.

The first body of work consists of ceramic objects, including sculptural pieces and the tile panel, all made in clay. These works form the centre of the exhibition because ceramics is the main research medium of the thesis. They carry evidence of time, resistance, uncertainty, and consequence through form, surface, scale, texture, and material presence. Their value is not only in the completed object, but in the history of making that remains visible through unevenness, glaze behaviour, structural decisions, and traces of touch.

The sculptural works are included as they show different ways in which form emerges from a negotiation between inner state and material behaviour. The blooming sculpture begins from the image of spring trees and develops through sketching, hand building, waiting, partial drying, and structural adjustment (Attachemnet 2). The butterfly covered in eyes adds another register, with the working idea of metamorphosis through observation(Attachement 4). The ceramic body also includes the centipede sculpture, in which repeated drawn faces are integrated into an elongated sculptural form (Attachement 5). Here, drawing and ceramics coexist within the same object, extending the visual language that moves across the installation. The work also serves as reference material for AI generation, creating a direct connection between the material and algorithmic bodies of work.

The tile panel is included because it gathers many layers of the research in one clay structure: hand built tiles, surface experimentation, drawing, texture, raised elements, glaze, and porcelain lettering. The phrase "Where to put it?" acts as a conceptual focus. It asks where to place an object, where to place an inner state, and where slow handmade work belongs within a culture of accelerated image production. The surrounding tiles function as moods, states, or fragments of experience, creating a modular field where things are organised but not fully resolved.



The second body of work consists of drawings. These drawings are shown as independent works, not only as preparation for ceramics (Attachement 1). They contribute atmosphere, rhythm, and emotional density to the installation. Through line, colour, gesture, and composition, they extend the mood of the exhibition and create

continuity between the tactile world of clay and the image based world of AI prints.

The third body of work consists of AI generated outputs presented as prints. These outputs are created using photographs of my own ceramic objects and drawings as the only direct reference material (Attachement 6). They are included because they create a comparative layer within the exhibition. Their purpose is not to replace the ceramic objects or drawings, but to show how the existing studio language can be translated, extended, distorted, or smoothed through AI image generation.

The AI prints are selected according to their relation to the practice, not only according to visual attractiveness. Some generated images are rejected because they feel generic, artificial, decorative, or disconnected from the emotional and material logic of the work. Others are kept because they create a recognisable but transformed relation to the ceramics and drawings. In the exhibition, these selected outputs remain clearly presented as prints. They have not passed through clay, gravity, drying, firing, repair, or surface transformation, and their status as images keeps this distinction visible.

ATTACHMENT 6. AI GENERATED OUTPUTS SELECTED FOR EXHIBITION, 2026



The relationship between the three bodies of work is the main reason for the exhibition format. Ceramics provides material presence and consequence. Drawings provide atmosphere and immediacy. AI generated prints provide a speculative image layer that reflects the practice back through another system. Together, these elements create an installation in which the viewer can move between object and image, touch and synthesis, material trace and visual proposal.

This exhibition logic supports the thesis' methodological position. In practice based research, the exhibition is not only the place where results are shown after the research is complete. It is also a research instrument, because the arrangement of works creates a situation in which comparison becomes perceptual. Spatial encounter allows relationships between objects, drawings, and prints to become visible through proximity, scale, atmosphere, and movement (Bishop, 2005). The works are not over explained because meaning is allowed to emerge through attention, association, and comparison, supporting a form of spectatorship in which the viewer actively participates in meaning production (Rancière, 2009).

Several works are still in process at the time of writing, and this condition is part of the research rather than a problem outside it. The thesis includes photographs of unfinished stages because they reveal the temporal structure of ceramic practice. The final exhibition will present

selected completed works, while the chapter preserves process images and notes to show how the works were formed.

In summary, the final exhibition shows three connected bodies of work. The ceramic objects and tile panel provide the central material evidence of process and consequence. The drawings shape atmosphere and extend the emotional register of the installation. The AI generated prints create a speculative and comparative layer derived from the artist's own works. Together, these elements make the research question visible in space, showing that AI can enter the practice as support and reflection while the meaning of the work continues to depend on time, touch, material behaviour, selection, and encounter.

3.6 How the Results Answer or Complicate the Research Question

The results of this chapter answer the research question through practice. The thesis asks to what extent AI generated content can replace, emulate, or coexist with art making understood as a materially consequential process. The studio evidence suggests that AI can emulate aspects of appearance and atmosphere, and can support experimentation, but it does not reproduce the conditions through which the ceramic works gain meaning.

The ceramic works make the limits of replacement clear. The sculptural objects and tile panel are not only final forms. They are records of decisions made under material pressure. Some works begin from sketches or digital colour studies, but they only become ceramic works through hand building, drying, support, kiln access, firing, and surface transformation. Their meaning cannot be reduced to how they look, because their presence carries the history of how they were made.

AI enters this process in useful but limited ways. As studio support, it helped organise technical questions, especially in relation to glaze experimentation. It helped me search through possible recipes, understand variables, and think about corrections after unexpected results. However, this support did not remove the need for ceramic judgement. A suggested glaze adjustment only became meaningful when tested through clay, heat, and kiln conditions. The fired result remained the evidence.

The AI image experiment complicates the question further. Across four sessions, only four of 50 generated images were selected for the exhibition. Selection depended on whether I recognised an output as a plausible continuation of my artistic language, considering its relationship to the forms, colours, characters, and composition already present in my work. The remaining 46 images were rejected because they did not meet this criterion. This selectivity shows that generation alone is not enough to produce a meaningful continuation of a practice.

