



Dialogue in the making: emotional engagement with materials

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Abstract

Taking a psychological and philosophical outlook, we approach making as an embodied and embedded skill via the skilled artisan's experience of having a corporeal, nonlinguistic dialogue with the material while working with it. We investigate the dynamic relation between maker and material through the lens of pottery as illustrated by wheel throwing, claiming that the experience of dialogue signals an emotional involvement with clay. The examination of Merleau-Ponty's phenomenology of habit, the skilled intentionality framework, and material engagement theory shows that while these theories explain complementary aspects of skillful engagement with the material world, they do not consider the dialogic dimension. By way of explanation, we submit that the artisan's emotional engagement with the material world is based in openness and recognition and involves dialogue with the material. Drawing on the intimate relationship between movement and emotion, it promotes an open-ended manner of working and permits experiencing with the material, acting into its inherent possibilities. In conclusion, we suggest that dialogue, whether verbal or nonverbal, constitutes a primary means for making sense of the world at large, animate and inanimate.

Keywords Pottery · Emotional engagement · Dialogue · Expertise · Material engagement theory · Phenomenology · Interaction · Skill

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1 The art of making

Making refers to the multi-scalar and dynamic process of producing something skillfully by hand relying on custom and long-established methods. Typically, mastering a craft requires manual dexterity, i.e., the ability to use your hands in a coordinated way to grasp and manipulate objects with small and precise movements, and prolonged training and experience. It involves proprioceptive and kinaesthetic knowledge relative to oneself and the material, that is, knowledge of the kind that one understands *with* one's body as opposed to *by* or *through* it (Sheets-Johnstone 2012).

Relating to body posture, postural control, position and orientation, motion, timing, and rhythm, bodily skill emerges from sensorimotor dependencies and may involve conscious experiences and feelings (Brinck 1999). Thus, Gordon (2003) clarifies the advantage of hands-on experiment for textile research in giving access to the sensations and first-person experiences of working with certain materials and techniques. She describes how reproducing Shaker fabrics using original equipment improved her understanding not only of how experience and feeling continuously inform the process of making, but also of the various efforts and skills that textile production demands.

Additionally to bodily skill, making brings into play a variety of general abilities including affect regulation, imagery, meta-attention, epistemic action, planning, problem-solving, and imagination. The art of making is a many-sided, multimodal undertaking that challenges understanding in several ways. Cognitive process and material procedure in one, it profits equally from technical proficiency and creative pursuit and being firmly grounded in tradition, shows the signs of a situated practice (Brinck 2007; Lave 1988). Sense-making and knowledge are *relational*, conditioned by the social, cultural, material, and physical environment, and *distributed*, built into the design of artefacts, infrastructure, techniques, and roles. Accordingly, the embedding socio-culture and its associated technologies shape the craftsperson's experience of connectedness with the physical world and locate him or her within a historical tradition.

The view that you can have a dialogue with materials recurs in artisans' descriptions of their practices. They refer to a dialogue without language, a dialogue between body and material. Judging by these descriptions, dialogic relation co-varies with a direct, qualitatively felt involvement with the material at hand that neither unreflective nor reasoned relations capture. While the mentions of having such a relation are numerous, they also are cursory, and accounts that specify what it entails or describe its emergence are hard to come by.

Turning to the sciences, explanations of skilful action and expert skill in psychology, philosophy, and related areas do not have much to say about experience and dialogue in the process of making, but tend to focus on motor behaviour and sub-personal or implicit processes that are unavailable for voluntary control and inaccessible to conscious awareness. Because the makers refer to a wordless and dynamic dialogue, dual-process theories that add a level of symbolic and rule-based processing to the implicit processing do not address the heart of the matter.

The experience of having a dialogue with materials seems central to the process of making and apparently reflects a highly valued aspect of the crafts practices, largely neglected among researchers. Our aim is to describe the nature of this experience, using pottery as the prime example.

2 Through the potter's lens

Pottery involves making things out of clay, a natural material created by weathered rock. The process is complex. Beginning with the selection of the type of clay and the size of the lump, it draws on several distinct skills and techniques and may involve tools and additional materials such as the wheel, knife, kiln, and ceramic glaze. Moreover, there are numerous methods and procedures for decorating, glazing, and firing, and several ways of ordering them, which means the process can take very diverse forms in the hands of different potters.

The choice of pottery rather than any other craft to clarify the dialogic nature of making is motivated by the physical properties of clay, which encourage approaching it as a partner in conversation – and allegedly more strongly so than in the case of other materials in the crafts such as glass, metal, wood, or textile. That certain features of clay invite thinking of it as a conversational *partner* is widely recognized in the research on craft and as a rule not held to require justification. Potters are prone to spontaneously describe their relation with clay in terms of involvement and dialogue. By way of example, consider studio potter Bruce Kitts (2016, p. 8) explaining his interest in ceramics in an interview in *Mendocino Arts Magazine*:

I choose to work with clay because I find it is the most inviting medium to have a conversation with . . . Through its extreme malleability, multiple transitions and physical stages, and unusual ability to retain memory, clay speaks to us in many ways.

The properties that make clay *conducive to dialogic engagement* are readily noticeable and open to observation.¹ Clay is plastic and malleable and responds quickly to touch and movement, although there are clear limits to its elasticity, which makes it resistant. It can be worked for a relatively short time and demands high body involvement and delicacy. In contrast to many other materials that you find within the crafts, the physical properties of clay differ at the outset of the process, while working, and at the end. The overall flexibility and pliability of clay together with its distinct inherent limitations invite active involvement with the material and encourages embarking on systematic and extended, sometimes decades long, exploration of particular techniques or procedures for working it. In all, working with clay demands considerable attention and moment-by-moment improvisation – to what degree depends on the potter's situation, abilities and ambitions.

Pottery is an embodied, nonlinear process that includes working with its dedicated materials openly and without intermediaries, and therefore suitable for observational studies with the observer's role ranging from non-participatory (observing from outside the research setting) to fully participatory (taking part in the activities as a member of the culture). Phenomenological investigations describe how a given phenomenon is experienced. In addition to practice-led research, personal statements from potters, although anecdotal, elucidate the practice of throwing by providing a high degree of detail.

¹ Summarizing the properties in general terms using everyday language suggests that at least superficially clay shares some behaviour traits with humans, pertaining to the context of social or interpersonal encounters. Thus, clay invites a variety of techniques for interacting with it, responds immediately, requires sensitivity and attention, resists certain ways of approaching it, does not tolerate waiting, and reacts strongly to being maltreated. Finally, its behaviour is often difficult to predict although it shows regularities.

