# Re-thinking How Representation Can Be Employed to Engage with Landscape Experience – and How Point Clouds Can Contribute to This

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**Abstract:** This paper has attempted to produce a stronger conception of how representation can be employed to engage with experience, and the uniqueness of experience and, in particular, how this conception allows us to understand that point clouds are particularly suited to this task, and then propose how this might work. This paper begins with a review of a number of very influential landscape design writings, mostly from the late 1990's, that were particularly dissatisfied with how the process of landscape design had been theorised. I find that a central challenge for them, central to what was particular about landscape architectural design, was how to engage with the experience, and the uniqueness of the experience, of the pre-existing landscape, as part of a design investigation? Despite their great contributions they struggled to describe specifically how this might occur. This is followed by a discussion of a selection of contemporary landscape architecture writings that focus on how digital representation is employed to, explicitly or implicitly, engage with this task, with particular attention to point clouds. I demonstrate that these writings, and the wider landscape design discourse, strongly tend to assume that the powerful visualising abilities of digital tools provide the means to engage with experience, and I show that this belief relies on an almost unremarked upon assumption that experience can be read-off such visualisations. I argue that this read-off-ability will, however, only be very limited. I then refer to extensive landscape fieldwork carried out by the author and various collaborators, and describe how we found that the Deleuze and Guattari (1988) notion of assemblage, the Deleuzian (1992) notions of affect, expression, and sense; and the neuroscience notions of the 'as if' body loop (DAMASIO 1999) and 'mirror neurons' (RIZZOLATTI & LAILA 2004), to be particularly powerful at understanding how landscape experience/uniqueness, functions – and the aesthetic and representational practices required to engage with them. I propose in general how such practices might function. I end by presenting an investigation employing point clouds to engage experience in a very large landscape, and this allows me to draw out how point clouds are powerful not because of their visualising abilities, and assumed read-off-ability of experience – but because they could act as a precise 'neutral scaffold' and, alongside relevant site, aesthetic and representational practices, could be transformed from a visualising material to an expressive material, one that starts to allow a designer to engage with landscape experience and its uniqueness, and I outline how this can happen.

**Keywords:** Assemblages, affects, expression, sense, 'as if' body loop, landscape design process, aesthetics, representation, pre-existing landscape, experience, uniqueness, point-clouds, digital landscape design, neutral scaffold.

## 1 Introduction

This paper has attempted to produce a stronger conception of how representation can be employed to engage with experience, and the uniqueness of experience and, in particular, how this conception allows us to understand that point clouds are particularly suited to this task – and then propose how this might work.

It begins by revisiting some highly influential writings about the design of landscape, mostly from the late 1990's (Including MAROT 1999, CLARAMUNT & MOSBACH 1999, 2002,

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MEYER, 1994, BAUER et al. 1996, GIROT 1999a, 1999b, CORNER 1999). They were particularly dissatisfied with how the process of landscape design had been theorised and believed that a stronger conception was needed to move beyond the limitations of what were then considered 'traditional' design approaches. For them, weak theorising not only promoted weak practices but also obscured strong ones, and limited disciplinary development. The relevant part of their collective thinking for this essay can be encapsulated briefly.[1]

For instance, in 'Towards a General Theory of Landscape' (GIROT 1999a), Christophe Girot states – as part of showing the 'benefits' of landscape architecture – and in relation to architecture – that: *'the landscape as such precedes the landscape architect, while, in comparison, a piece of architecture under no circumstances precedes the architect'.* In so doing, Girot affirmed the centrality of the event of engaging with the pre-existing landscape in the designing of a landscape. Other writers made related propositions. These writers stressed the centrality of a designer engaging with the pre-existing landscape for drawing out the potential of the designed landscape. For them, the uniqueness of a designed landscape was a key motivation. They felt and believed, from experience, that uniqueness is or can be experienced in the experience of a design landscape – and this requires working with a potential uniqueness that can only be sensed and engaged with on-site in the pre-existing landscape. So, a central task for them was how to engage with the experience, and the uniqueness of the experience, of the pre-existing landscape?

