

A LANDFORM-BASED
APPROACH TO
NOOGENESIS

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ABSTRACT

Insights into the creation of radical new assemblages of humans, technologies, ecosystems, and landforms, together forming symbiotic polities is more than an ideal; in the Anthropocene, this is a precondition of survival. This practicum seeks to apply landscape architecture to the phenomenon problem of Noogenesis, "the growth, outside and above the biosphere of an added planetary layer, an envelope of thinking substance"^[1] which is the Noosphere.

The goal of this practicum is to investigate the particular natures of built forms and modes of dwelling required in a landscape which serves as active amplifier and instrument for noogenesis. As described by the theologian Pierre Teilhard de Chardin and expanded on by the work of architect Paolo Soleri, this process bears similarities to the ecologically-focused object-oriented ontology of Timothy Morton: the role that this connection can play in informing the design of such a system, at the scale of and in relation to, discrete landforms, will be critically explored.

The role of human consciousness in such a system – described by Teilhard de Chardin as an "ever-tightening compression requiring ever more Reflection"^[2] which Soleri identifies as arising through the transfiguration of awareness and matter through an art of "engrossment" of the "bio-mental"^[3] – is that which Morton has identified as ecological, arising from the awareness of nonhuman agents as coequals in existing. It bears marked similarity to the understanding and honouring of nonhumans in Indigenous cultures. Enunciating a series of techniques and methods for creating a responsive land art that rises to these descriptions speaks to the potential of landscape to become a living partner in the expansion of a non-anthropocentric polity of mutually dependent agents.

In focusing on pre-contact forms of land modification as documented by Doolittle,^[4] and in exploring the role that recent advances in AI offer for designers, this practicum aims to provide an actionable framework for what has, thus far, remained an essentially theoretical question.

1 Pierre Teilhard de Chardin, *The Future of Man* (London: Collins, 1969), 163.

2 Ibid., 289.

3 Paolo Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit* (Garden City, NY: Anchor Books, 1973), 116.

4 See William E. Doolittle, *Cultivated Landscapes of North America* (New York: Oxford University Press, 2015).



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Ted McLachlan has been instrumental in the creation of the written document: with unfailing good humour, he has encouraged a clarity of thought and language which has been essential in the externalization of what began life as an intense but unorganized striving. It is thanks to him that I am able to present a roadmap of my process.

Alyssa Schwann has been of great inspiration in the completion of this work, and in the conception of the final form it takes. It is thanks to her example, over many conversations done before she agreed to be a part of this process, that I am content in the externalization and presentation of my ideas.

Those Beautiful People I have known whose inspiration has made it possible, and whose lives are living testament that the Principality of Light will be victorious in the end. Peace, Love,Unity, Respect.

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PROLOGUE: A FLY ON THE SKIN

"For them this is the beginning of the virtuous life and of wise thinking as far as the course of the cycling gods destines it, and it is also the beginning of their release to what will remain of them after they have left great monuments on earth in works of industry.

{In the fame of seasons they will become dim, and, from every birth of ensouled flesh, from the sowing of crops and from every work of industry,} what is diminished will be renewed by necessity and by the renewal that comes from the gods and by the course of nature's measured cycle."^[5]

The immediate genesis of this project occurred in the summer of 2014, when I spent a month hitchhiking in British Columbia, interspersed with attendance at two electronic dance music (EDM) festivals, Shambhala and Motion Notion, maintaining a sketchbook throughout. Certain of these sketches, made with great sense of urgency, have only come to make sense in terms of elements which can be constructed in the course of writing this practicum: they precede it, are its inspiration, and yet are fully-grown the outcome of it.

The noosphere, self-reflective, works to increase its understanding of itself, and ability to grow. In being a part of its flesh (the manner in which I convince myself particularly, but which according to the theories presented we are all more or less unwitting parts), we are a part of "an effective interaction and a wilful co-operation" which "overflows boundaries of space and time: it is evolutionary."^[6] Scattered images come down to us of a better future, and we find ourselves in possession of 'a heap of broken images;' they glitter, and we are filled with the desire to make sense of them.

This practicum is perhaps best understood as guidebook for the acquisition of spiritual knowledge, and a description of techniques which may be deployed to this end. It is my own attempt to make sense of the glittering images which have come down to me, and to use my technical skill to envision a system for making less arduous the necessary work.