The present paper draws on several sources and exposes pottery from distinct but compatible perspectives to enrich our understanding of it. We consult ethnographic studies of making in the crafts and pottery in particular, research about engagement and dialogue in developmental psychology, philosophy and the cognitive sciences, and practice-led research in the crafts, visual arts and design. Moreover, we rely on potters' first-hand experiences of making in the form of personal statements and interviews published on personal websites, the official websites of ceramics associations and pottery studios, and in craft journals and magazines of the trade. The latter sources give insight into the artisans' own conceptions and reflections about making and its phenomenal or qualitatively felt aspects, and function to complement the perspectives from sensorimotor cognition and pre-reflective phenomenological consciousness that are prevalent in much contemporary research on skill and practices in the crafts and arts. Finally, one of us has been making wheel-thrown pots for a few years, and her diary notes reflecting her personal experiences have continuously informed the investigation.

On the assumption that the potters' personal statements provide a window into the qualitative experience of working with clay, we will take them at face value. This does not mean that we take them to constitute true descriptions of the maker's relation to clay, as opposed to being true of the maker's *experience* of this relation. We think these statements expose an underlying, unarticulated yet attentive approach to making that is unavailable from an observational perspective. Specifically, we believe that the potters' testimonies provide evidence of a manner of engaging with materials characteristic of the proficient artisan, which exploits the second-person perspective inherent to emotional engagement and involves listening to the material ready-to-hand as from a You. Importantly, although experience is multimodal and multitemporal, the present shaped by memories of the past and expectations about the future on several time scales (Hutchins 2010, p. 432), the master potters' experiences of throwing cohere.

We will look next into the potter's experiences with clay. We then go on to compare two accounts of skilful action with respect to how they can explain the potter's involvement with the clay while working it: Merleau-Ponty's (1945) theory of habit including an extension of it into ecological psychology, and Malafouris' (2008, 2013) theory of material engagement.

3 Experiencing with clay

In an interview in the internet journal *3 Dots Water* (2010), Swiss-based ceramist and artist Charlotte Nordin asserts that many beginners approach ceramics as an object:

When you have your first mass of clay in your hands and you put it on the throwing wheel with your bare hands and you make a shape out of it, it is quite emotional. Your reaction might be 'Oh! I just made a bowl!'

Nordin's remark suggests that the novice does not see the bowl in relation, but as a thing. The emotion there is pride, something achieved in terms of a societal marker. This situation stands in contrast to involved making, where the emerging pot is within dialogue, often evoking wonder at times, but wonder that sees the pot as the emergent

Other – like the wonder that sometimes arises in engaging with babies, an awe at who they are but in being present to them. In line with this, Nordin goes on to explain that as experience grows you will realize that the bowl is there because of the dialogue between the clay and your hands, and that the bowl does not really belong to you and is not a mere thing. Nordin adds that the clay has its own expression, which depends on how the clay is responding.

Similar to the relation between child and parent, the relation between potter and clay continues to develop over time. Eventually it permits dialogue. There is not any point in time at which the potter will be fully experienced or will know everything there is to know about clay. On the contrary, because the circumstances never repeat, pottery offers endless opportunities to improve one's skills simply by doing it. In the case of craftsmanship, exercising a skill and learning to exercise it are concomitant, which means that improvement of the skill is continuous with its practice (Ryle 1949, p. 58). Learning and doing defy separation. Deliberately training a skill, e.g., by exposing oneself for more difficult, perhaps unfamiliar conditions will develop the skill beyond the present limits of the agent and sometimes results in qualitative change to the agent's abilities and skills.

Working with clay tends to raise strong and specific feelings in the agent, reflected in potters' widely attested experience of interconnectedness with organic matter. Making brings together psychological and material processes not solely from the cognitive point of view but phenomenologically too. The potter's experiences with clay can be roughly divided into three types.

First, both novice and experienced potters state that working with clay engenders a direct and strong experience of *familiarity and relatedness with the material*. Working it appears natural and effortless and is fulfilling and strikingly pleasant. According to Finnish ceramicist and researcher Priska Falin (2014, p. 7),

[T]he specific reasons why the material engages us in the first place are hard to identify. I feel that I have a strong sensitivity towards ceramics as a material and that this sensitivity is an important driver that engages me in my practice.

The choice to engage with a specific material such as clay, metal, or textile and devote yourself to the corresponding craft often is made by the passion; it is an ungainsayable imperative that originates in the material. George Ohr (known as the mad potter of Biloxi) famously said: “[W]hen I found the potter's wheel, I fell all over like a wild duck in water” (2004). In a similar tone, woodworker and maker of fine furniture Peter Korn admits, “I simply inhabited my passion” (2013, p. 28). Nordin, again, attests that she knew that clay was her medium the first time she encountered it. Describing herself as its “ally and companion”, she emphasizes that “[T]he ability of this shapeless material to answer the call of my hands fascinated me” ([personal webpage](#)).

Studio jeweller and writer Bruce Metcalf (2000) explains the intensity and immediacy of the experience of connectedness with materials while working them by a certain genetically determined bodily-kinaesthetic intelligence (Gardner 1985). This intelligence involves “the ability to use one's body in highly differentiated and skilled ways, for expressive as well as goal-directed purposes” and “the capacity to work skillfully with objects, both those that involve the fine motor movements of one's fingers and hands and those that exploit gross motor movements of the body” (Gardner 1985, p.

206). Metcalf maintains that working with your hands feels very comfortable when it conforms to a pre-existing complex of latent abilities, and that the emotionally charged experience of discovering this intelligence in oneself has the power to change a person's life.

The *second* type of experience with clay consists in the feeling of *being in contact with the physical or 'real' world*, typifying the relation between human beings and their environment phenomenologically and metaphysically. Natasha Daintry (2007, p. 12), artist working with porcelain and former Japanese scholar, contends that

...attending to the physicality of things has the effect of locating you in the world and connecting you to your own physicality. It represents a way of felt experience, of being known and knowing the world through the corporeal.

According to a practice-led ethnographic study of studio potters' relations to the earth through their experiences of working with clay, potters experience a feeling of intimacy with the material world in virtue of physically connecting to it through the clay (Benoît 2013). This connection presents itself as somehow out of the ordinary — as intercorporeal, between bodies, putting the self in a strangely organic dialogue with materials and things. Working with clay can make the potter's sensory and bodily relation to the physical world intensely manifest to him or her.

