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Drawing the unfixed

Fig. 1 Simon Twose (2020). Bushfire sketch, cast wax, burnt eucalypt, latex. [photo, Simon Twose]

Introduction

This article reflects on creative practice employing multi-modal architectural drawing to sketch natural phenomena: *Expanded Drawing*. The work explores unfixed, intangible conditions within phenomena, conditions at the cusp of awareness, spatially felt as much as known by other means. Through multi-sensory drawing installations, phenomena such as oceanic immensity, seismic latency and shapeshifting bushfires are sketched. The installations immerse participants within virtual, sculptural, and sonic sketches, intensifying natural phenomena's abstract presence in a sympoiēsis of human and more-than-human dynamics. The work is beginning to coalesce a strange spatiality—the complex terrain flowing between drawing's matter, its subject matter, and human gesture and imagination is gradually emerging as a sketch-like hybrid space. *Expanded Drawing* attempts to capture the atmospheres of this hybrid space, treading a fine line between its (incomplete) fixing, and its capacity to actively, continually, unfix relations. The work in Expanded Drawing is done out of curiosity: to

expand architectural drawing, to explore its limits and problematise intricate relations within it. In pursuit of this, the project observes space that continually remains just out of reach—ungraspable architectures of phenomena—through intensifying drawing's "nuanced misalignments, approximate thoughts and imperfect moments […] (that) resist fixing normative figuration […]" (Chard, Kulper, 2013: 63). This article is a rapid traverse through a series of sketch-like, unfixed works-in-progress.

Phenomena

There is a strange sense to an approaching earthquake. First a low rushing, rumbling sound arrives that can't be mistaken for the wind or a passing vehicle, and then a sudden, physical jolt. Following this there is a brief moment of waiting, looking into the middle distance for any violent continuation. It either arrives dramatically and you are shaken into action—drop, cover, hold—or everything just gently shudders, and your focus shifts back to the immediate space around you. This seismic performance is a strange spatio-temporal phenomenon that not only physically jolts space, it also shifts our understanding of space; how we occupy it, how we understand its scale, materiality, stability, boundedness. In the short pause before the arrival of seismic surface-waves, we imaginatively inhabit space at grand scale; the room suddenly becomes coloured by the vastness and powerful latency of planetary matter. A similar estrangement is present when imagining almost any dynamic natural phenomena.

When in a small boat on the ocean near the Kaikōura coast, off the eastern shores of New Zealand's South Island, you sense the power of the submarine landscape below the water surface. Despite not being visible beneath the swell, the depth and scale of the abyssal submarine canyon somehow makes it presence felt, as does its potential for sublime seismic rupture. The space of the canyon is unbounded, with its bathymetry plunging kilometres deep, down undersea cliffs close to the shoreline, then flowing out, progressively deeper, to the Hikurangi trench, which marks the edge of the hidden Zealandia continent (Mortimer, 2017: 28). In this dark space the water pressure is intense, there are complex bio-ecologies, turbid flows of mud and rock, gas eruptions, and an ever-present threat of sudden earthquakes. The Kaikōura earthquake of 2016 caused the landscape—mountains, seabed and reef—to jolt upwards by as much as six metres in an instant. When walking on the reef, a visitor is conscious of this strange and immense potential, despite the apparent calmness of the seabed landscape. The miniature scale of rock fissures and textures cross with imagined dynamics at vast scale, of tectonic plates in intense collision.

Phenomena such as this—seismic dynamics, meteorological dynamics; weather, bush fires—make space an odd sum of material performances and human affective and imaginative registers. Natural phenomena like these cannot be "seen", or inhabited in the usual sense, but an architectural section sketched through them can allude to, yet not fix, what these spaces are like: architectural sketches can record irresolute, fleeting and unfixed qualities of space "made together" by phenomena and drawer.

Drawing

Our recent work explores the atmosphere of these hybrid spaces. We are attempting to sketch phenomena through a form of imaginative projection and make the resultant sketch-space "bodily appreciable", through it being able to be inhabited virtually and physically. These sketches are designed as immersive art installations combining VR, AR, material space and spatialised sound. The work is an interdisciplinary collaboration between Simon Twose, Jules Moloney, Lawrence Harvey and Anastasia Globa, bringing together expertise in architectural drawing, digital virtual environments, spatial sound composition and algorithmic design.