Despite making powerful and influential contributions these writers struggled to do justice to their beliefs. As a sign of this, Girot, after making the proposition quoted above ends that essay by concluding that a 'general theory of landscape' remains to be written. In retrospect, their theorising tended to rely on binaristic assumptions such as: (reductive) objectivity versus (weak) subjectivity, and the landscape (itself) versus subjective understanding of the landscape. To move beyond their limitations requires re-thinking notions of experience and the aesthetics of experience.

I also argue (CONNOLLY 2004a, 2004b, 2013) that this very attentive moment in landscape design discourse was swiftly pushed aside by the enthusiasm for the new 'technoscience' conception of design,[2] most obviously associated with the term 'landscape urbanism', which came to dominate contemporary design, and which strongly tended to steer away from anything considered 'subjective'.

From here I demonstrate that digital landscape discourse, including writings focused on point clouds, employ problematic assumptions, and as a result are very unspecific about how to engage with experience/uniqueness. I then draw on extensive fieldwork, which led me to find that the Deleuzian notions of affect and assemblage are the best way to understand how landscape experience /uniqueness functions. This leads me to propose a way to think about how representation can be employed to engage with experience/uniqueness of a landscape. A case study is then employed to show how points clouds, in specifically, are particularly suited to exploring experience/uniqueness, and I then describe concretely how this might work.

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[1] The arguments from these writings were explored in some detail in CONOLLY (2013).

[2] Simone Brott (BROTT 2014) refers to the 'technoscience' conception in terms of architecture, and shows how it evolved from a problematic conception of Deleuze and Guattari's ideas. I have discussed what I called the 'default conception of landscape urbanism' in the same vein, in relation to landscape architecture in CONNOLLY (2004a, 2004b, 2013).

## 2 Conceptions of the Relationship between Representation and Experience in Contemporary Digital Landscape Design

I will now discuss a selection of contemporary landscape architecture literature that focus on how digital representation is employed to engage with experience in the pre-existing landscape, with particular attention to point clouds. This review is in the context of me already having elsewhere given significant attention to the relationship between representation, aesthetics and experience in contemporary urban and landscape architectural space and design (for instance, CONNOLLY 2004a, 2004b, 2007, 2013, 2020a, 2020b).[3] This contextual work allows me to consider if digital approaches are different from approaches more broadly.

The selection includes: three of Amoroso's edited texts on representation (AMOROSO 2015, 2016 and 2019), which focused on digital and non-digital representation, as these provide a very convenient sense of the range of dominant preoccupations of both realms of representations; Girot's cloudism essay (GIROT 2018), because of the particular attention to point clouds; and, Harman and Serrano (HARMAN & SERRANO 2022), as their essay is one of the very few recent DLA essays to have given explicit attention to aesthetics.

Amoroso's texts are telling in that the great variety of essays and examples focus on visualising, visualising various aspects of the landscape: and there is very little explicit discussion of aesthetics or experience. Girot's excellent text, 'Cloudism', presents point clouds 'as a basis for analysis and design'. Their capabilities include: their extraordinary 'physical precision'; documentation of complexity and simulation across 'various scales'; moving between scales, and between sites and their contexts; and, the production of simulations that facilitate spatial immersion, including virtual reality walk-throughs. His discussion of the aesthetics of design is basically limited to what visualising can, by itself, facilitate, and does not really dwell on or affirm anything else.[4] Harman and Serrano's essay also includes useful observations about the great ability of point clouds to visually register what they are scanning. Their aesthetics, inspired by the philosopher Charles Sanders Peirce, argues for the ability of point clouds to precisely register/record the physical nature of a landscape. Deleuze (DELEUZE 1983) clarified that Peirce (PEIRCE 1960) was, instead, interested in the ability of representation to connect to how the world directly affects us, as the way to concretely understand the world, and not just record it physically.

This contemporary digital discourse gives significantly more attention to representation than the work of the 1990's, but the attention is distinctly focused on visualising landscapes or various dimensions of landscapes in various ways, and experience and aesthetics are given much less attention. I would argue, despite this, that it is not that experience (and aesthetics) is not important in contemporary discourse. It is rather that engaging with experience is

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[3] The author has elsewhere also given significant unpublished attention to more positivist and normative approaches to understanding urban space and landscape experience. From the perspective of our fieldwork findings these tend towards generality and the production of universally-portable design guidelines – and to not engage with: the power of connection with an environment, the role of complexity and wider factors, the ability to discern whatever might be part of the assemblage and, the expressiveness, significance, and singularity / uniqueness of the landscape.