The feeling of strong affinity between working with clay and engaging with life recurs in the literature on pottery. Potters' personal statements evidence that having experiences with clay depends on not merely a history of *experiences of* (working with) clay, but a history of *experiencing with* clay characterized by a deep and intimate emotional engagement of personal significance. The central place that the personal involvement with clay has in the life of many potters, disregarding level of skill, suggests that there is something about the embodied experience of making pottery that calls forth an archetypal, primordial manner of being-in-the-world, of being there *tout court*, in the guise of a being-*with-the-world*, or rather, *with-the-clay*.

The *third* type of experience with clay will provide the starting-point for our inquiry into the potters' experience of dialogue while throwing and typically is expressed by skilled potters. It consists in the experience that *the clay is communicating with you while you are working it*. This experience is continuous with the unfolding process of shaping the clay. Crucially, the potter is experiencing *with* the clay, in the words of Falin (2014, p. 2) opening up "an intrinsic connection to ceramic material that is constantly influencing my engagement to it."

Master potters regularly describe making in terms that reveal an emotional understanding of the process, and tend to perceive making as intrinsically meaningful. The experience of a dialogic rather than dominating relation between themselves and the clay underwrites their practical understanding of making. The following statement of potter and teacher Susan Claysmith ([personal webpage](#)) serves to exemplify this:

I developed an interest in playing in the mud as a child and in my early teens discovered that working with clay was intensely more satisfying. Clay is a superbly malleable medium for creativity; its inherent nature inspires an interactive dialogue which can guide the direction of the work. I begin with a general concept and as I become involved in the making, this dialogue takes the lead.

Japanese potter Ken Matsuzaki describes a similar dialogic relation with the clay in an interview for the exhibition of his work at the Goldmark gallery (2018):

Actually, I don't feel or think anything before I create something. I just look at the clay, its condition, and then touch it and start throwing. I hear the voice of the clay, where it wants to go, what shape it would like to be. That's how I make things.

Whereas Susan Claysmith uses the combined techniques of hand building and wheel-work many potters have noticed the presence of a dialogic relation with the clay on the wheel in order to centre and shape it. Centring the clay means that its mass and its outer edges are aligned and spin perfectly smooth without bumps or wobbles. It constitutes the first step in the throwing process, and begins with placing the clay on the wheel. As the wheel turns, the potter puts his or her cupped hands around the clay and then, using both arms and hands, centred firmly with his or her body, applies pressure to the spinning clay till it becomes a unified mass that can be pressed down or pulled up to a conical shape.

In the next step, the clay is pushed downward from the top, into a flattened half-sphere, then coned up and down a few times in order to homogenise the material. To open the centred mound of clay and create the beginning of the interior of the vessel, fingers or thumbs are slowly pushed down into the centre of the clay mound, leaving a sufficient amount of clay for the bottom. The resulting walls are then pulled apart, leaving a base that is then compressed with lateral sweeping of the fingers to prevent later cracking, and the walls then raised and carefully thinned. Thereafter, any shape can be formed. Throwing is a delicate procedure and developing expertise usually requires decades of training.

Adding to the Asian habit of meditating before throwing, educator and potter Kenneth Beittel asserts: “[d]ynamic centering is never accomplished through sheer will and force. If we are off center, we virtually feel lopsided and eccentric; we cannot work unless the clay, in finding its center, centers us” (2017, p. 16). Potter, poet, and writer Mary Caroline Richards repeatedly inquired into the dialogical character of centring. In an oft-quoted passage she describes how centring brings the clay into an un-wobbling pivot, free to take innumerable shapes as potter and clay firmly and tenderly press against each other, “like a handclasp between two living hands”. She concludes that “[I]t is this speech between the hand and the clay that makes me think of dialogue” (Richards 1989, p. 9).

Finally, conducting practice-based research about the meaning of making, Australian writer and ceramicist Sophia Alice Phillips (2010, p.66) describes working in ceramics as a tactile conversation:

As skill develops, centering becomes a kind of reverent physical and mental ritual that introduces the hand to clay and the maker to the making process. (—) Centering is a tactile process, a conversation of sensation and response; so much so, it can be done with a minimum of visual scrutiny. With head down, eyes closed, and senses focussed on the wet sliding sensation, the potter taps into a central force.

Not surprisingly, the experience of one's own relation with clay varies in intensity and character over time depending on the length of the potter's relationship with the clay and his or her current conditions of life and type of work. The novice's relationship with the clay often takes the form of an infatuation with turbulent and volatile mood swings. With a few years of training and technical proficiency, feelings of respect and care but also confidence and recognition have gained in prominence and dominate, and in principle admit of maintaining the balanced dialogic relation to which master potters refer. Furthermore, the sociocultural context influences experience. Large-scale production work often is mechanical and monotonic, containing little by way of dialogue, while studio pottery allows for variation and creativity and sometimes invites a playful approach to the clay (cf. Soemantri 2000, p. 79).

In spite of the varying conditions for pottery making, the dialogic conception of hand building and throwing has made its way into handbooks and consequently may be considered part of the received view. To exemplify, the illustrated instructions for shaping clay in *The potter's studio handbook: A start-to-finish guide to hand-built and wheel-thrown ceramics* by the experienced potter and educator Kristin Muller, state that "Shaping requires a dialogue between the inner and outer hands" and "Fingers create a dialog with clay" (Müller 2007, p.86). The accompanying photographs show close-ups of hands grasping and working clay.

Let us conclude the discussion of the third type of experience with clay. The quotations suggest that, in addition to being emotionally imbued, the dialogue with clay that master potters experience themselves as having is characterized by reciprocity and balance. It involves openness to the other (clay) as illustrated by the potters' letting the clay show the way. Within this experience, clay and potter apparently contribute to the process of making on similar terms, in that the potter listens to and responds to the clay while taking care not to impose his or her own ideas or preconceptions. Some potters explicitly express a preference for the kind of making that drives or perpetuates itself, rather than for taking the lead. They let the on-going process take the upper hand, an attitude that reveals trust in the material and themselves as well as in the unfolding practise. Their attitude is one of curiosity and openness to surprise, much like in a dialogue between two or more autonomous individuals of equal standing (Brinck and Balkenius 2018; Honneth 1995).