The selected AI outputs are useful because they reveal what changes when a material practice is translated into image synthesis. They can suggest objects, but they do not pass through gravity, drying, firing, touch, repair, or material risk. They appear as speculative proposals rather than material outcomes. Placed beside ceramics and drawings, they make visible the difference between an image of possibility and an object formed through consequence.

Drawing complicates the answer because it sits between material process and image production. It is faster and more flexible than ceramics, but still embodied through gesture, pressure, rhythm, and attention. Drawings support ceramic thinking, stand as independent

works, appear on ceramic surfaces, and provide source material for AI generation. This means the project is not a simple opposition between handmade object and digital image. It is a system of transitions between different forms of making.

The exhibition brings these differences into one encounter. Ceramics provides material presence and evidence of process. Drawings contribute atmosphere and continuity of visual language. AI prints introduce a speculative layer that extends the practice while exposing the absence of material validation. The exhibition therefore functions as a research instrument because it allows the viewer to sense the differences between touch, surface, image, and synthesis.

The results also complicate authorship. In ceramics, authorship appears through decisions made under material constraint. In drawing, it appears through gesture and the registration of states. In AI outputs, authorship shifts toward source selection, prompt rules, rejection, curation, and framing. The images are generated by a system, but they depend on what is uploaded, what is asked, what is rejected, what is selected, and how the selected outputs are shown.

The research question is therefore answered in a situated way. AI generated content can emulate certain visual aspects of the practice and can coexist with ceramics and drawing when its role is limited, transparent, and critically framed. However, within this project, AI does not replace art making understood as an embodied and materially consequential process. It does not reproduce the time, uncertainty, risk, touch, repair, and physical transformation through which the ceramic works gain meaning.

The chapter therefore supports coexistence rather than replacement. AI can function as tool, mirror, technical assistant, and comparative device. Drawing can move between atmosphere, process, and source material. Ceramics remains the main validation environment because it makes consequence unavoidable. In this thesis, touch and algorithm can coexist, but they do not do the same work.

CONCLUSION

This thesis examined art making as an embodied, time based process in a cultural moment increasingly shaped by artificial intelligence and accelerated image production. The research asked to what extent AI generated content can replace, emulate, or coexist with artistic practice understood as a materially consequential process. Rather than approaching this question as a theoretical opposition between human and machine, the thesis tested it through practice based research, where studio work, documentation, comparison, and exhibition operate as forms of knowledge production (Borgdorff, 2012).

The central position developed throughout the thesis is that artistic meaning is not located only in the final image or object. It is formed through a sequence of decisions, delays, revisions, failures, repairs, and encounters with resistance. This was especially visible in ceramic practice, where clay does not behave as a neutral material waiting to receive an idea. It responds, resists, cracks, dries, bends, absorbs, rejects, and transforms through firing. These conditions make the work more than a visual result, because the object carries evidence of how it came into being. The ceramic works therefore became the main research site of the thesis, not because ceramics is opposed to technology, but because it makes consequence visible in a way that is difficult to ignore.

This understanding of ceramics supported a broader argument about authorship. Authorship was not treated as full control over an outcome, nor as a purely expressive signature. It was understood as a responsibility distributed across decisions made under constraint. In the ceramic works, this responsibility appears through seams, surface behaviour, glaze results, thickness choices, repairs, and the acceptance of irreversible transformation. Craft knowledge is therefore not only technical skill, but a mode of attention that develops through sustained contact with material conditions (Sennett, 2008). In this context, trace becomes important because it allows the viewer to perceive process without needing the work to explain itself verbally (Adamson, 2007).

The thesis also reconsidered freedom within artistic practice. In accelerated image culture, freedom is often associated with speed, quantity, and the ability to produce endless variations. This research proposed a different understanding: freedom as the capacity to remain responsive within constraint. Ceramic practice made this definition concrete because the maker cannot simply undo every stage or replace every failed result instantly. Waiting, testing, and repairing become part of the work's formation. This challenges the idea that more options necessarily create deeper agency. Instead, the research suggests that agency can also emerge through limitation, because limitation requires commitment, attention, and accountability over time (Rosa, 2013).

Drawing played an important role in this practice system. It supported ceramic thinking by creating a space where forms, moods, and atmospheres could emerge before or alongside their material testing in clay. At the same time, drawings were not only preparatory documents. They also stood as independent works within the exhibition, shaping the installation's atmosphere and emotional register. This dual role was important because it showed that the research was not based on a hierarchy where ceramics is finished and drawing is only process. Drawing contributed another rhythm of attention, one that could hold uncertainty, movement, and affect

in a more immediate way. It helped maintain continuity between internal states, visual vocabulary, and material experimentation.

The tile panel further complicated the relationship between drawing and ceramics. Because it was made in clay but also involved surface, image, gesture, and modular composition, it became a hybrid point in the thesis. It connected ceramic consequence with drawing logic. The panel also introduced questions of placement, value, and belonging, particularly through the phrase where to put it. This question operated on several levels: where to place the object physically, where handmade work belongs in a culture of rapid image circulation, and where artistic practice situates itself when technological systems increasingly produce visual outputs at scale. Through this work, the thesis showed that material practice can ask conceptual questions without separating them from surface, form, and touch.

The AI experiment was designed to test comparison rather than replacement. AI was used in two main ways: as a reflective and technical support during studio work, and as a bounded generative procedure for producing speculative outputs. In the generative experiment, the system was restricted to using photographs of the artist's own ceramics and drawings as direct reference material. This constraint was methodologically important because it kept the outputs connected to an existing studio language and made the relation between source and result more transparent. The AI generated images were presented as prints, not as objects equivalent to ceramics. Their role was to create a comparative field where algorithmic synthesis could be read beside material consequence.