The Expanded Drawing explorations are based on key facets of traditional drawing. The first is drawing's inherent openness, or its capacity for irresolute capture, what Jean Luc Nancy describes as "an essential incompleteness, a non-closure or non-totalizing of form" (2013: 1). This ever-emergent quality contributes to drawing as an open tool for thinking, a way of researching unfixed conditions through "knowing-thinking-feeling" (Gansterer et al, 2017: 9). The second is a distinguishing characteristic of *architectural* drawing: its capacity to be a portal to worlds beyond the drawing, allowing it to be projective, "something *thrown forward* [...] towards some artefact other than itself" (Jenner, 2013: 210). And the third, is the capacity of the sketch to inform architectural sense-making, a way of exploring, yet not fixing, projected space through rapidly performed gestures in concert with the "obdurate" feedback of the sketch media (Elkins, 1998: 1).

Openness

Openness, and drawing as a thinking tool, are closely intertwined in art practice explorations. Artist Nikolaus Gansterer's work is an example of ongoing research into drawing, particularly the diagram, as an open tool for thinking. His work explores performative and material nuances in drawing that enable it to "access a different kind of knowledge than that gained from perception", through drawings that "elucidate without wanting to elucidate" (Cocker, 2011). Gansterer's drawings involve live performances, video capture, sculptural installations, even the use of live snails in mark making. These are free experiments in drawing with drawing as the subject matter. They are observational devices where "drawing is performed as an infinite loop of observing itself observing" (Cocker, 2011). The influence we take from this work is the sophistication of drawing as an activity involving intricate alliances between thought and matter, gesture and time, in pursuit of things that remain at the level of suggestion. In discussing work by Gansterer, and Emma Cocker and Maria Greil, his collaborators, Alex Arteaga describes a rich, open practice informed by "barely perceptible micro-movements at the cusp of awareness [...]" where the figure "always remains at the edge of its own explicitness" (Artega, 2017: 259). Our work engages with the freedom of art practice to pursue ungraspable characteristics. Such drawing affords thought, as in Gansterer's artistic research, where drawing is "thinking in action", involving "translational processes of constructing meaning by means of all senses" (Gansterer, 2019: 1). In Expanded Drawing, open artistic sense-making merges with an architectural spatial acuity, directed to space beyond the drawing; the intense art practice focus, of "drawing observing itself observing", is extended to "drawing observing itself observing phenomena".

Portal

Architectural drawing has traditionally been a portal to space beyond it, projecting the author to imagined arrays of material, form and events, dynamic spaces that exist or are yet to happen. As Ross Jenner articulates, "what distinguishes representations in design and architecture from those in other arts is that they are *projective*, they have an intention or purpose" (2013: 210). Drawing an architectural sketch of a space of some kind, such as a building, landscape, or the abstract space of phenomena, is subtly different to an artist's sketch by say, Nikolaus Gansterer, despite sharing many similarities in how it is made, its gestural trajectory, its blurred graphite over paper. Whereas the marks in Gansterer's sketch record thoughts in their making, marks in an architectural drawing also allude to dimensions and qualities of space at large scale beyond the drawing. They are marks recording an imaginative projection, each a deliberate portal to thought beyond the page. Architectural drawings in this sense are poiētic, they are fields of marks made to bring something into being, marks belonging "to bringing-forth, to poiēsis" (Heidegger 1977: 5).

The poiētic power of drawing, as a portal, leads to questions of what qualities are translated from drawing to projected space, and what qualities observed in the space transfer back to drawing. In architectural drawing there is an assumed measurable correlation between lines in the drawing and space at large scale beyond it. Lines define the dimensions of a wall, or rooms, but what of a series of lines drawn one over the other in the same place? What of the smudges between them, what space do this graphite residue allude to? Marks have an aesthetic force, which exceeds instrumental description, which creates an active dialogue between mark and space. In an architectural drawing the dragging and dark burnishings of graphite on paper transfer to atmospheres in imagined space, and as such drawings have the potential to be open, poiētic portals, projecting not just instrumental understandings, but those at the edge of representational capture. These evocative qualities push back on the drawing, causing intimate deflections in the drawer's control of the line, and also in trajectories of thought and discovery that unfold as a drawing is drawn. In a sense the space brings the mark into being as much as the mark brings forth the space, causing the portal to be two-way, to be sympoiētic.