The process described is in the fullness of time inevitable, and I have with my own eyes seen humans whose flesh is worn as adornment to the fire of their naked souls; all else is detail. We glimpse its nature if we imagine meditating, and a fly landing on our skin: we are the landform, the fly the human, and the totality of the experience union as an organism.

Insofar as it is of use in understanding the work, in its first conception it was centered on a Catholic worldview (heavily focused on the meditative aspect, as described in *The Cloud of Unknowing*), which over the course of it gave way to worship of Shiva in the form of Nataraja.

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⁵ Brian P. Copenhaver, *Hermetica: The Greek Corpus Hermeticum and the Latin Asclepius in a New English Translation, with Notes and Introduction* (Cambridge: Cambridge University Press, 1992), 14.

⁶ Solei, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 96.

INTRODUCTION

The present historical moment is one of disruption and change. The rolling horrors of climate collapse and the sixth great extinction, bringing to an end the long period of stability in which our species and its many cultures evolved, leaves but one thing certain: the future will not look like the present or recent past. If there is a future for humans it will be because the pressures we now face result in a paradigm shift in how we relate to the ecological systems around us, and the land upon which we dwell. Landscape architecture, as the art intimately concerned with the relationship and balance of humans to nature, is at the forefront of the conceptualization of this shift. As it is in our gardens that we have for so long wrought images of lost Eden: it is in these same that we can seek the form of the heavenly Jerusalem.

If we consider the present grim prospects which confront us, we may indeed think a future in which we dwell in harmony with the world around us utopian; certainly, this is the tone in Western thought, which through centuries of decadence has grown blind to the lived realities of other cultures. But it is a fact that many human cultures – including those that existed on Turtle Island prior to Colonization – existed in a state of balance with their physical environment. What from a Western position may appear an utopian future, is from an Indigenous perspective a matter of lived history. The goal of this practicum is to explore a landscape architectural process that is free from the ontologically Western focus on progress, and to approach an Indigenous, stable-state mode of existing.

Similarities in animistic spirituality and the ecological stain of object-oriented ontology popularized by Timothy Morton can perhaps be understood as hinting at a perennial strain of human thought to which the current arc of development of Western civilization bends back, with the present crisis being a readjustment – a return to equilibrium. Soleri, writing at the time of the 1973 energy crisis, observes that “emergency is a condition *sine qua non* for emergence.”^[7] faced with an emergency of unparalleled and existential immediacy, now is the time not only to question what will emerge from our present emergency, but to dream a future to which we can aspire.

An aspect of the decadence of Western culture is that, in the social upheavals of the last few decades, the social role of organized religion has been greatly reduced, without the arising of healthy secular alternatives (there is, of course, a secular alternative which has now fills this void- but unfettered and unacknowledged worship of Mammon is hardly healthy). Whatever opinion one holds of the Roman Catholic Church as an institution, it is ancient: it’s theology – which includes as desired end-goal a state of union with divine perfection – is robust and detailed. Where this theology touches on the question of cultural evolution in relation to the attainment of a state of utopian harmony and balance (such as emerges as concern, for instance, in Pope Francis’ 2015 encyclical *Laudato Si’*), we may find a theological grounding for a particularly Western form of ecological balance, an ontological framework for a harmonious – we might say sinless - and loving mode of spiritual dwelling-in-the-world.

Such a theology is presented in the writings of the Jesuit priest Pierre Teilhard de Chardin (1881-1955), and his theology has been expanded into a system of architectonic aesthetics by the architect Paolo Soleri (1919-2013). Both are concerned with the cultural and spiritual evolution of humans not as blind stumbling, but as a progressive pattern of complexification arising from the long biological evolution of our species. For them this is a process of acceleration, now occurring at the level of social organization, which can be understood and directed towards its emerging goal. The implication is radical: Both Soleri and Teilhard speak, ultimately, of a species-centered and globe-spanning apotheosis whose end is by degree so far in advance of our present state as to constitute a god. As Soleri rightly observes, “the aims, once understood, would frighten the timid and the faint of heart.”^[8]

In *The Future of Man*, Teilhard argues that “the principle and the medium are to be found in the idea, duly ‘realised,’ that there is in progress, within us and around us, a continual heightening of consciousness in the universe.”^[9] Being a paleontologist by training, Teilhard had outlined his theory of such heightening (a process he names hominization) in *The Phenomenon of Man*, where he makes the argument that biological complexity and spiritual capacity in organisms are interlinked, and evolve along the same axis. He proposes that human evolution now occurs at such speed that it occurs on a cultural, rather than biological level, and now entails the growth of a “thinking envelope” around the planet – the *noosphere*, the process of whose birth/growth he names *noogenesis*.