The results of this comparison were productive because they did not simply confirm that AI is empty or that handmade objects are automatically superior. The AI outputs showed that the system could recognise and extend aspects of form, colour, surface, and character. It could produce convincing continuities and unexpected variations. However, these outputs also revealed what changes when a visual language is detached from the physical thresholds that originally shaped it. Some proposals appeared coherent precisely because they did not need to survive gravity, drying, cracking, firing, or repair. Their smoothness and speed made visible the difference between generating an image of possibility and forming an object through consequence. This distinction became one of the thesis' most important findings.

For this reason, the research does not conclude that AI has no value for artistic practice. It concludes that its value depends on how it is positioned. Within this thesis, AI was most useful as a reflective tool, a technical assistant, and a comparative device. It could expand the field of possible forms, support troubleshooting, and provoke questions about the artist's own visual language. However, it did not replace the embodied process through which material meaning was formed. The studio remained the place where proposals had to meet resistance, and ceramics remained the medium through which consequence became unavoidable. This distinction supports the claim that AI can coexist with practice when its role is clearly bounded and critically framed.

The case studies helped situate this conclusion within a wider field. The TU Delft project Crafting Reflection Through AI and Clay was relevant because it showed how AI can support reflection within a clay based workflow when material making remains central (van der Burg, 2025). Boldtron offered a different model, where digital tools and AI enter a highly directed studio process shaped by selection, experimentation, and visual control (Pictoplasma, 2025). Rachel de Joode provided another important reference by showing how objecthood, surface, photography, and digital mediation can be brought into tension within contemporary art practice (Galerie Christophe Gaillard, n.d.). These examples did not serve as stylistic models. They clarified different ways in which AI and digital mediation can operate without erasing artistic agency.

The ethical dimension of the research remained essential. Even when the thesis restricted direct AI inputs to the artist's own works, the generative system itself still depends on broader infrastructures of datasets, labour, energy, and extraction. AI cannot therefore be treated as a neutral or immaterial tool. Its use in artistic research requires attention to provenance, consent, visibility, and responsibility. This thesis did not solve the wider ethical problems of generative AI, but it responded to them at the scale of practice by making the source material clear, presenting AI outputs as proposals, and keeping them in visible relation to the works from which they were derived. This approach acknowledges that ethical use is not achieved by intention alone, but by method and framing (Crawford, 2021).

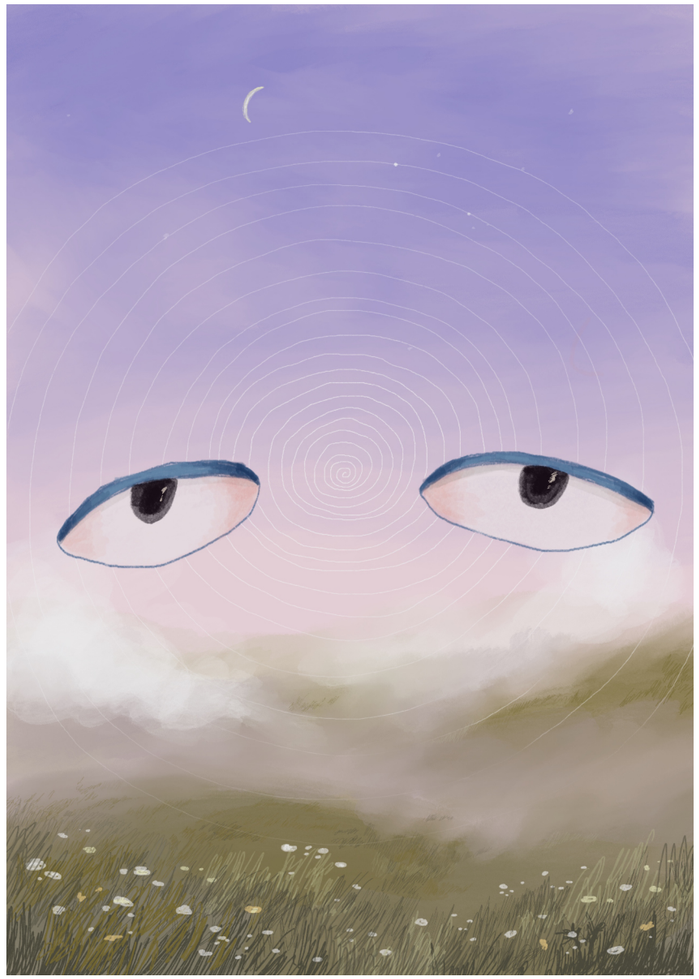
The exhibition format was crucial because it allowed the research question to become perceptible. By placing ceramics, drawings, and AI generated prints in one installation, the project created a field where viewers could encounter different kinds of presence. Ceramic works carried weight, surface depth, and material history. Drawings shaped atmosphere and emotional pacing. AI prints introduced a speculative layer that extended the studio vocabulary while also exposing the absence of material validation. This spatial arrangement allowed comparison to happen through attention rather than through explanation alone. Installation therefore functioned as a research instrument, because meaning was produced through proximity, movement, and encounter (Bishop, 2005).

The thesis therefore answers the research question with a situated and provisional conclusion. AI generated content can emulate certain visual cues and can expand exploratory possibilities. It can coexist with artistic practice when used with clear constraints, visible provenance, and critical awareness. However, within the scope of this research, AI does not replace art making understood as embodied, time based formation under material consequence. It does not reproduce the lived negotiation with resistance, the delayed knowledge of firing, the necessity of repair, or the responsibility of accepting irreversible outcomes. What remains distinct in the human artistic process is not simply originality or manual skill, but the capacity to form meaning through attention, consequence, and care across time.