[4] He mentions that 'on-site immersion' during scanning is paramount for garnering unique field observations that becomes an integral part of the feeling for a place', without suggesting how.

treated unproblematically. This discourse, and the wider discourse,[5] strongly tends to assume that the various visualising modes allow designers the ability to effectively read-off experience from the visualisations (CONNOLLY 2013). As a consequence, they also assume, because experience has been deproblematised, that the other preoccupations are what is important to focus on. I also noted that this read-off-ability assumption pre-dates technoscience discourse, and was intensified because of it. So, it seems that it is not a lack of theorising that is the issue. It is the implicit – and very traditional – aesthetic and representational theorising that is problematic. To approach this differently requires, first, revisiting how landscape experience is understood and how to engage with it, aesthetically.

## 3 Re-Thinking Experience and the Aesthetics of Experience

After very extensive long-term attention to fieldwork of the experience of designed and undesigned landscapes in many contexts, with many collaborators, I came to discover that the notions of assemblage and affect (DELEUZE & GUATTARI 1988) to be the most effective at making sense of what we were finding about how landscape experience functions, and how to engage with it.[6] To introduce these notions in itself requires a little detail, because it entails a significant re-thinking of accepted ideas, and also because problematic conceptions about them have been circulating in the discipline.[7] This clarification will also hopefully facilitate an embrace of a sense of aesthetics which is very everyday, and not arcane. I will first introduce the notion of assemblage.

An assemblage is a process that involves a complex open system interaction of organisms (human or other) with various dimensions of their environment, and that this interaction produces involuntarily experienced empowerments that are shared between the organisms and the relevant aspects of the environment. Assemblages and their empowerments happen before consciousness, and consciousness may, if warranted or compelled, engage with, and experiment with, these powers. If we are unable to then we will tend to be restricted to or subject to a limited range of habitual actions. Assemblages are products of a whole ecology of space, and the affects produced are inseparably co-produced with associated territories and worlds. Affect is an organism's connection with this whole ecology, and if we are able to perceive affect, we are also able to see our part in and inseparability from our world. We tend to look past affect and hence this connection.

Organisms are not only involuntarily empowered by their complex connections to world, they also simultaneously, and before consciousness, feel this empowerment. This feeling, DELEUZE (1990) calls expression. The word 'affect' covers both the empowering action pro-

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[5] This author has elsewhere focused on examining the limited number of cases where contemporary attention has been given to documenting experience of landscape / urban space in CONNOLLY (2020b).

[6] This has been discussed and presented in a variety of locations including, with examples, in CONNOLLY (2013)

[7] For instance, de Block and Vicenzotti's (DE BLOCK & VICENZOTTI 2018) critique of the notion of affect relied on the authors arguing that affect did not allow evaluation, which this essay disagrees with.

duced and its expression. Sometimes Deleuze uses the word 'force' to distinguish the empowering action (with its own feeling), from the expressive feeling. Expression is a registration of a direct connection with the world, and of the force produced.

Centrally important for this essay, the expressive feeling is inseparably also a feeling of the significance, uniqueness, and potential, of what they encounter. Deleuze calls this preconscious evaluation, 'sense' (DELEUZE 1990). Deleuze contrasts sense with what he calls 'signification'. Signification, which we usually defer to habitually, relies on conventionality, generality, and cliché, and strongly tends to defer away from affect and connection. In contrast, sense connects the specific force to what it might be relevant to – situations and problems that the organism is involved with. When an organism receives new and salient sensory inputs it, before consciousness and involuntarily, draws upon all past relevant events that have been experienced, to evaluate and specify the particular event at hand (DELEUZE 1983), and select the force produced. The expressive and evaluative feeling flows into and orients the forceful action, which is also expressively evaluated, all before consciousness. Consciousness may then if warranted interact with this preconscious evaluative-force-production.

Habits develop through the repetition of experiences, and they allow organisms to efficiently navigate their environments. Habits also tend to be reductive – but importantly, they become the matrix for sensing and evaluating whatever is encountered. Organisms are super-tuned to finely distinguish the nature, power, relevance, and uniqueness, of what they encounter, and of their emerging and potential responses. This process lets them know what they are doing, and provides the means to experiment.