Architectural sense-making

The architectural sketch is where this sympoiētic projective power is intensified and where art practice notions of drawing and those of architecture most closely coalesce. The architectural sketch, or design sketch, is a way of exploring, yet not fixing, space and projecting an irresolute architectural sense to domains beyond it. The sketch accepts possibilities, blurred approximations, *pentimenti* and mistakes. Intentionally ambiguous, the "fundamental complexity" of the sketched mark creates "obstacles for interpretation [...] marking itself is obdurate or incoherent" (Elkins, 1998: 1). Irresolute feedback from drawing media is a creative collusion between drawer and other-than-human domains, where the spatial acuity of the architect is augmented by material possibilities in the medium, be they physical or digital, and the subject matter. Architectural sketches are where this combination of thought and drawing material is most pronounced, where "thought is understood as a practice, as acting with materials, in materials, or

through materials […] or with media, in media or through media" (Mersch 2015: 170). Thought emerges through these mechanisms *within* the sketch, and projectively *beyond* it, through the imagined materiality of the space being drawn. An architectural sketch is thus a complex mix of gestural and material performances that supports unfixed architectural sense-making. The sketch, unlike instrumental descriptions of space in instrumental, descriptive architectural drawing, allows for aspects at the periphery of vision, characteristics "at the cusp of awareness" to be intuited. The irresolute architectural sketch, then, is a way to project architectural sense-making to other worlds, it alludes to ways to intuit what Henri Bergson calls "absolute knowledge" through "entering into the thing that is other" (1992, 1946: 187).

The installations in Expanded Drawing leverage the traditional openness, projective capacities and thought-provoking sketchiness of drawing. They expand and intensify the architectural sketch as an irresolute thinking tool to imaginatively project to worlds that are similarly irresolute, to sketch a speculative hybrid space charged with the aesthetic agencies of drawer, design media and subject matter.

Open practice

To date we have developed this research in two projects. The first was *Canyon* which explored presences within the Kaikōura submarine canyon (Twose et al., 2018). *Canyon* attempted to imaginatively inhabit the vast bathymetry and liquid mass of the canyon, along with its ominous seismic latency, through immersive spatial sketches. *Reef* followed this project, and explored the spatiality of the canyon landscape thrust from the sea by the Kaikōura earthquake in 2016 (Twose et al., 2020). *Reef* was an attempt to capture the strangeness of this multi-scalar, anthropo-natural phenomena. *Bushfire* is the third project in the Expanded

Fig. 2 Simon Twose (2020). Reef sketch casting, latex, rock, graphite. [photo, Simon Twose]

Drawing series and looks into aleatory architectures of fire, through sketches of the "Black Summer" bush fires in South Gippsland, Australia. This work is in progress and is an adjunct to the previous work on seismic latency, attempting to capture architectures of fire phenomena. Sketches observe fire's movement, sublime scale and unpredictability, and its melancholy aftermath. The three projects in the Expanded Drawing series, *Canyon*, *Reef* and *Bushfire* are developing ways in which the sketch can explore intangible, unfixed atmospheres within natural phenomena. The sketch installations use three different sketch media: sculpted matter, virtual space, and sound.

Matter-sketch

The physical components to the Expanded Drawing installations involve arrays of sculptural sketch objects. These extend the sketch from two dimensions to three, engaging gestural action in response to physical materials. The gestures in traditional drawing, "in the sense of a beginning, departure, origin, despatch, impetus, or sketching out" (Nancy, 2013: 1) are transferred to acts of making in three dimensions. The sculpted objects that result are considered observational sketches, similar to rapid design sketches that might be made to aid the imagination of spatial subject matter. These have had several manifestations over recent installation projects, from charcoal sketches that have been three-dimensionalised, to the hand-forming of large-scale paper terrains, to iterative moulding and casting. The matter-sketching in the *Reef* installation, for example, progressed from direct latex casts of rock surfaces, to hand manipulation of moulds cast in various materials, to casts using graphite sketches on paper, buckled into crevices in rocks and used as formwork for castings; the semi-liquid wet concrete finding form by flowing over terrains of rock and crumpled paper sketches.