Beyond the scope of this thesis, the research opens several directions for future development. I intend to continue exploring the relationship between ceramics, drawing, and AI through new bodies of work, while developing workshops as an extension of the practice. These workshops can create spaces for sharing material knowledge and experimentation, but can also contribute to the practical sustainability of future projects by building networks, access to facilities, and possibilities for funding. Sustainability here is therefore understood not only in economic terms, but as the ability to maintain the time, materials, working conditions, and collaborative structures necessary for an independent artistic practice to continue developing. Future projects can expand the experiments begun in this thesis while remaining attentive to how technological tools are used, what resources they require, and how material practice can remain central within changing technological conditions.

This conclusion should not be understood as a rejection of technology. The thesis argues instead for a more precise relationship between tool and practice. AI can be integrated meaningfully when it does not erase the conditions that give the work its depth. In this project, coexistence became possible because AI was not asked to replace the studio, but to reflect it

back differently. The algorithm produced proposals, while clay tested consequence. Drawing carried atmosphere, while exhibition turned comparison into encounter. Together, these elements showed that the question of AI and art is not only about who or what can produce images. It is about what kinds of processes produce meaning, what forms of responsibility are made visible, and how artistic practice can remain attentive under conditions of acceleration.



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ATTACHMENT

ATTACHMENT 1.



Blooming Portal, drawing , 2026
Watercolor, gouache, pencils
30 × 30 cm (H × W)

ATTACHMENT 2.

Blooming Sculpture, 2026
Clay, glazes
45 × 35 cm (H × W)



ATTACHMENT 3.



Where to put it? tile panel, 2026
Ceramics, porcelain, angobes, glazes, overglazes
40 × 130 cm (H × W)

ATTACHMENT 4.



Metamorphosis Sculpture, 2026
Clay, engobes, glazes
30 × 30 cm (H × W)

ATTACHMENT 5.

Centipede Sculpture, 2026
Black clay, white clay, engobes
45 cm length

ATTACHMENT 6.







4 AI Generated Outcomes, 2026
Generated with Nano Banana, Gemini 2
Digital image, presented as poster print



ATTACHMENT 7.

Between Touch and Algorithm: Drawing and Ceramics in Dialogue With AI

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Abstract. This article examines the intersection between human art-making and artificial intelligence through a practice-based investigation grounded in drawing and ceramics. The research emerges within a cultural moment marked by rapid technological change and an increasing presence of AI-generated visual content. In this context, the project seeks to understand how tactile, intuitive, and emotionally driven processes, such as hand-drawing and clay work, operate alongside algorithmic image production, and what forms of meaning arise from this coexistence. The purpose is not to oppose AI, but to explore its role as a tool and collaborator in relation to human embodied experience.

The methodology combines studio-based experimentation with theoretical and case-study analysis. The practical component involves producing drawings and ceramic objects that translate inner states, memories, and personal perceptions into physical form. These works are then placed in dialogue with AI-generated variations developed from the artist's existing imagery, allowing for comparative reflection on presence, gesture, and material specificity. The article also analyzes key case studies, including the TU Delft "Crafting Reflection Through AI and Clay" project[11], Boldtron's AI-enhanced digital practice[12], Rachel de Joode's interplay between sculptural matter and digital surface[13], and ARTinRARE's institutional discourse on artistic intelligence[14]. Together, these examples highlight different approaches to integrating computational tools within materially oriented practices.

Preliminary results suggest that while AI effectively extends visual vocabulary and supports generative exploration, it does not replicate the embodied qualities of human making, such as touch, resistance, and emotional trace. Instead, AI introduces a complementary layer of interpretation and provocation. The article concludes that the convergence of AI, drawing, and ceramics forms a productive site for reflecting on contemporary creativity, raising questions about authorship, materiality, and the evolving role of the artist in an increasingly algorithmic world.

Keywords: ceramics, drawing, artificial intelligence, materiality, embodiment, authorship, craft

Making under accelerated images

To talk about AI in art is often to talk about images: how quickly they appear, how easily they circulate, how convincingly they imitate established visual languages. Yet the pressure AI introduces is not only a change in image production; it is a change in expectations around making. When an image can be generated instantly, the conditions of attention that once framed artistic labour, time, repetition, doubt, revision, can begin to feel optional, even old-fashioned. As Yuval Noah Harari argues, technological acceleration does not simply increase production but reshapes the conditions through which humans relate to knowledge, labour, and meaning [5]. The question that follows is broader than whether AI can produce "art": what happens to artmaking as a lived process when visual outcomes become cheap, abundant, and detached from the circumstances of their formation? In this context, working through slower, materially constrained processes can also be understood as a form of resistance, not in opposition to technology itself, but as a way of preserving conditions for attention, reflection, and artistic freedom within an accelerated visual culture.

This article approaches that question from within studio practice. Ceramics and drawing are not treated here as isolated disciplines but as lenses, ways of observing how meaning forms through the body, through time, through resistance, and through decision-making under uncertainty. Drawing offers immediacy and responsiveness; ceramics makes consequence unavoidable. Clay does not merely receive an idea; it answers back. It slumps, cracks, dries too fast, stiffens too soon, warps in firing, and transforms under glaze chemistry. A ceramic object therefore carries an embedded timeline: a history of pauses, corrections, and thresholds the maker had to cross.

AI enters this field as a contrasting tempo. It can return variations rapidly and propose forms that feel coherent without the labour of testing them. That contrast, rather than being a threat by definition, can become a method. By setting algorithmic image generation alongside material processes, especially clay, this inquiry asks what each mode of making reveals about the other, and what becomes visible when the artwork is understood less as an output and more as a record of how it was arrived at.