Teilhard provides an aspirational and spiritual description of the noosphere – its relationship to the present state of human evolution, and its relationship to the final state of the Omega Point, which is theologically linked to the Second Coming of Christ. Soleri’s writings deal with the physical-cultural aspects entailed in this evolution, observing that “to sustain the next step in the development of sentient and reflective life (the noosphere of Teilhard de Chardin), man[sic] shall have to put order to his own layer; he must structuralize his environment.”^[10]

As an architect, Soleri was concerned with the architectonics of this layer. His solution took the form of projective designs: massive city-sculptures called arcologies much discussed in their time, but unrealized save for his own commune-dwelling at Arcosanti (and that being but a small experiment).

This practicum seeks to apply the system he developed to accomplish this spiritual evolution to the landscape: in applying the techniques described by Soleri to the noogenic processes described by Teilhard, which as conceived by these thinkers bears the mark of progress-to-and-end, but which can also be understood as medicine-for-healing.

The focus of this document is to envision the relationship of noogenesis to a specific landform: a drumlin located in Ontario’s Peterborough Drumlin Field. Discrete glacial landforms are widespread across the northern hemisphere, and in the conceptualization of a framework applicable to one, a general process may be described which can be applied to a broad variety of situations. Soleri observes that “the radical man[sic] seeks the geology on which to root the structure of his universe. He must, not just metaphorically, become ecologically conscious and earthly relevant.”^[11] The relatively human scale of a discrete landform speaks to the application of the traditional tools of landscape architecture to accomplish such an ecological consciousness, allowing for a palette of techniques which can draw heavily on Traditional, human-powered forms of land-modification.

The end-result of this relationship between humans and land is a spiritual awakening in users of the proposed site, which contributes to the growth of the noosphere. There is a tendency to dis sever modern technologies from spiritual concerns, but this is perhaps due to a collective lack of imagination. Modern technologies are powerful, nimble tools, and judiciously applied they may result in a powerful, nimble awakening of spiritual knowledge, provided that:

“This awakening must enhance in us, from all sides, a generalised sense of the organic, through which the entire complex of inter-human and inter-cosmic relations will become charged with an immediacy, an intimacy and a realism such as has long been dreamed of and apprehended by certain spirits particularly endowed with the ‘sense of the universal,’ but which as never yet been *collectively applied*.”^[12]

A landform-based approach to noogenesis entails a collective application – a scaling-up – of spiritual techniques long extant. Many technologies currently deployed in the service of materialism take advantage of basic human drives to engagement, even as traditional call-and-response religious ceremonies. The cutting edge of capital-materialistic artistic research, in the form of emerging medium of interactive AI-generated datasculptures suggest a bridge over the chasm of secularism Blind belief in the divine can here be replaced by collective desire to artistic engagement as the engine of spiritual meaning and progress: noogenesis by other means. There is a tantalizing potential for the congruence of a spiritual, ecological, and technological trends in the Omega Point, it being perhaps linked to a *technological* singularity and cultural complex which would, indeed, be a god by another name.

One can dream.

⁷ Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 84.

⁸ Ibid.

⁹ Teilhard de Chardin, *The Future of Man*, 81.

¹⁰ Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 43.

¹¹ Ibid., 181.

¹² Teilhard de Chardin, *The Future of Man*, 184.

METHODOLOGY

The methodology employed in this work occurs along the critical-subjectivist axis as outlined by Deming and Swaffield in *Landscape Architecture Research: Inquiry, Strategy, Design*: the author is situated as agent within a holistic program of knowing and exploration, the knowledge arising from these explorations leading to a final work of projective design.^[13]

Important to the process of design employed was the acknowledgment of the author's personal history and intentions: as a Métis designer seeking a balance between Traditional and Western systems of knowledge, spirituality, and design, the program of design research undertaken functions as catalyst of communal balance and personal reflection, offering an opportunity to engage with nonhumans in a respectful, heuristic dialogue. Communion with the land, arising from a focused reading of the landscape, was an important aspect of research, and the form of the final work integrates the results of personal "micronarratives,"^[14] particular moments of being-in-the-world.