To repeat, our interest does not so much lie in the veracity of the potters' experiences as in their nature. The task we set ourselves is twofold (assuming that essentially the conclusions transfer to other types of crafts). It is, first, to explain the emergence and nature of the potters' experience of a dialogic relation with the clay; second, to roughly determine the consequences of having this experience for the process of making.

We will begin by examining three, *prima facie* reasonable, accounts of the relation between maker and material to determine what each has to say about its dialogic aspects. Although sometimes considered rivals, we expect these accounts to provide complementary perspectives. In section 4, we will consider Merleau-Ponty's (1945) phenomenology of the perception of the material world, describing the potter's relation with the clay as of habit and routine. We then turn to the link between individual motor skill and sociocultural practice as described within the skilled intentionality framework (Rietveld and Kiverstein 2014). In section 5, we consider the relation between potter and clay within the framework of cognitive archaeology and Material Engagement

Theory (Malafouris 2013) that conceive of the potter's involvement with clay as mediated by material culture, e.g., artefacts and techniques. In section 6, we return to the nature of the potters' experience of having a dialogue with clay and develop the view that this experience springs from being emotionally involved with clay.

4 Habitual or motor engagement

According to Maurice Merleau-Ponty (1945, pp. 167ff) we encounter the material world through motor behaviour. Understanding is a function of motor ability, realised in the body as agent (the "I can", p. 160) that is reaching for something, and consists in the agreement of intention and effectuation, prediction and control. It derives from habit, a knowledge (*savoir*) that exists in the hands and only is for bodily use, and that cannot be translated into an objective description. Habit is tacit, which means the agent can recognize its impact or effect but is unable to specify how the impact was achieved (Polanyi 1966): it reflects that we can know more than we can tell.

Habits and routines reside in the body and develop by motor incorporation, a process that establishes a new manner of moving through and relating to the world by reorganizing the agent's personal body space. The sum of an individual's habits constitutes his or her body space. Motor incorporation requires learning to use new artefacts – in the case of throwing, most obviously the wheel. Within the pattern of a habit, behaviour and artefact become interdependent: The existence of the one depends on the existence of the other because of the entwining of behaviour function and artefact function. Thus, learning how to write on the computer entails integrating the keyboard into body space; similarly, developing the skills for throwing entails integration of the wheel. Merleau-Ponty (*ibid.*, p. 170) refers to the organist: "Playing an instrument, the player does not position his hands (or feet on the pedals of the organ) in objective space, but in the space of his or her own body." He asserts that the player sits down by the organ and settles into it like into his own house, the instrument appropriated by the player.

Another of Merleau-Ponty's (*ibid.* p. 167) examples reveals that learning a skill amounts to motor incorporation in quite a literal sense: The blind man's stick is transformed and becomes part of his sensory field, much like gaze. It is not an object for the agent, not an intermediary but augments the reach of touch: The blind man feels the objects at the end of the stick, not the stick. The cane can extend the reach of the blind man because it has become part of his body and like his other body parts is experientially transparent to him (Krueger 2019).

Throwing certainly involves bodily skill or habit in Merleau-Ponty's sense, the wheel acquiring a similar function to the potter as the cane to the blind man – a means for interaction with the world instead of being a participant in it. Feeling at home with the equipment implies that you trust it to perform as expected and that you rely on it, both feelings being vital for the proper functioning of motor behaviour. Attending to the wheel instead of the clay would be detrimental to throwing; the wheel must work seamlessly not to interrupt the process. Hence, motor incorporation explains how both wheel and clay can be made to effortlessly disappear from the potter's perceptual field by integration into his or her body space.

Based in sensorimotor contingencies that connect sensation and perception to movement and action, habit operates independently of conscious awareness.² It lies at the bottom of intentional behaviour, forging the link between meaningful appearances that function as invitations to act and motor behaviour that functions as responses. Responses that issue from habit are guaranteed to maintain the equilibrium between body and world and in that sense can be considered optimal. They will cohere with the agent's idiosyncratic map of the environment, i.e., his or her body space. Integrating (somato)sensory and motor signals, habit is designed to maintain the flow of action while working the clay without demanding the potter's personal involvement or drawing his or her attention to specificities. Accordingly, as long as the external conditions stay about the same, habit results in fail-safe, effortless, and fluent interaction with the material world that does not demand monitoring or supervision. The throwing as it were runs itself. Deviations are sensed as a tension or lack of fluency or correspondence and are corrected on the fly by moving towards improving synchronisation and re-establishing the rhythm of the activity.

It might be considered a drawback of the theory that it does not distinguish between expert and everyday skill. There seems to be something that experts know that the layperson does not by way of a qualitative and not mere quantitative difference, and that characterizes the way experts interact with the environment in tasks that call for their particular kind of expertise. On the other hand, very likely any significant difference in skilful behaviour between expert and layman or novice concerns other dimensions of the maker's engagement with the material than sensorimotor contingency or affordance-based responsiveness (as argued towards the end of the paper).

One weakness concerns the absence of a link between individual motor skill and social practice. The sensorimotor contingencies that result in motor incorporation originate in the agent-artefact dyad, yet artefact function tends to be embedded in normative shared practices and motivated by belonging to a network of related artefacts, materials, events, rituals, roles, and attitudes (Costall 2012). In practice, involvement with the material world cannot be separated from involvement with the social and cultural world; behaviour makes sense to us when its purpose arises from within pragmatically contextualized social projects (Gallagher and Marcel 1999; Brinck 2015). Responding to the solicitations of materials and things as cues to get something done irrespective of their larger social and pragmatic context does not permit accessing the web of pragmatic and social meanings that motivate their function.

Integrating Merleau-Ponty's phenomenology into the context of ecological psychology, Erik Rietveld (2008, p. 993) conceives of skill in terms of affective directed responses to affordances: relational properties of materials or things that present artefacts by what we can do with them (Gibson 1979). An agent's effectivities are complementary to the perceived affordances and constitute the set of responses she actually can produce. To the craftsperson, whose body has been attuned to the

² Sensorimotor theory (see O'Regan and Noë 2001; Degenaar and O'Regan 2015) in several respects resembles Merleau-Ponty's theory. Rejecting the notion of internal representation, it claims that perceptual consciousness is constituted by the exercise of implicit capacities for being attuned to aspects of the environment, which depend on mastery of sensorimotor dependencies linking possible actions and resulting changes in sensory stimulation. Perception is enacted: it unfolds behaviourally in dynamic engagement with the environment, e.g. the capacity to see the colour of an object is displayed by grasping the coloured object or naming its colour. The quality of conscious experience likewise consists in patterns of sensorimotor engagement.

environment by practice, the relevant tools and materials will directly present themselves as meaningful. Emphasizing the unreflective and pre-reflective dimensions of making, Rietveld carefully places the body and not the person at the centre of his account, arguing that the attuned body does not deliberate but allows itself to be invited to act by the environment. The natural tendency towards equilibrium, or stability and harmony, eliminates the need for deliberation. In the flow of action the body's skills are immediately potentiated by the meaningful objects that surround it, "responding to the piece of leather as that which is 'to be cut up'" (2008, p. 992).