Materials, time, and "thinking through making"

A key difference between material practice and algorithmic generation is not aesthetic; it is temporal. Ceramics is structured by waiting. Drying time is not negotiable without consequence. Firing introduces irreversible transformation. Glaze results cannot be fully predicted from intention alone, and the kiln becomes an active participant in the work's final state. These constraints create a particular kind of attention: one that is patient, interactive, and responsive to what the material allows. These constraints do not limit artistic freedom; rather, they redefine it. Freedom emerges not from the absence of limits, but through the negotiation with them, as the artist responds to material conditions that cannot be fully controlled or predicted.

Craft theory gives useful language for this kind of attention. Glenn Adamson describes craft as a mode of thinking embedded in manual engagement rather than separated from it [1]. In this view, making is not a lower stage of creativity; it is where cognition and sensation meet. Tim Ingold similarly frames making as a correspondence with materials, a process of following and adjusting rather than imposing form from a distance [6]. As Ingold further argues in Making [7], material practice operates through ongoing negotiation rather than fixed execution. Both perspectives emphasise that form emerges through contact: the maker learns what a line can be by drawing it, and learns what a vessel can be by meeting clay's limits.

This emphasis on encounter also echoes Susan Sontag's argument for restoring sensorial experience in how we approach images [9]. If contemporary visual culture trains viewers to consume images as content, ceramics can interrupt that habit by insisting on presence: scale, weight, texture, and the bodily reading of fragility or solidity. Even a photographed ceramic object tends to signal that it is a thing in the world, not only an arrangement of pixels.

Taken together, these ideas situate art-making as a way of thinking that happens in time, with consequences. That framing becomes important once AI enters the studio, because AI can generate a visual proposition without inhabiting the process that gives that proposition weight.

Studio practice

This section is framed as practice-based research, where knowledge is generated through the act of making rather than solely through theoretical analysis. Within this approach, the studio operates both as a site of production and as a method of inquiry, allowing material processes to function as forms of thinking. The autobiographical and situated nature of the work is therefore central to the research, as meaning emerges through embodied engagement, repetition, uncertainty, and reflection developed over time through studio practice.

The work presented in this research emerges from a self-directed artistic practice initially developed outside formal academic structures. Prior to entering an institutional context, drawing and ceramics functioned as parallel ways of processing emotional states, memory fragments, bodily perception, and internal atmospheres that were difficult to articulate verbally. Rather than beginning from predefined concepts or planned compositions, the practice evolved through repetition, intuitive experimentation, and continuous interaction with materials. Making became a way of understanding thought through action, where meaning gradually emerged through the physical process itself rather than being fully determined in advance.

Drawing occupies an important role within this process because of its immediacy and responsiveness. Drawings are usually produced rapidly and repeatedly, often beginning as loose accumulations of lines, unstable silhouettes, distorted figures, or ambiguous object-like forms. They function less as preparatory sketches for ceramic works and more as spaces for registering emotional intensity, tension, vulnerability, and shifting psychological states before these become translated into material form. Certain gestures, textures, and recurring morphologies later reappear in clay, allowing drawing and ceramics to operate in dialogue rather than as separate disciplines.

Ceramics gradually became the central medium of the practice because it introduced resistance, temporality, and consequence into the work. While drawing allows quick transformation and revision, clay slows decision-making and requires sustained negotiation with material conditions. Most objects are hand-built through intuitive processes of pinching, assembling, layering, glaze testing, experimental painting, and surface manipulation, prioritising material exploration over strict technical planning. Forms frequently remain asymmetrical, unstable, or partially unresolved, preserving traces of adjustment and bodily interaction. Cracks, deformations, collapsing structures, glaze irregularities, and firing transformations are not treated simply as technical imperfections but as active contributors to the final meaning of the work. The ceramic object therefore becomes a physical record of accumulated decisions, delays, corrections, and negotiations between intention and material behaviour.

The present project builds on this existing studio methodology while introducing artificial intelligence as an experimental collaborator within the process. AI is not approached as a replacement for making or as a generator of final works, but as a reflective and experimental tool capable of reinterpreting the visual language already present within the studio practice. The AI-generated images included in this research were developed using Google Gemini through an image-based prompting process. The source material consisted exclusively of photographs of the author's own drawings and ceramic works, which were introduced into the system as visual references. The prompt was formulated in simple terms, asking Gemini to generate objects that could appear as possible continuations of the existing series based only on the uploaded images of the author's work.

Rather than using AI to create an unrelated or autonomous visual language, the process was intentionally restricted to a closed set of references drawn directly from the studio practice itself. The generated images were then selectively curated according to how clearly they extended, distorted, or displaced existing formal tendencies within the work. Their value lies not in functioning as final artworks, but in acting as speculative variations that expose tensions between material making and algorithmic continuation. AI-generated outputs frequently proposed impossible balances, exaggerated morphologies, seamless transitions, or overly perfected surfaces that could not physically exist within ceramic processes. Their significance lies precisely in this mismatch, as it reveals what algorithmic systems amplify, overlook, or simplify when translating materially grounded practices into synthetic image production.

The works were presented within the annual MAP CHECK-IN Exhibition and Seminar, organised by the Master in Fine Arts (MAP) at the Faculty of Fine Arts of the University of Porto (FBAUP) in January, 2026. The event functions as an academic platform for the public presentation and discussion of practice-based artistic research developed across the programme's specialisations in Sculpture, Drawing, Painting, and Intermedia. Within this context, the project was presented as an ongoing studio-based investigation developed in the curricular unit Studio Practice and Research. The exhibition combined ceramic objects produced through analogue processes with AI-generated prints derived from photographs of the author's own drawings and ceramic works. The installation was arranged to emphasise the contrast between materially produced objects and algorithmically generated image-objects, allowing viewers to move between physical presence and synthetic reinterpretation within the same spatial context.