Initial work entailed a review of primary sources: Teilhard's *The Future of Man* and *Hymn of the Universe*, and Soleri's *The Bridge Between Matter and Spirit is Matter Becoming Spirit*. The primary source for the historical roots of spiritual technologies employed at psytrance festivals was taken from St. John's *Global Tribe: Technology, Spirituality and Psytrance*, and expanded upon with personal notes taken from several festivals. The linkage between the theories of Teilhard and Soleri, and the anthropological observations of St. John, was explored in the LARC 7400: *Landscape Topics* course through a reading of portions of the Rigveda concerned with the Soma Ritual, the final output of which is a paper - *The Soma and Psytrance Rituals: Comparison as Design Brief* - included in the appendix.

Site visits were carried out at three locations within the Peterborough Drumlin Field: The Lady Eaton Drumlin Nature Area (within the city of Peterborough), Mark S. Burnham Provincial Park (immediately outside of Peterborough), and Ferris Provincial Park (adjacent to the city of Campbellford). Extensive field notes and photographs were taken at each site, and on-site haptic explorations consisting of contact juggling (a form of object manipulation which employs a small acrylic sphere) were supplemented by meditation and reflection.

As an ongoing self-interrogation of the designer is, in this work, considered a valid and essential practice for the generation of design knowledge, and as intention of the design is to create a respectful dialogue between users of the site and the landform itself, a venue for a 'living laboratory' was sought in which to work through sketch designs via physical engagement with the land: the author's cabin, a site near Riding Mountain National Park, became a venue for this dialogue, allowing for the deployment of existing ecological and social knowledge in applying the design intentions derived from the literature review.

This process resulted in a series of installations, created in the contemplative frame of mind with which the final design is intended to invoke in users: the resulting installations - of which the local nonhumans are fully viewed as co-authors - allowed for a symbiotic integration of process and result: the resulting 'holograph site' bears a direct spiritual relationship to the projective design presented for a distant locale. Projective design work was carried out as an evolving formulation, 'colonizing' the practicum site as it emerged in physical form at the holograph site. It is proposed that Indigenous design can be applied to distant sites only if a respectful communion in the vein of the project is entered into within the designer's local web of life, and progress along this inner axis is a necessary metric of success.

The application of the lessons learned in Manitoba to a site in Ontario was explored primarily through digital collage: as a critical visual study, this entailed creating collages which represented the acts of communion/design carried out in Manitoba, evaluating them, and applying this technique to photographs of the Ontario site. These collages become the basis for the projective design, supplemented by sculptural explorations. Touchdesigner, a visual programming language, was employed in the creation of motion graphics as an extension of these critical visual studies, and to develop an understanding of the technologies which would form a critical component of the physical/spiritual infrastructure of the final design.

Soleri has described nonhuman nature as "the effusion, deafening and life-hungry, of a fantastic diaspora in myriads of diverse fruits, a self-fulfilling process, an iron fist sprouting ineffable flowers,"^[15] and the nature and variety of design tools employed consciously sought to tap into this effusion. Five years after initial research was begun, what might be termed a happening



(involving the author and three others) was enacted on the holograph site, allowing for the sharing and reflection of the fruits of this process, and the calibration of intention immediately prior to the preparation of final plans and drawings.

Contact juggling, a flow art whose didactic potential is the original inspiration for this work, was employed throughout the process of design as a form of three-dimensional sketching. Learning to use a contact staff (another form of object manipulation, focused on a staff of approximately the performer's height) was the final level of physical exploration, allowing for performances at the Riding Mountain site which enabled a reification of design intentions, and thanksgiving for all agents involved in the process.

¹³ M. Elen Deming and Simon Swaffield, *Landscape Architecture Research: Inquiry, Strategy, Design* (Hoboken, NJ: John Wiley & Sons, 2011), 36, 206-222.

¹⁴ *Ibid.*, 218.

¹⁵ Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 151.