Introducing norms and emotions into the ecological framework permits specifying how the environment fosters expert skill, and grounds artefact function in social practice and tradition (Rietveld and Kiverstein 2014). Shared practices embody tacit normative concerns for the adequacy of artefacts that structure the motor potentialities of the body (Rietveld 2008). This enables feelings or lived experiences of directed discontent (a reaction of appreciation in action) that prompt selective corrective responses, and permits getting things right without reflection. The appropriate responses are drawn out of the body without the agent's awareness: The craftsperson simply allows himself or herself to be moved to improve until the experience of discontent has ceased.

By embedding motor behaviour in social practice, the skilled intentionality framework can compensate for the weakness mentioned above. It shifts the emphasis from habit and sensorimotor contingencies to socio-material affordance responses, behaviour being determined by attunement to the shared environment instead of relative to the agent's body space. This brings tradition and sociocultural influence into the picture.

Importantly, relating throwing to the social context locates it along another temporal scale than the analysis in terms of habit. The latter relates to individual behaviour down to the micro level and permits approaching throwing in terms of the combination of gross and fine motor skills that ultimately enable it. This means that in the end, the skilled intentionality framework does not function to replace Merleau-Ponty's theory of motor incorporation, but the two theories represent different takes on skilful behaviour.

To conclude, unattended and pre-reflective habit ensures recognition and functionality and supports fast and fluent motor behaviour. By reducing surprise and increasing predictability, habit can provide the baseline for exploration. It sustains a harmonious field of action where the agent feels safe and can trust tools and materials to behave as expected, and thereby prepares for the kind of open-ended and active involvement with the material world that experts sometimes show, and that we argue underlies the experience of the dialogic relation. To the maker, the value of habitual engagement for making lies, it seems, in boosting the experience of trust and confidence by taking care of the routine part of skilful behaviour. Interestingly, this modulation of certain of the maker's emotions may have greater significance for making than does speeding up or facilitating the underlying processing, as illustrated by master potters' placid attitude to throwing.

Expert potters throw slowly and carefully also when they are working fast. Their entire emotional state is one of complete trust in the behaviour of the clay. Even when things go wrong, the experienced potter does not see it as a reason to panic, but just recognizes the error and corrects it. An emotional atmosphere of faith and calm surrounds the process of throwing. Whatever happens, it will not appear out of the ordinary but materializes within the dialogue the potter is having with the clay. Taking

the clay by the hand and going for a walk is not a fearsome prospect but an ordinary one, because you know the clay will be there with you. In contrast, getting anxious, or rushing it, or trying to make it match a certain standard, thus getting ahead of yourself, all signal the lack of trust or even distrust in the clay and self that is typical of the novice. Trust in the material and one's own abilities seem inextricably entwined.

5 Material engagement

Lambros Malafouris has investigated making at length from the potter's perspective within the framework of Material Engagement Theory (MET) (Malafouris, e.g. 2008, 2011, 2013, 2014, 2019). According to MET, materiality mediates cognition and significantly contributes to human cognitive skills on different time-scales, both in the historical and individual perspective. The notion of material engagement was developed by Colin Renfrew (e.g. 2001), in arguing that materials play a scaffolding role in the historical development of human cognition. Increasing material engagement results in new ways of organizing actions and groups with new concepts developing that reflect the changes, and interaction with these concepts generates feedback-loops that cause re-organisation of the actions and groups, et cetera. The invention of the potter's wheel provides an example of how artefacts can transform cognition, creating new forms of systemic units and activities.

MET traces the cognitive history of the human species by disclosing the mind's reliance on the continually evolving material environment. Fundamentally MET is a theory about the nature of mind and cognition that aims to show that mind and matter are one by investigating the mind's interdependence with things and our variable ways of dealing with them. It builds on three hypotheses about the extended mind (the mind constitutively depends on materials and processes outside of the brain/body), the enactive sign (material signs are constitutive of sense-making), and material agency (agency emerges from the interaction between agents and the material world). The overall thrust of MET and its theoretical framework is consistent with the outlook defended here (one of us has developed a similar framework within cognitive aesthetics, see Brinck 2007). Our present aim concerns determining how MET can contribute to explain the particular dialogic nature of making experienced by proficient potters (cf. sect. 2).

A cognitive archaeologist, Malafouris uses material remains to understand the development of human cognitive practises. In a series of insightful studies, he has examined how materiality modulates cognition in throwing. Malafouris (2008) rejects the notion of internal representation and claims that agency and intentionality are distributed and emergent, brought forth by the 'mediational potential' of artefacts and techniques that educate the senses and constrain behaviour. He articulates the relation between maker and material within the framework of dynamic systems theory and pictures their respective contribution to the process as near-equal, describing how the shaping of a vessel results from the collaboration between hand and clay, which are in constant contact throughout the process with the clay spinning on the wheel without interruption. The potter engages directly with the material environment without intermediaries. Entrainment, the universal tendency of physical systems to automatically coordinate to spatially or temporally structured autonomous events and rhythmic

movements (Clayton et al. 2005), assimilates potter and clay by synchronization, causing patterned behaviour to arise that functions to stabilize the interaction. Malafouris (2014, p. 350) explains that

...the potter's perception–action loops and movements are dynamically coupled and resonate with the affordances and physical qualities of the material at hand, as if maker and material, potter and clay, can participate in each other's sense making.

Thus, the creative process develops with the spontaneous coordination of potter with clay with the wheel acting as an enabling constraint (Malafouris 2014). The pot is enacted, a product of “the potter's movement and skilful active material engagement” (Malafouris 2011, p. 136). The potter's intentions-in-action dominate the progress of the process (Malafouris 2014, p. 151): Being sensitive to and following the material at hand involves providing directed responses to its affordances, and in the absence of explicit intentions to act ahead, the process both literally and figuratively will be in the hands of the human agent.