The series of sculptural sketches in *Reef* observed the Kaikōura reef's scalar ambiguity and strange presence through more than 450 individually made objects, in concrete, wax, latex, graphite, black oxide and paper. This was a necessarily irresolute capture, which involved many individual rapidly authored decisions, in response to the material of the objects, the materiality of the literal reef landscape, and intangible, affective spatial qualities observed in the reef. The resultant sketch objects were created in several iterative series, involving specific tests of reef forms at different scales, from the scale of rock textures to large topographies, and with different degrees of hand manipulation and abstraction. The three-dimensional sketches engaged with varying degrees of material agency, of mould, concrete and molten wax, to create forms which were effectively co-authored, between drawer, sketch media and subject matter. The results of this process were suspended in the *Reef* installation as a cloud, flowing through the gallery.

The matter-sketches are architectural observational devices, engaging drawing's capacities for "thinking in action". They involve a series of gestures, afforded or resisted by matter, which record a *pentimenti* of architectural sense-making, of the phenomena being sketched. The results of this process are multiple but accrete to a terrain of understandings that hover just out of reach. As Gansterer notes, work like this involves:
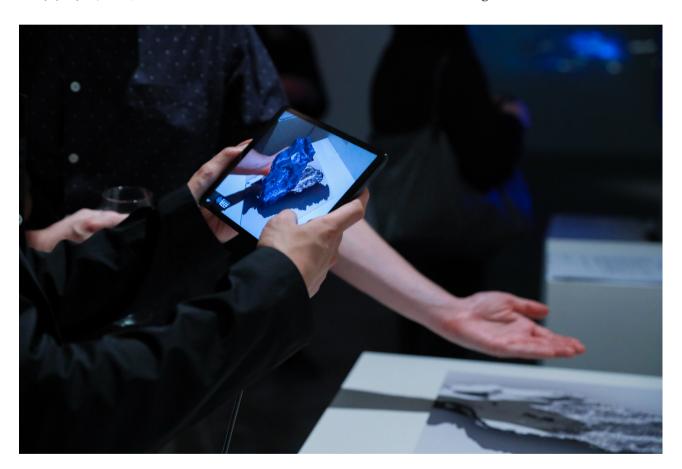
> small yet transformative energies, emergences, and experiential shifts
> which operate before, between and beneath the more readable gestures of

artistic practice, that are often hard to discern but which ultimately shape or steer the evolving action (Gansterer et al., 2017: 70)

These evasive characteristics, which lie just beneath the readable gestures of practice, involve complex shuttling between human intentionality and the agency of matter. Sketches like these engage matter's performative capacities, "enabling matter to become expressive […] to intensify—to resonate and become more than itself" (Grosz, 2008: 11). We are developing this technique, which aims to extend gestural aspects of the sketch in response to the agency of matter, as a way of capturing unfixed, intangible presences between drawer, sketch medium and imagined space. These matter-sketches are intended to be "read" through being experienced, in installations, as materially rich sculptural objects, which opens them further to aspects that evade representation. This collapses together architectural drawing's notational, projective purpose with affective registers of space and material, as a way of alluding to a "drawing-space" charged with discursive and non-discursive characteristics in ambiguous relation to one another.

Fig. 3 Authors (2020). AR portals in Reef installation. [photo, Tin Sheds Gallery Sydney, Maja Baska]

Sketching within digital virtual environments

The capacity of the architectural sketch to evoke a speculative hybrid space would appear to be closely linked to the analogue fluidity and subtlety of drawing and making by hand. How might digital virtual environments, including spatial sound, be deployed to create irresolute worlds, which provide alternate insight into natural phenomena such as seismic forces and extreme bush fire events? As discussed earlier, architectural sketches are projective portals to

spatial conditions. For analogue sketches these are composed of marks, typically graphite on paper, and open to interpretation through imaginative projection beyond the scale and context of the mark. For our research the agency and speculative capacity of graphite sketching has informed material experimentation in the form of bituminous wraps, rubber casts and concrete moulds. However, the transfer of sketch techniques from analogue to digital media is typically fraught. Yes, it is increasingly possible to sketch within design software through stylus and tablet, or gesture to produce lines three dimensionally in virtual reality. Our view is that this adoption of sketching by hand is an impoverished version of the subtle interplay between hand/tool and material/texture that occurs with analogue drawing. Rather than attempt to replicate analogue techniques, we are exploring the complex "matter" of virtual environments and how these can be deployed in a way that amplifies or extends tacit spatial conditions present in hand drawn sketches. The virtual "matter" for this exploration that have the most potential are light, visual texture, motion, and sound. The strategy for creative deployment that we consider the most appropriate is found within theories and practice of the ambient.