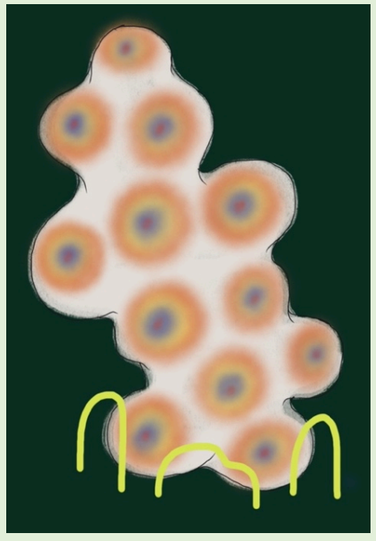

Fig. SEQ Fig. \n1. Drawing (watercolor, pastels) **and Fig. 2.** Digital drawing (Procreate)





Fig. 3. and Fig. 4. Ceramic object - analogue studio practice (clay, engobes, glazes)





Fig. 5. and Fig. 6. AI-generated variation based on the ceramic source objects (Gemini)

Case studies: research and practice in material - AI dialogue

Several contemporary examples help situate this research within a broader field where artificial intelligence is increasingly explored in relation to material practice, image production, and artistic authorship. Although these projects differ in methodology and medium, they collectively demonstrate how AI can operate not simply as a tool for automation, but as a reflective system capable of generating new relationships between digital processes and embodied making.

The TU Delft project Crafting Reflection Through AI and Clay [11] is particularly aligned with the concerns of this research because it approaches AI not as a replacement for craft, but as a reflective tool operating alongside material processes. The project combines computational image generation with hands-on ceramic experimentation, allowing digitally proposed forms to be tested against the physical realities of clay. Rather than treating material deviations as failures, the project emphasises how cracking, collapsing, drying behaviour, and structural instability become meaningful parts of the process. This approach closely relates to the present research, where AI-generated forms gain significance precisely through their confrontation with the limitations and resistance of ceramic materiality.

Boldtron's [12] practice demonstrates a different relationship between AI and authorship, emerging primarily from a digital and graphic context. Their work integrates generative systems into broader workflows of image selection, editing, manipulation, and visual curation. AI operates not as an autonomous creator, but as one element within a controlled artistic process shaped through human decision-making. This becomes relevant to the present research because it suggests that artistic identity can remain present through acts of selection, rejection, and constraint, even when generative systems are involved. Unlike the materially grounded nature of ceramics, however, Boldtron's work remains situated largely within digital image culture, highlighting an important difference in how material resistance functions within the current project.

Rachel de Joode's [13] practice offers an important precedent for understanding the movement between object, image, and digital mediation. Her work frequently combines sculpture, photography, printed surfaces, and installation, creating unstable relationships between physical materiality and its photographic representation. Rather than opposing digital processes, de Joode explores how material surfaces persist, transform, and become reinterpreted through technological mediation. This resonates strongly with the present research, particularly in the way ceramic objects are translated into AI-generated image forms. However, while de Joode's work often collapses distinctions between image and object, the current project maintains the ceramic object as a material anchor against which algorithmic reinterpretations can be critically compared.

ARTinRARE/i2ADS [14] contributes a broader institutional and theoretical framework for understanding "artistic intelligence" as a distributed relationship between human creativity, technological systems, embodied knowledge, and material processes. Rather than focusing exclusively on technical innovation, the project frames AI as part of a larger ecology of artistic production involving collaboration, experimentation, and critical reflection. This perspective is relevant to the present research because it shifts the discussion away from questions of novelty or replacement and toward the conditions through which artistic meaning is produced. Within this framework, AI becomes less significant as an autonomous generator and more important as a tool that can reveal, challenge, or destabilise existing modes of practice.

Although these case studies differ significantly in medium, methodology, and artistic intention, they collectively suggest that the most productive intersections between AI and artistic practice emerge when computational systems remain connected to materially grounded processes. Across these examples, AI functions less as a replacement for human making and more as a reflective, speculative, or destabilising agent capable of reconfiguring existing visual languages. The present research aligns with this broader tendency while placing particular emphasis on ceramics as a medium that foregrounds time, resistance, fragility, and embodied negotiation. In this context, the dialogue between AI and material practice becomes valuable not because it resolves tensions between technology and craft, but because it makes those tensions more visible.

Fig. 7. TU Delft, *Crafting Reflection Through AI and Clay* [11]. **Fig. 8.** Boldtron's AI-assisted visual practice [12].



Personality, presence, and the human stake in process

Discussions about AI and authorship often revolve around originality or ownership, but a quieter issue sits underneath: the role of personality in the artwork. When viewers say a piece "feels human," they often refer to a sense of presence that exceeds style, something carried by tempo, vulnerability, and the trace of decisions made under constraint.

Ceramics makes this particularly legible because clay registers the maker's habits of attention: the pressure of a thumb, the patience of a join, the choice to smooth or leave a seam visible, the willingness to repair rather than restart, the tolerance for asymmetry. The object becomes a record of how someone behaved inside uncertainty.

John Dewey's account of art as experience helps clarify why this matters. For Dewey, making is not separate from perception; the artist works with an internalised sense of encounter, and the work is shaped by lived attention rather than detached execution [4]. Phenomenology sharpens that point: Merleau-Ponty's insistence that the body is the medium through which we have a world places meaning inside embodied orientation, not only in ideas [8]. In ceramics, the body is not an instrument that applies intention; it is the condition through which form becomes possible.