Contemporary neuroscience has come to parallel conclusions, and offers other insights. More broadly, like DELEUZE, it has demonstrated, that the brain does not lead the body. For Antonio Damasio (DAMASIO 1999) it is, instead, the body that leads the brain. The body involuntarily maps the infinite array of sensory inputs it is receiving and preconsciously responds to them through affectual responses and actions – and the organism can then lean into these or not, more or less consciously. As with DELEUZE, consciousness is powerful to the degree that it is able to open up an experimentation with what is already happening before consciousness. DAMASIO says there are two types of body mapping-response processes. The first process, described above, he calls the 'body loop', and this happens in real time, allowing organisms to respond to sensory inputs as they happen. However, organisms also have an extension of this capability called the 'as if' body loop, which allows the organism the capacity to respond and feel its response outside of real time; 'as if' a real time situation was happening, but it is not. This allows it to preconsciously feel, say, what is not happening now, but up ahead. This gives the organism more time to respond to situations. A monkey can feel-evaluate the best option to get to a piece of fruit in a tree before climbing.

The capabilities of the 'as if' body loop have also been found to extend beyond an organism's evaluation of their own body's responses. Experiments with primates and other species, including humans, have long shown that the firing of very specific neurons are associated with specific actions. More recently, it has also been shown that the same neurons fire in an individual animal when they observe another individual doing these actions. What this means is that animals can feel the responses, can feel the affects of other animals. Feel what they feel. The notions of 'mirror neurons' and 'shared circuits' have arisen to understand such findings. (RIZZOLATTI, G. & LAILA 2004) This is not about knowing what another thinks consciously, which is much less important than we tend to assume, but about connecting with how they

are responding before consciousness, connecting to their affects and affectual actions. The notion of 'shared circuits' highlights that a key evolutionary function of connecting with the affects of others is social. The different modalities of the 'as if' body loop are according to DAMASIO (1999), forms of pre-conscious simulation, which organisms constantly employ consciously or not. What has not been noticed, by landscape architects, just as the notion of expression has not been noticed, is how relevant these capabilities are to designers. The 'as if' body loop and expression are two ways of looking at the same form of evaluation.

Representations can also engage this simulation capability. A drawing of relevant body-space relations, and a verbal or written account of how the body interacts with these relations, and the affects produced, if 'good enough', will also get us to start to feel the affectual action associated with what happens in that interaction. We can know when such an account is starting to be 'good enough', as we involuntarily experience an expressive feedback-sensation. Some architects and landscape architects have recognised this feedback-sensation, and its value for design, without knowledge of expression and neuroscience, and have used various terms such as 'resonance', 'friction', 'connection', and 'traction', to identify this feedback that lets a designer 'know what they are doing'. Let's them experiment.

Whilst such 'as if' capabilities are inbuilt and developed through continual engagement with the world and situations, they tend to, for designers, be obscured by common sense, habit, the challenging openness of landscape, the visualising fascination-fetishism of drawings, and other preoccupations, etc.

## 4 Re-Thinking the Relationship between Representation and Experience

What do these aesthetically related ideas mean for the use of representation in landscape design? As discussed, contemporary uses of representation tend not to be particularly oriented towards engaging with experience, or rather there tends to be the assumption that experience can be simply read-off the drawings. This is not wrong, but such abilities will be very limited and only allow very general connection to socio-experience. More precisely, they will strongly tend to disconnect from the involuntary power/affect and the sense/uniqueness of the experience, and how these are produced (the assemblage).

As sketched out above, the particular experiential powers of a landscape design tend to be distinctly determined by the potential of the landscape that precedes the designer. One scenario might allow us to understand how representations might be employed to engage with such pre-existing landscape affects. We might start to provide an account of an involuntary affectual action that is experienced or observed in the landscape, noting the relevant context, and dispositions of those involved. It has to be stressed that this is a very significant challenge for designers in a culture that tends to prioritise consciousness.[8] If we manage to start to do this, however, then the 'as if' body loop should allow us also to discern (feel) how certain of the key relevant body-space relations are involved in this production of the relevant affect.