Ambient tactics

The ambient in relation to creative practice research has been most significant in the fields of music, sound studies and the sonic arts. Acknowledged as a pioneer in establishing ambient music as a genre, Brian Eno is one of the first to posit its definition and compositional techniques. The liner notes for Ambient 1: Music for Airports (Eno, 1978) suggested the intent was locate the listener in a contemplative space akin to an idealised airport. Field recordings were manipulated electronically to produce sparse minimalist textures, timbral and harmonic shifts—enveloped with echo and reverb to suggest the spatial ambience of airport architecture. By the fourth work in the series On Land (1982), Eno had developed a non-place specific approach to "evoke a sense of geographical space that hovers between the literally representational and the figurative" (Hodkinson, 2017: 321). We discern parallels in the ambient experiments of Eno with architectural sketching, albeit the medium is sound, in the capacity to conjure distinct but unfixed spatial conditions. The concept and practice of the ambient, potentially provides a strategy to develop virtual worlds of light, texture, movement and sound that evoke sketch-like spatial conditions. In the visual domain, ambient displays are intended to display abstracted, non-critical information on the periphery of the user's attention (Mankoff et al, 2003). Such ambient displays are deliberately non-obtrusive and rely on the human capacity to complement focused perception with "peripheral scanning" on the edge of consciousness. The ambient, both visually and sonically, suggests tactics for triggering peripheric perception: tactics that have potential for sketching in a digital virtual environment in which visual, kinaesthetic and sound fields coalesce to suggest unfixed spatial qualities that hover sketch-like at the boundary of representation and imagination.

We have explored this potential through experimentation with the affordance of virtual environment authoring software. The "ambient tactics" we have developed include: obscuring foreground and background divisions in favour of a middle ground of overlapping perspectival depth; multiple, diffuse light sources that oscillate between illumination, reflection, and chiaroscuro modelling; fluid,

Fig. 4 Authors (2018). VR environment, *Canyon* installation. [video still, Palazzo Bembo, Venice, authors]

slow camera movement set to a wide field of view; multiple spatial sound emitters, activated through human proximity, which deliver a mix of singular sounds and/or combine to produce chorus like passages; a colour palette with minimal, typically pale, hues; and the use of fleeting counterpoints of colour sound, light and movement intensity.

Procedural worlds

Alongside the ambient tactics developed through experiment, one overarching affordance of virtual environment authoring software is the capacity to generate content procedurally. Rather than conceive discrete instances, the parameters for geometry, light, and texture can be set, from which multiple iterations can be explored. Such "parametric design" is well established within architecture, and other more generative approaches that use genetic algorithms, cellular automata and other multi-agent techniques have been adopted. A generic term for the various approaches is to describe these as procedural; digital content is generated through a range of procedures that can be controlled, to varying degrees, by the virtual sketcher.
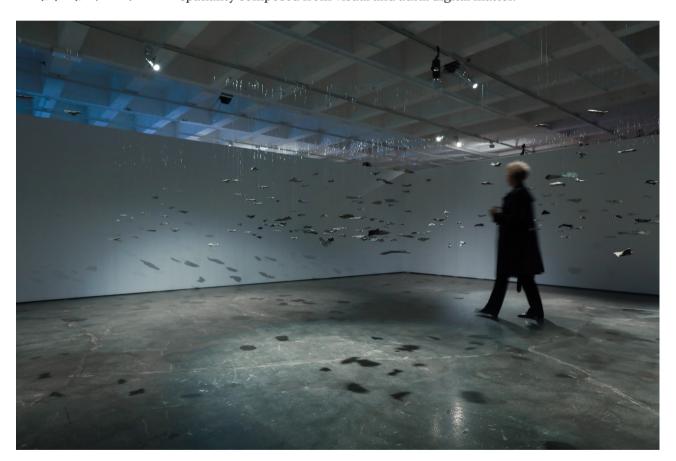
As illustrated in Figure 4, we have leveraged the affordance of virtual environment authoring software to experiment with procedural ways to sketch ambient experiences, which continue the trajectory of the graphite and material drawings. The process began with analogue sketches being scanned and imported into the software as image textures. These are applied to the surface of geometry and/or used as filters for lighting systems and set in motion using the animation capacity of the software. The various parameters for geometry, textures, lighting, and animation were procedurally manipulated using the ambient tactics identified above. These studies were undertaken in real-time where, in effect, a mode of drawing through procedural manipulation was developed. Atmospheric qualities

in analogue sketches are intensified through procedural manipulation that causes marks to spawn, shift in scale and form, and become bodily inhabitable within immersive virtual reality (VR) displays.