Malafouris (2014, p. 151) points to a felt material consciousness, the “heterogeneous mix of phenomenal qualities and resources (specificity, awareness, commitment, attentiveness and creative memory)” that potters take as a given. This ‘feeling of and for clay’ is realised through the negotiations and improvisations between fingers and clay, and rarely surfaces the threshold of conscious awareness. The physical resources of clay, wheel, water or instrument are not used by the body on command from the brain, but are integrated into the agent's movement and functioning (Malafouris 2008, p. 32) in a process that has its own inner logic and momentum. Sometimes material consciousness takes the form of flow, “an almost automatic, effortless, yet highly focused state of consciousness” (Csikszentmihalyi 1996, p. 110). Hence the feeling of and for clay involves experiences and phases of absorption and submission to the material as well as active exploration (Malafouris and Koukouti (2017, p. 297). Resigning from the power of control, the potter intermittently is aware of attending to what happens.

Elucidating the interaction dynamics of throwing requires determining the place of the wheel and other tools in the process. Malafouris approaches this issue as a problem about the origin of agency, repudiating the traditional ontological distinction between mind and matter that accords agency to the mind only, and describes throwing as follows (2008, p. 34):

The shaping of the pot becomes an act of collaboration between the potter and the mass of wet clay rapidly spinning upon the wheel. There is a constant tactile but also clearly visible, dynamic tension in the movement of clay. On the one hand, the centrifugal force imparted to the clay by the movement of the wheel and the hands of the potter; and on the other, the skilful guidance of this force by the potter's fingers, raising or pressing down the clay to the desired form. The skin and nerve endings of the potter's palms and fingers as it were delineates the boundary between human agent and material thing. The clay is inert in itself but acquires force via the wheel that the potter controls, and the form and shape of the vessel gradually emerges in the interactive tension between the centrifugal force and the texture of the wet clay.

The quotation pictures potter and clay as the main parties in the act, and states that the clay is inert and acquires its force from the wheel in turn controlled by the potter, seemingly framing the potter as in charge. However, Malafouris shows that the agency problem does not have a simple answer, because the pot is both hand-made and wheel-made: The operation of the hand that shapes the clay is constrained by the wheel. Granted that agency is the relational and emergent product of material engagement, the wheel alternately define the activity or function as a means for the potter's purposes.

Javanese craft and art historian and ceramic artist Hilda Soemantri discusses the role of the wheel in a study of modern Indonesian ceramics, based in interviews with three groups of 'clay artists', one group working only with pottery ('potters'). Her study corroborates the insight that the wheel plays a substantial part in throwing, but functions as an extension of the clay artist in the process. She remarks that "[T]he rotation of the wheel gathers up feelings and energy and transforms the clay in unison with the artist, creating in the end work that bears the strong influence of the wheel" (Soemantri 2000, p. 77). Artists who work with pottery-based ceramics express an understanding of their relation to the clay as submissive, and let the material guide the process while identifying with it and their working tool. They incorporate the wheel into their body space, as predicted by the theory of habitual engagement. In contrast, ceramic artists who work from sculpture, using hand-techniques while rejecting the wheel, feel free to move in any direction and use the clay as they desire (*ibid.* p. 78). They experience themselves as materially unconstrained. A last group of clay artists who apply ceramics to installation work do not have any specific feelings for clay, ceramics being a steppingstone to the goal of spatial exploration.

Returning to the first group, the Indonesian potters' relations to wheel and clay are distinct and correspond to the separate roles they assign to the wheel and clay – to the wheel the means that simultaneously organizes the activity and restricts the freedom of the potter, to the clay a partner in close collaboration. While in constant interaction during the entire process, hand, clay and wheel play distinct roles for engagement, the wheel restraining the interaction between potter and clay, the clay behaving as an autonomous force open to engagement. Furthermore, Soemantri (2000, p.78) notes a strong identification with the clay, independent of using the wheel, among makers who take a conceptual, artistic attitude toward ceramics and remarks that in them "the intimacy between artist and material is at its highest. The artist and the clay are one".

Soemantri's observations reveal a difference in how makers relate to on the one hand the material and on the other the tools used for working it, depending on their line of work. Her study suggests that the material alone can be a partner in dialogue, the potters perceiving themselves as sharing agentic properties with it. While the wheel has causal force, it functions as a go-between that constrains the potter's dialogue with clay. It becomes part of habit and functions as a mediator of the world (*cf.* section 4).

Because the theory of habitual engagement conceives of the world from the agent's perspective as a target for instrumental action, it cannot do justice to the potters' experience of the clay as a partner. To an agent operating only in the mode of motor habit it would not really make sense to treat the clay otherwise than as a means for getting something done. This matter would present a problem for explaining the potter's engagement with the wheel in terms of motor incorporation (with Merleau-Ponty) and with the clay in terms of dynamic coupling (with Malafouris), if habitual and material engagement were incompatible or rival accounts. However, we argue that

habitual and material engagement involve the maker with the material world in distinct but complementary ways. Occurring on different time-scales and levels of complexity, the one relies on routine, the other on dynamic coupling, and together they support pragmatically contextualized and socioculturally shaped behaviour.

In some respects, coupling resembles the dialogic relation experienced by skilled potters, e.g., both entail a tight interaction between the systems. Nevertheless, we think there are significant differences between dynamic coupling and the master potters' notion of dialogue. While participatory interaction may cause the perception of an agentive and animate quality of clay (Malafouris 2014) or the lived experience of making (Gosden and Malafouris 2015), coupling basically is an implicit process grounded in sensorimotor synchronization and operating independently of conscious awareness. Describing throwing, Malafouris (2014, p. 143) refers to "the constructive dialogue between maker and matter", relating it to "the capacity to affect and be affected through movement and sensation from the phenomenal qualities of the materials that surrounds us". This capacity certainly is pivotal for making. In our view, the quotes from ceramists refer to another equally important process that is inherently emotional and unfolds on the personal level of felt qualities.

As such, the term interaction does not carry with it any requirement for emotional involvement. One can interact – with a machine, or with a person – without necessarily much emotion involved. Buying a train ticket, one can get away with the minimal interaction required – stating your destination, putting out the money, waiting and then receiving the ticket, absent-mindedly saying thank you, perhaps even without looking towards the seller. Interaction must contain something more: a smile, a joke, gratitude, surprise, dislike, attraction, pleasure, interest, for us to say that we are engaged.