[8] My students, for instance, usually take 5-8 weeks of fieldwork-oriented investigation to start to feel confident with their abilities to connect to landscape affects. It is an understatement to say practices need to be developed.

This allows us to then abstract and draw certain of these body-space relations. Through iterative development this combination of relations and affect becomes stronger – until we start to be able to grasp and visualise how variations of certain body-spatial relations will result in variations of affect. The drawings produced will very likely then provide the basis for the production of drawings that will allow experimentation with the relevant landscape affects – where a change of drawn relations (a design act) results in being able to evaluate the change of affects produced – in relation to whatever situation is relevant.

So, visualising landscape (or even visualising landscape body-space relations), including 3D representations, is not enough in itself.[9] Visualisations have to be custom-constructed in terms of the relevant affect discovered, and the body-space relations relevant to the affect – and then employed in relation to an account of the relevant affect. If good enough, the account and the visualisation will then start to work together, as one single expressive material – one that will bring the visualisation to life. Changes to the drawings will then express changes of affect, changes of experience. This is an important starting point. What then do point clouds, in particular, have to offer the experience of landscape?

## 5 Case Study: More than just Visualisations: Point Clouds as Expressive Material

As has been discussed by various authors, drone-based lidar-generated point clouds come with an ability to visualise a landscape with a spatially-referential precision that far exceeds more conventional forms of documentation. However, if we take the above conception of how we might use representation seriously, it is not the precision of point clouds by itself that is what is relevant or most important for designers of experience.

This example comes from an investigation focused on how to design a very large landscape and remain engaged with experience, on the ground. As suggested above, landscape affects

**Fig. 1:** An aerial image of a section of Te Awa Kairangi (the Hutt River). The location of red section line is discussed in the text below. Produced by author.

[9] There are only a limited range of affects that visualisation by itself can visualise, such as the vivacity of red in a large object, or close images of certain ergonomic relationships, such as images of someone sitting in a seat expressing the affordance of the seat. These visualisations by themselves tend to be cut off from the affectual interplay of the various distributed factors in a landscape assemblage, which go way beyond what can be imaged in a single image, and the immediate body-space realm.

only happen through actual body-space interactions, 'on the ground'. As soon as we start to employ large scale drawings for large landscapes they effectively suck us away from most of these relevant body-space interactions (CONNOLLY 2004a).

This example focuses on Te Awa Kairangi (the Hutt River) near Wellington, in New Zealand. The total site is 3km long. The particular space shown in the aerial image is approximately 1km long. The presence of a fenced golf course and an associated fence across the road, combined with the road, and the river, act as barriers, and mean that you can only enter this long narrow space from either end of this section. There are also only a few places along the whole 3km section of river where you can see or readily access the river through the almost continuous mass of flood management trees. If you enter this space from the left (west), you may have started your walk at a local town centre close to the river, which is about 1km out of view. The walk prior to entering this space/section was, however, not next to a busy road, quieter, and more varied, and with some access points to the river. People who do enter this space have already walked a distance. Many turn back as they enter this stretch of landscape.

**Fig. 2:** View from near the red section line. Produced by Hagan Plaisted, with permission.

At this entry point, there is a strong sense that it is a long way up ahead before anything changes. A 10-20m wide mass planting of willows on your left visually and physically separates you from the river, and this is combined with the relatively busy road, on your right, where the sounds of cars are very apparent and on a similar level to you. This means that those on a disposition that might choose to keep going will probably find themselves drawn forward, eyes ahead, on a sort of autopilot movement, taking relatively large strides, and relatively inattentive to most of what is around you.