Bourdieu's concept of habitus adds another dimension: the artist's "personality" can be understood as a pattern of durable dispositions, ways of acting that become consistent through repetition [2]. In the studio, those dispositions become visible as voice: recurring scales, preferred thicknesses, characteristic surface decisions, repeated gestures that return before the maker can fully explain why.

Winnicott's writing on play offers a psychological angle that fits clay practice well [10]. Ceramics often depends on serious play: testing what a form can do, accepting failure as information, allowing surprise to redirect the work rather than treating it as a deviation. In that sense, personality is not only expressed in the final object; it is exercised and reshaped through the act of making.

This is also where AI becomes a meaningful contrast. AI can simulate surfaces that read as expressive, irregular textures, "handmade" marks, plausible ceramic glazes, yet it does not possess a body, a habitus, or an affective stake in consequence. It does not wait, repair, hesitate, or feel anticipation before opening a kiln. That difference does not make AI irrelevant; it clarifies what kind of agency it is. AI can mirror patterns and mutate motifs, but the human contribution, especially in ceramics, often lies in commitment: returning to the work, living through uncertainty, and letting consequence shape meaning.

Ethics, datasets, and distributed authorship

Any studio use of generative AI sits inside larger infrastructures. Kate Crawford's work is crucial here because it insists that AI is not immaterial "intelligence" but a system built from extraction: datasets compiled through uneven power relations, large-scale computation with material costs, and cultural archives absorbed without consent [3]. For artists, this becomes immediately relevant because the visual languages AI recombines often originate in human labour that remains uncredited.

This creates an authorship problem that cannot be solved by aesthetics alone. If an AI system produces an output that resembles an established visual language, what does that resemblance mean? Which parts belong to the user's intention, which to the model's training history, and which to the artists whose work was absorbed into datasets?

Hybrid practice makes authorship distributed in any case: clay itself participates, the kiln participates, the studio's constraints participate. Adding AI expands that network. A more accurate question than "who made this?" may be: what relations made this possible, and what responsibilities follow from those relations?

Ceramics does not resolve dataset politics, but it can keep ethical questions visible. Material processes resist the fantasy of frictionless creation. They insist on time, consequence, and repair. That insistence can work as a counterbalance to the speed and abstraction AI encourages, reminding both maker and viewer that making is not only output, it is also labour, risk, and presence.

Conclusion

Approaching AI through the lens of art-making process shifts the conversation away from spectacle and toward conditions: time, attention, consequence, and the human stake embedded in making. Ceramics and drawing illuminate these conditions differently, with clay providing the clearest contrast to algorithmic generation because it binds form to gravity, transformation, and irreversibility.

In the studio, AI becomes most useful when treated as a reflective agent rather than a replacement. It can estrange the work, amplify patterns, and propose speculative routes, but meaning consolidates when those routes are tested against material reality, when clay refuses what is only pictorial and rewards what can survive structure, weight, and fire.

The intersection between touch and algorithm is therefore not best understood as a contest, but as a site of negotiation where different ways of knowing come into contact. What this article proposes, through practice-based inquiry, is that material processes such as drawing and ceramics do not simply coexist with AI, they actively ground and test it. By insisting on time, resistance, and consequence, these practices reveal what remains at stake in artistic making within an increasingly accelerated, image-driven culture. In this sense, the contribution of this work lies in repositioning AI not as a replacement for human creativity, but as a reflective counterpart—one that gains meaning only when brought back into dialogue with embodied experience and material reality.

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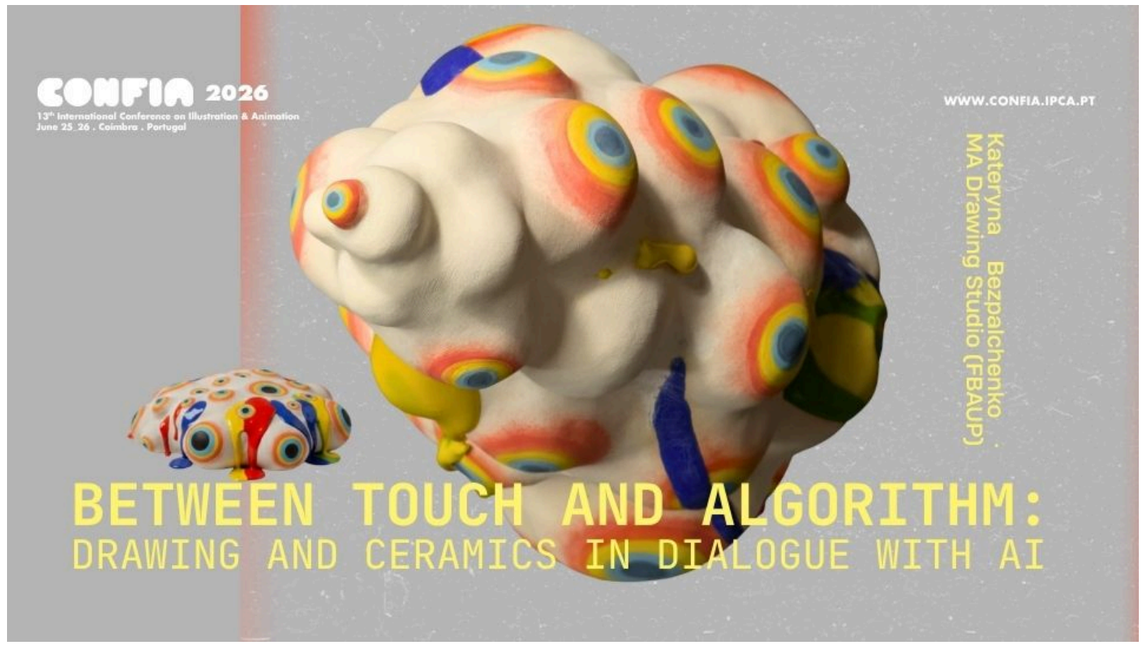
Presented at Casa das Caldeiras, Coimbra, Portugal, 25 June 2026.