The potter coupling to the clay, the two temporarily forming a single system, brings about entrainment of bodily orientation, movement, direction, et cetera, that organizes and stabilises the interaction. Dynamic coupling does not result in dialogue in the master potters' sense of the word, but because it progressively increases over-all coherence and reduces uncertainty, it prepares for the spontaneous emergence of open-ended and playful episodes of personal engagement that typically are *experienced* as dialogic.

6 Emotional engagement

In the quotes from ceramists, there is a common and frequent reference to the need for dialogue with the clay. The quotes also show that there is a rich atmosphere of emotion running through their work, while emotion does not have any specific role to play in Merleau-Ponty's theory of habit or Malafouris' material engagement theory. In line with these findings, we maintain that the maker's experience of having a dialogue with his or her chosen material arises within deep emotional engagement with the material. Emotional involvement permits approaching the clay nonverbally yet attentively and caringly. In our view, emotion engages the agent with the world in a way that functions to complement habitual and material forms of engagement.

That engagement with the world is emotional means that the agent is emotionally involved with it, as compared to material engagement where the agent is involved via artefacts and habitual engagement where the agent is involved by way of motor skill.

These distinctions are theoretical, not absolute: Habitual, material, and emotional engagements tend to occur simultaneously, to overlap and influence each other. While functionally distinct, all forms of engagement act to sustain interaction with the environment and restore it when it fails. Emotional engagement concerns the agent as a whole (body and person in one) and the ‘other’ as present to the agent. It involves cognitive and motivational aspects and unfolds simultaneously on several distinct yet interconnected temporal scales, and in the interpersonal context is intersubjectively experienced.

Emotions rarely constitute discrete sequential states (Krueger 2019). Even though the term ‘emotion’ often is used in the singular to refer to categorical affects, it is more correct to refer to a plurality, simultaneously incorporating multiple emotional continua, where competing feelings can actively co-exist. Emotion is necessarily multi-dimensional, multi-scalar, and multimodal, taking on a variety of functional roles (Ratcliffe 2009; Stern 2004). In agreement with phenomenology that sees affect as connecting body, self, and world (Fuchs 2013), we conceive of emotions relationally, in the case of making as arising from the interplay between agent and material (Brinck 2018b) and infusing the experiences of self and other with valence.

We submit that, first, the potters’ emotional engagement with clay shares certain properties with interpersonal emotional engagement that are constitutive of dialogue in human communication, and, second, these properties support the potters’ experience of having a dialogue with clay. Furthermore, we submit that in the context of making, emotional engagement affords a distinctive qualitative enhancement of the interaction between potter and clay that typically occurs with experienced and master artisans (to be specified below). Emotion does not merely alert the maker to deviations from the predicted course of events in view of maintaining equilibrium as suggested by the frameworks discussed so far, but it can serve as a guide to qualitative change that circumvents the balance (Brinck 2018a). Emotional engagement is a transformative process that changes the participants’ attitudes towards the world and themselves.

To account for the dialogic core of emotional engagement, we turn to developmental psychology. In our view, early emotional engagement between infant and caregiver constitutes the primordial dialogic relation: This is where the link between emotional engagement and dialogue is forged and the constitutive conditions for dialogue (verbal or nonverbal) begin to materialize. One way of looking at dialogic engagement is structurally, as dependent on the capacities and level of skill of the individual participants and various turn-taking patterns. Another way is functionally, from the perspective of the emotional relation between interacting agents (Reddy 2008) thus avoiding *prima facie* concessions about which agents or entities are capable of dialogue. Our present concern will be with the functional properties of dialogic engagement.

The literature on early infant development is rich in references to emotionality and dialogic engagement. Infants express emotions from birth, and show emotional expressions even in utero as seen using 3D ultra sound scans in response to external stimulation (Marx and Nagy 2015; Reissland et al. 2011; Zoia et al. 2007, 2013). The dialogic characteristics of emotional engagement emerge by 2-months of age in face-to-face interaction, and consist in the spontaneous, continuous, and dynamic

exchange of vocal, facial, and bodily expressions of emotion, and soon it includes the reciprocal coordination and sequencing of behaviour in time (Markova and Legerstee 2006; Trevarthen 1979). Humans, like many animals, move with rhythmic gestures that express motive states and changes of emotion and mood (Trevarthen 2008). Perturbations of interaction as in temporal lags and still-face, when the adult freezes her behaviour in the middle of the interaction, can leave infants distressed and disengaged or making bids to regain what looks like attention lost (Tronick et al. 1978).

Vasudevi Reddy has argued that the infant needs dialogue to develop with and understand the world (Reddy 2008, *in press*; Reddy and Uithol 2015). Second-person or I-Thou engagements open up new ways of being and new possibilities for understanding and create new things to be aware of. Two key features of dialogic engagement are openness and recognition (Reddy 2008, 2018, *in press*). *Openness* entails interest in others and the ability to act with them. Infants show intense interest in the other and respond very clearly to being addressed even at birth. In videos of neonatal imitation the presence of the dialogic relation is evident in the infant's responses to the other's modelling of facial gestures to the infant (Kugiumutzakis 1998, Meltzoff and Moore 1977). *Recognition* involves confirming the other as individual and partner in the dialogue by responding to his or her address in an honest and concerned manner. The embodied experience of being addressed in the second person constitutes a recognition by the other of the infant's presence and subjectivity, and the critical spur for infants' entry into the shared world (Reddy 2003, 2008, 2011, 2018; Schilbach et al. 2013). Embodied experience arouses emotional responses differently from watching someone else be addressed, and engenders – even if briefly – a mutuality and suspension of separateness. The other becomes an individual to you, someone who knocks you off balance and enters your consciousness in a more fundamental way than when you are largely untouched by the other, or is just watching them. Emotional engagement seeks response, and if the world does not reciprocate actions and expressions in some way, engagement does not happen. The openness to and recognition within emotional engagement are vital for dialogue and enable acting together, as a plural subject or We (Brinck et al. 2017).