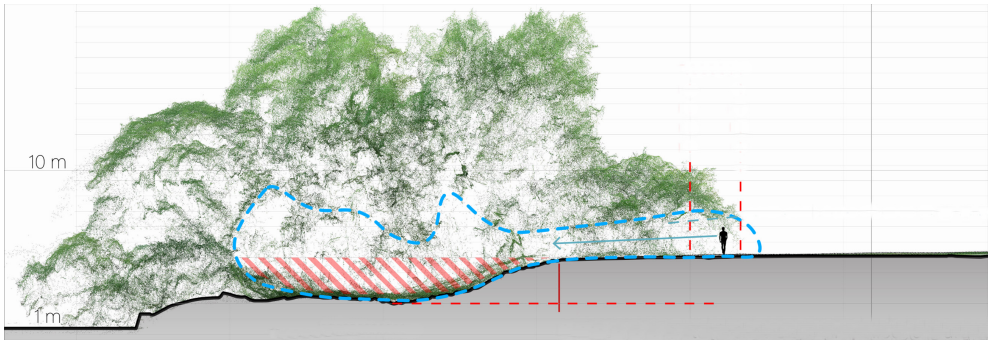


**Fig. 3:** Point cloud section & notations. Produced by Hagan Plaisted, with permission.

When walkers get to where the red section line is cut in the aerial image, the path swings closer to the vegetation. The drone generated point cloud section that was taken here was of average quality with respects to undercanopy and ground vegetation detail. However, it was adequate enough to allow Hagan, one of my students, to then graphically register the shape of the space produced by the bodily-interaction. This space is felt, and the point cloud data allows it to be located. The point cloud data does not, by itself, tell us what is significant. Our bodies do, and the point data facilitates visualising it, in relation to its relevance.

At this point, the human body draws closer to the river, and the tree mass widens, so that there is a wider and 'deeper' volume beneath the canopy, where the ground within and beneath the tree mass starts to drop below the path, with the somewhat mysterious sense of something like a basin below you. Before and after this part of the path, the sunshine on the outside of the tree mass tends to obscure, and get you to defer away from, the darker interior. As we get to this location there is a tipping point reached where we shift to focus more on the space within the tree canopy and less on the vast bright space outside of it. We find ourselves suddenly drawn, and attentive, to the spatiality of the under-canopy area, the surprisingly large yet intimate volume, the varying interaction of the tree trunks, with the light and shadow across the tree trunks and the ground covering mass, and the sense of an engaging whole mysterious world, separate from the very different world outside.

You still can't see the river, and this probably gets you to attend more closely to this intimate space. You slow down, your body relaxes and opens up to it and what is to be found within it, and you forget for a little, about the mindless onward movement of the open space. This is one of the humble experiential events of this river.

The raw point cloud extensive (spatial) data-imagery provided a neutral 'scaffold' for Hagan to start to produce more intensive (felt) representations – that extensively locates intensive/felt shifts in the section, in relation to the body. The blue dashed line being the experienced-felt shape of the beneath-canopy space also registers where the felt space ends before the river. The red hachures identify the even more mysterious dark basin space within this interior world. This account identifies a shift from mindless relatively fast linear onwards movement (one affectual action) to a slower more attentive more open exploratory haptic sensing (a second affectual action partly potentialized by the first one).

This section, however, only, really makes sense in relation to other sections, and other drawings not shown here, as the event that is produced here is produced in relation to what happens whilst moving before and after this point, and along this whole river stretch, and as part of the unfolding relation to the greater world. The relevant landscape assemblage, only starting to be sketched out here, consists of many dimensions of this landscape connecting together, from the geographical down to what you can touch with your hands to potentialize the particular forces produced. The walk along this river is considered one of the more 'boring', locally. It is largely structured to disconnect you from the sensuous exploration (and promise) of the river. We can sense the potential of this event in this context.

This paper has attempted to produce a stronger conception of how representation can be employed to engage with experience, and the uniqueness of experience, and in particular to suggest that point clouds are particularly suited to this task. The whole unfolding world of bodily interaction with what is intimate, near and far, is enfolded into the event – and is expressed in and through the event, through the body – before subjectivity. Visualisation does not, by itself, show affectual actions and the process of the world expressing itself through the experience and landscape, and the uniqueness of this expression, that we are part of. More specifically, the precision of neutral point cloud data has unique potential ability to be custom-transformed to become intensive (felt/affectual) material that is also, importantly, precisely and extensively (spatially) referential. This requires an expressive aesthetics, and an expressive, and not just visualising, conception of representation, and point clouds. The visualising power of point clouds has to be transformed into expressive power. Visualisation is still important, but it is not just of physical form.

The future: we will continue our development of site, aesthetic, representational, digital, and design practices to engage with socio-experience, always in relation to technical and other dimensions of design investigations.

The point cloud cross-section was generated using a DJI M300 with L1 lidar sensor, DJI Terra, Pix4D Survey, Autodesk Recap, Revit, and Illustrator / Photoshop.