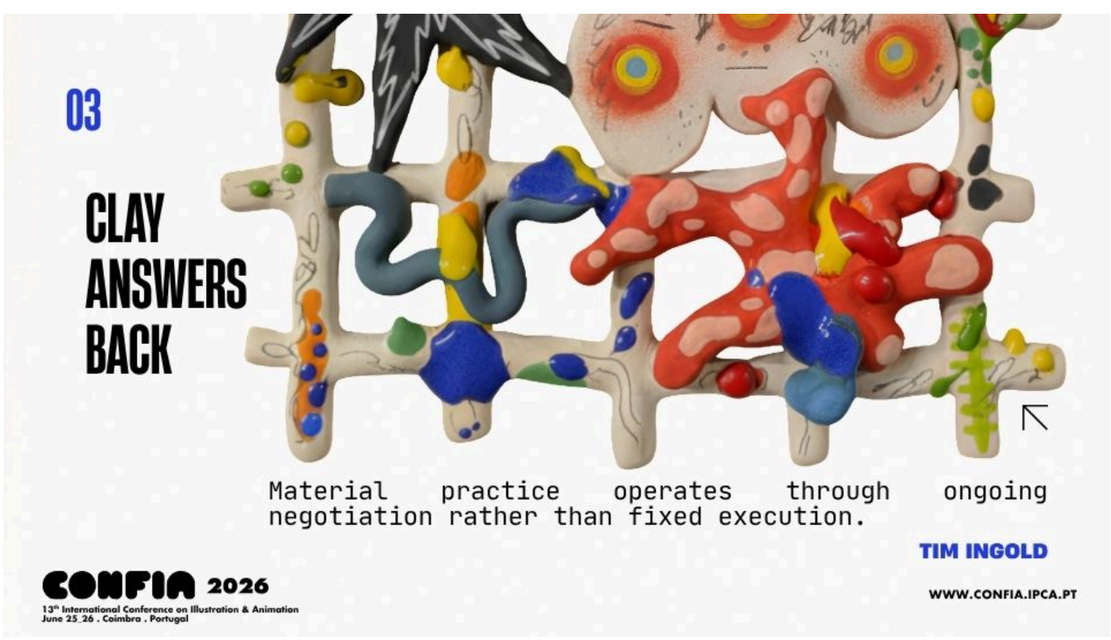
ATTACHMENT 8.

Conference presentation slides, presented at CONFIA 2026, Coimbra, Portugal, 25 June 2026.










INTRODUCING AI:
GOOGLE
GEMINI
Drawing+Ceramic → Photo → AI generation
Prompt:
Generate objects that could be a continuation
of this series using only these images.
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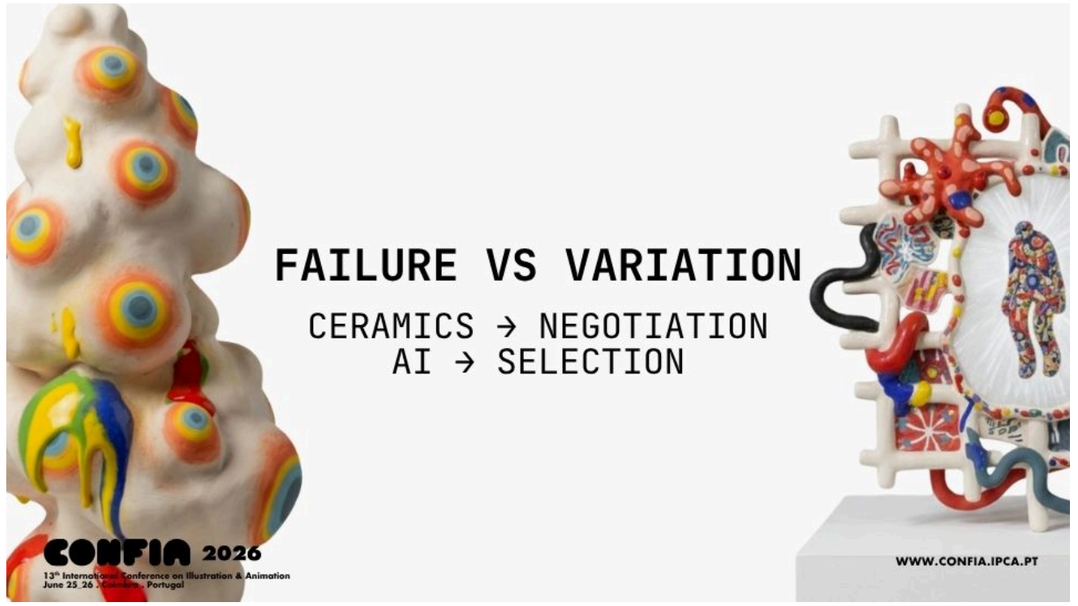
FAILURE VS VARIATION
CERAMICS → NEGOTIATION
AI → SELECTION
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05
WHAT HAPPENED?
MATERIAL OBJECT ↔ AI VARIATION
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07
AI GIVES IMAGES
CLAY GIVES CONSEQUENCES
Art is not only an object. It is an experience.
John Dewey
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