Focusing on the functional properties of emotional engagement and grounding the notion of dialogue in emotional engagement lead us to reject the widespread view that verbal face-face interaction constitutes the paradigm of human communication (Bavelas et al. 1997). Similar to dialogism (Linell 2009), our approach revolves around interactivity and responsivity, conceiving of dialogue as the core of language rather than a mere use or form of language. Per Linell's (2014, 2018) extended dialogism abandons the language-centred conception of dialogue and makes the mutual dependencies of self and other in sense-making the fundamental point whether the interaction is verbal or not, much like the view defended here. On Linell's approach as on ours, openness to others and to *otherness* or alterity is vital for dialogic engagement. That meaning is construed with others entails that dialogue is inter-relational, not thing-like: a historical, socio-culturally embedded, sense-making interactivity. Linell argues that people are invoking language indirectly also when not explicitly using it, drawing on artefacts the meanings of which are socially constructed. We agree that modern human forms of life are couched in language and inseparable from their linguistic scaffolding, but do not take this point to imply that the notion of dialogue is language-dependent. To us dialogue is primary.

7 Dialogue in making

Returning to the ceramists' personal statements, certain persisting aspects stand out that describe the interaction with clay in terms that normally are kept for interpersonal engagement, e.g., listening to the clay, acting together with the clay, the autonomy of the clay, the clay listening and responding to the potter, the clay having a voice and it taking the lead. We think that similarly to the case of emotional engagement between infant and adult, the potters' involvement with clay is characterized by openness and recognition. Granted, there are disanalogies between the two cases to do with intersubjectivity, most obviously the fact that potter but not clay is a sentient being. However, on the functional approach to emotional engagement the participants' cognitive and mental capacities are irrelevant for establishing the nature of the interaction: What matters is *the relation between* them.

Clay does not literally address or attend to you, but clearly is open to engagement and responds immediately and variably to movement and touch. Its behaviour is unpredictable but not accidental, and addressing it demands attention and care. Clay reacts directly to maltreatment and crucially, stands in need of openness and recognition for the experience of dialogue to occur. If the potter does not listen and adjust to the pot on the wheel or recognise its presence and autonomy, throwing will not attain the progressive and open-ended character typical of dialogue in making. Hence, you need gentleness to be sensitive to what the pot is doing or doing wrong. Trying to get a young child dressed to go out, you would not rush at her in impatience or abandon the interaction at the first sign of failure, but you would curb your frustration, your movements gentle and caring. Likewise, caring for the pot while on the wheel seems to bring out the best in it, and you need to learn how to respect the other in order to be gentle with it.

The following quotations illustrate that the experienced maker's dialogic engagement with the material creates an impression of working together as partners. First, consider American potter and teacher Joy Friedman Colorado's ([personal webpage](#)) description of throwing:

Clay is so sensitive and responsive in my hands. There's a dialog between my intention and the clay's own ability to be expressive. As the clay responds to my touch and listens to my directions, it also lets me know about its limits and its many possibilities. We are co-creators. For me making pots is a process that has structure and technique, yet there is always space for spontaneity and inspiration to occur.

Referring to the connection between co-creation and divergence, Colorado recognises that dialogue cannot thrive on convergence alone. A productive dialogue needs friction and tension that sustain its forward movement (Linell 2009), and in verbal interaction, divergent behaviour such as selective alignment is frequent (Hodges 2014). In an extended analysis of his relationship with clay during the creation of a series of clay sculptures, the artist Paul March (2017) also addresses co-creation:

Sculptural forms seem to arise directly from the interaction between my body (eyes, arms and hands) and the clay. It feels like the clay and I create something together.

And further down:

Whilst sculpting it feels to me that agency and creativity are not personal attributes but emerge out of the act of sculpting. When I monitor my sense of agency closely I get a confused, conflicting picture, but the overall sense is one in which I am in a creative partnership with clay.

These quotations reflect that dialogue is essentially mutual, bringing together differences that generate something unexpected. Emotion has a central place in this. It underlies the perception of meaning and provides the content that turns an encounter into an exchange, driven by curiosity and the negotiation of feelings and experience.

We suggest that the potters' experience of a dialogic relation with clay while throwing emerges from moving with the clay and thereby being moved emotionally (Hobson 2002, 2008; Reddy 2008). While aware of dynamic movement as a kinetic flow fused with affect (Sheets-Johnstone 2010), the potter unknowingly relies on the intimate connection between motion and emotion (Sheets-Johnstone 1999; Fuchs and Koch 2014) to make sense of the process. Feedback is continuous and bi-directional and the potter alternately is matching, complementing, counterbalancing, and compensating for changes in the clay. Body feedback from movements made in response to the clay and the clay's reactions to the touch of the hand trigger emotions in the potter that modulate behaviour in real time and shape the emerging process. To conclude, engaging with the clay in the second-person brings another type of information to bear on the interaction that permits experiencing with the material and understanding variations in and changes to it from inside the process.

We have argued that dialogic engagement begins with emotion and that this is not only a developmental truth – emotion remains central throughout life.³ The following record, drawn from the diary notes of one of us, summarizes the strong significance of emotional engagement for making. During one phase, she was working with a particular black clay, re-working clay from recently thrown collapses with disastrous results. One day her teacher saw her reaching for some rescued clay and exclaimed “Oh use fresh clay – that clay looks a bit tired!” It was a light bulb moment for her – suddenly realising that she was not the only participant in the equation. Shifting the focus away from herself made her more sensitive to the clay, more accepting of the process and less frustrated by herself. She accepted a role as a partner in the throwing – a partner with the clay – and the process became a more open and joint, as well as less fraught, activity. That concept – that clay itself can have modes and states of being, so obvious in retrospect – almost immediately gave her perceptual access to things that she ignored earlier. It permitted her instantly to listen to the condition of the clay, to perceive the texture and feel the resistance as she worked with it, which she had previously been too self-centred to manage.

³ Following the suggestion of one of the reviewers, we might refer to this particular form of emotional engagement as “the dialogical core of lived humanness”.

The record vividly illustrates how the shift to experiencing *with* clay, feeling and acting with it, brings about a fundamental qualitative change to making. This change underlies the experience of having a dialogue with the clay. Several of the issues that we have discussed in elucidation of this experience are brought together in the record: the importance of letting go, openness to otherness, second-person stance, perceiving the clay as a partner, attending to emotion, and the importance of recognition and listening to the clay. To summarise, dialogue pivots around the second person, placing the other at the centre of attention and interest instead of the self.

As in the interpersonal context, I-Thou engagement with materials opens up new ways of being and understanding and generates new ideas. In our view, dialogue is not restricted to interaction with other persons but constitutes the primary means for making sense of and reaching out into the world at large, animate and inanimate.

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