## References

AMOROSO, N. (Ed.). (2012), Representing Landscapes: A Visual Collection of Landscape Architectural Drawings (1st Ed.). Routledge, London.

AMOROSO, N. (Ed.). (2015), Representing Landscapes: Digital (1st Ed.). Routledge, London.

AMOROSO, N. (2019), Representing Landscapes: Analogue (1st Ed.). Routledge, London.

BAUER, K. et al. (1996), From a Discussion with Andrea Kahn, In: KERB, Journal of Landscape Architecture, 4.

CLARAMUNT, M. & MOSBACH, C. (1999), Nature of a Landscape Project, In: Pages Paysages: Landscape Review, 7, 55-62.

CLARAMUNT, M. & MOSBACH, C. (2002), Editorial, In: Pages Paysages: Landscape Review, 9 (Embodied: Figures in the Landscape) 7.

CONNOLLY, P. (2004a), Embracing Openness: Making Landscape Urbanism Landscape Architectural, Part 1. In: BLOOD, J. & RAXWORTHY, J. (Eds.), The Mesh Book. Landscape/Infrastructure, RMIT Publishing, Melbourne.

CONNOLLY, P. (2004b), Embracing Openness: Making Landscape Urbanism Landscape Architectural, Part 2. In: BLOOD, J. & RAXWORTHY, J. (Eds.), The Mesh Book. Landscape/Infrastructure, RMIT Publishing, Melbourne.

CONNOLLY, P. (2007), The Heterogeneous: an Example. In: KERB, Journal of Landscape Architecture, 15 (Landscape Urbanism Issue).

CONNOLLY, P. (2013), An Affirmative Open Systems Landscape Design Assemblage. Doctor of Philosophy. RMIT University.

CONNOLLY, P. (2020a), The Aesthetics of Documenting Urban and Landscape Assemblages. In: PEDERSEN, Z. et al. (Eds.), Ecologies Design: Transforming Architecture, Landscape. Rout-ledge, London, 109-110.

CONNOLLY, P. (2020b), Techniques for Documenting Assemblages. The 54th International Conference of the Architectural Science Association (ANZAScA) 2020, Auckland. Paper accepted.

DAMASIO, A. (1999), The Feeling of What Happens: Body And Emotion In The Making Of Consciousness. Harcourt College Publishers, New York.

DE BLOCK, G. & VICENZOTTI, V. (2018), The Effects of Affect. A Plea for Distance Between The Human And Non-Human, In: Journal of Landscape Architecture, 13 (2), 46-55.

DELEUZE, G. & GUATTARI, F. (1988), A Thousand Plateaus: Capitalism and Schizophrenia. Athlone Press. London.

DELEUZE, G. (1992), Expressionism in Philosophy: Spinoza. Zone Books, New York.

GIROT, C. (1999a), Four Trace Concepts in Landscape Architecture. In: Recovering Landscape: Essays in Contemporary Landscape Theory, edited by CORNER, J. (New York, New York: Princeton, 59-67.

GIROT, C. (1999b), Towards A General Theory Of Landscape, In: Topos: European Landscape Magazine, 28 (September), 33-39.

GIROT, C. (2019), Cloudism. In: Routledge Research Companion to Landscape Architecture, edited by BRAAE, E. & STEINER, H. Routledge.

HARMAN & SERRANO (2022), Point Cloud Aesthetics. Journal of Digital Landscape Architecture, 7-2022, 327-334.

MAROT, S. (1999), The Reclaiming of Sites. In: CORNER, J. (Ed.), Recovering Landscape: Essays in Contemporary Landscape Theory. New York, New York: Princeton, 48.

MEYER, E. K. (1994), Landscape Architecture as Modern Other and Postmodern Ground. In: EDQUIST, H. & BIRD, V. (Eds.), The Culture of Landscape Architecture. Edge Publishing, Melbourne, 13-34.

PEIRCE, C. S. (1960), Collected Papers of Charles Sanders Peirce: Pragmatism and Pragmaticism and Scientific Metaphysics. Belknap Press, Cambridge.

RIZZOLATTI, G. & LAILA C. (2004), The Mirror-Neuron System. Annual Review Of Neuroscience, 27, 169-192.