In a parallel approach, sound recorded on site (Canyon, Reef, Bushfire) was imported into sound editing software and digitally manipulated to hover close to musical-like moments. These discrete sound samples are imported into the virtual environment and procedurally placed and associated with geometric surfaces. As the sketching author traverses the environment the sounds become choral or chorus-like presences, or sometimes an environmental percussion ensemble of small-pitched instruments. These come about by short sequences running through the virtual space, by adding metallic resonances to individual or groups of sounds, call-response type moments and sudden cloud bursts of sound. This strange "vocalising" of the world acts in play with the continually shifting middle ground of manipulated textures and surfaces, diffuse light sources and dream-like camera movement. Without clear points of focus or explicit cognitive references, peripheric perception is triggered to generate an ambient, unfixed spatiality composed from visual and aural digital matter.

Fig. 5 Authors (2020). *Reef* installation [photo, Tin Sheds Gallery, Sydney, Maja Baska].

Gallery

The experiments with analogue sketching and casting, virtual environments, and spatialised sound come together in the form of installations within gallery spaces. The Reef installation is the most recent example testing this multi-modal sketch-space. In Reef, matter-sketches were arrayed as pixels in a spatial sketch

that spread through the gallery. Viewers moved through this sketch, re-tracing various lines of iterative sketching of the Kaikōura reef phenomenon. Sequences of castings recorded gradual shifts in form, material and surface detail in the hand-made sketches, composed in the space as lines or clustered in bays as "smudges", where the sketching process had become blurred through repeated tests. The false starts, blind alleys and sequential developments in the sketch objects were recreated within the array, leading the viewer along lines of development, or trapping them in ideational eddies.

The reading of these matter-sketches was inflected by overlapping, three-dimensional soundscapes. These shifted in scale and degree of abstraction as the viewer moved through the space. Delicate sounds generated from field recordings of the reef, such as the popping of dry seaweed, morphed to abstract sonic interpretations of the reef landscape. This auditory field overlayed the cloud of physical objects in the installation, to subtly shift their reading. The immersive sonic sketch environment also played in the VR environment, which connected the two different spatial experiences: the real space of the installation and virtual space. The virtual and real sketch environments were augmented by AR portals to algorithmic interpretations of the matter-sketches and sonic sketches, available through tablets or personal devices.

The installations extend the spatial acuity inherent in architectural drawing to material performances in drawing's subject matter, through physical and digital media combined with sensory, immersive experience. The intention behind the installations is to prompt a spatiality that hovers between representation, phenomenal subject matter, and embodied space, by coalescing physical, aural, and virtual influences. This makes for a machine of many parts, but we see its complexity as a unique way to explore a shared, hybrid space between human and phenomena, capturing characteristics that evade representation, yet are curiously linked to affective and sensory dimensions of knowledge.

The purpose of these drawing experiments is not to clarify, inform, or teach. In these works, drawing is pursued as something hovering at the edge of clarity—remaining open. This is closer to art practice and its comfort in problematising, rather than architecture's preoccupation with problem solving (Rendell, 2006: 6), its conceit of fixing problems: accurately fixing imagined space, documenting, legally describing, pinning down—then communicating, disseminating, teaching, conveying—fixing interpretation. We are concerned with how architectural drawing can be an agent to unfix, to open architecture to space that jolts known preoccupations, to shift the representational stability of drawing and explore the architecture that might result. With the phenomena series of Expanded Drawing, we are engaging a hybrid aesthetic agency, which is a mix between nonhuman and human: powerful seismic activity, fire dynamics, vast oceanic mass, merged with imagination. The question we have is, what is the architecture of this hypothetical territory, that lies just out of reach of representation? How can it be inhabited, experienced yet not fully elucidated, as a powerful, hybrid, unfixed architecture?

Unfixed sketching

The work to date has established a "research through creative practice" methodology that enables experimentation across a range of media. These engage

multiple senses simultaneously, with the foregrounding of peripheric perception, the intuition of characteristics at the cusp of awareness. These sketch experiments will continue to be developed, expanded, and refined through speculative practice and disseminated through gallery installation.

The experiments provide moments that can inform discourse on drawing in the expanded field. The intensification of a sketch's capacity to be blurred, to incompletely fix or capture a figure, is one such moment. Our work hinges on correlating blurred conditions within the sketch with the imagination of ungraspable, peripheral characteristics. This is somewhat of a truism in drawing, in both art and architecture practice, highlighted by art historian James Elkins in his distinction between semiotic marks, those that can be read, and non-semiotic marks, the "recalcitrant, 'meaningless' smears and blotches" that evade interpretation (1995: 860). Our work attempts to intensify the blurred capacity of non-semiotic marks in the sketch, through multiple media. The result of this is to extend the non-semiotic characteristics of the sketch, its incomplete fixity, to become physical objects and atmospheres. The sketch installations in Expanded Drawing are intended as "habitable drawings", to use artist Fred Sandback's term (Bois, 2005: 25), to present the blurred sketch as architectural space, so people can experience unfixed, hybrid, sketch-like atmospheres.
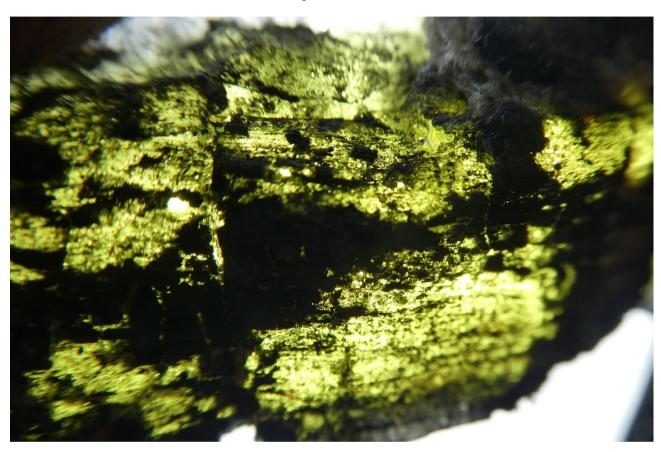
Another moment is in the conflation of drawing space and subject matter. In the installations, the architectural sketch becomes a performative space where surveyor and phenomena co-exist. This is a deliberate short circuiting of architectural drawing's traditional projective separation, collapsing the mark and the space the mark represents together. The result of this is that the "habitable drawing" becomes a way to also inhabit the subject matter of the drawing, which in the case of our installations is a particular condition of phenomena, itself a conflation of human and non-human dynamics. The traditional vector of projection, from drawing to building, something *thrown forward,* "to space awaiting existence" (Jenner, 2013: 210) is reversed. In the sketch installations, phenomena projects back to make the space of the drawing; phenomena are thrown to human space, commuting from real to a drawn abstraction of real, figuring the habitable drawing with unfixed atmospheres that become viscerally experienced.

Another moment of inflection of drawing's traditions is in the making of marks, or the agency of matter. By focusing on the sketch, we are deliberately choosing a representational mode where "matter matters". The sketch gives us a way of merging artistic research practices, where the agency of matter—material and digital—ties to thought, with architectural practices where the sketch is an irresolute tool for thinking about space beyond it. It gives us a way of focussing on the making and materiality of the sketched mark as poiētic. Gestural action and the affordances and resistances of matter combine in the sketch in a poiētic "bringing forth". Poiēsis is linked to technē—the art of making—bringing something into being that did not exist before. It is also the etymological origin of poetry. Poiēsis has a strong history in the making of creative works, particularly drawings, through connections between technē, making, and poetics. Donna Haraway makes a further distinction to poiēsis, which is relevant to our work and the agency of the phenomenal subject matter. She uses the term *sympoiēsis* to trigger ideas of "making together", as a way to rethink our entangled relations with other-than-human domains (2016: 4). In our work, we are interested in how matter pushes back, how sketches can be sympoiētic, "made together" by human

thought and action in concert with other-than human forces.

The architectural sketch, in this scenario, becomes a site of poetic unfixed relations, where human drawer, drawing matter, and phenomena "make space together". The Expanded Drawing work explores the limits of this hybrid space, and its unfixed atmospheres.

Fig. 6 Simon Twose (2020). Bushfire sketch, cast resin, burnt eucalypt, latex. [photo, Simon Twose]

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