PART I: S E E D / T H E O R Y



THE NATURE OF THE NOOSPHERE

In seeking to formulate an approach to noogenesis grounded in landscape architecture, we must first dwell on the nature of the noosphere. For Teilhard, this nature is intimately tied to Christian theology, and although we must interrogate the implications that this has for the spiritual nature of the noosphere, Teilhard himself provides us with a springboard for this interrogation which can be understood without reference to a particular divine nature or conception of the soul, describing:

"The formation taking place before our eyes [...] of a particular biological entity such as has never before existed on earth – the growth, outside and above the biosphere, of an added planetary layer, an envelope of thinking substance, to which for the sake of convenience and symmetry, I have given the name of Noosphere."^[16]

As a man of deep Christian faith, Teilhard's use of thought/thinking is intimately bound to his understanding of *love* in the Christian sense. As his thoughts on this matter were not entirely orthodox (his theology was denounced by church authorities in his lifetime, though it has since seen a rehabilitation, being referenced in *Laudato Si'*),^[17] we may examine what he means by 'thinking substance' through the lens of what he calls the Omega Point. As in the celebrated biblical passage we contemplate the beginning in relation to Omega, the end, since they are one and the same.^[18]

The Omega Point is "the end-point of cosmogenesis, the culmination of the process of hominization or spiritualization,"^[19] that point at which union is attained between this final, transcendently perfect aspect of god, and what is now understood as human: we might call the Omega Point the end-point of the journey of spiritual and physical evolution set in motion by the Alpha-aspect of the divinity creating the world, "a point therefore which is not simply the end of the whole process, the last term in its series, but is outside all series, autonomous and transcendent, as so is identified with God, the Centre of centres."^[20]

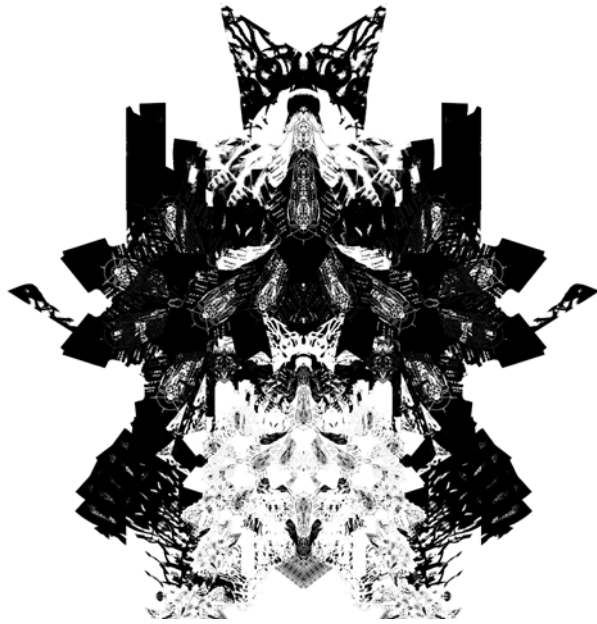
Christian eschatology has the convenient aspect of always ending in perfection. Whatever may be unknown regarding the exact nature of the final perfection in which is united humans and God, it offers the conception of a desired end-state. Oneness-with-the-universe, or union, if overly broad for modern academic tastes, is nonetheless entirely accurate a description of this state, the indwelling of the Logos in the physical world. There is a process that leads from the present to this future point, and it is to this process which the growth of the noosphere is ascribed: "the Noosphere is destined by a natural evolutionary process to flow into the construction and functioning of what I have called its 'Brain.' As in the case of all the organisms preceding it, but on an immense scale, humanity is in the process of 'cerebralis[ing]' itself."^[21]

This process, similar in transformative regard, if different in essence, from apotheosis (it being conceived of as union with/in the God, rather than godhood itself)^[22] entails a complexification, an increase of links and relationships, referred to as *cerebrealization*,^[23] in which the physical world begins to take on the aspects of the human brain, whose astounding functions are due to the complexity and interconnection of its parts, rather than its size.^[24] It is a process that, as natural progression, entails noogenesis; the creation of thinking envelope of a steadily complexifying and connected physical world.

Union, that end-goal to which Teilhard ascribed the trend of life's progressive complexification, through cerebralization, leads to an expanded capacity for reflective (spiritual) thought – in Teilhard's admittedly anthropocentric term, where humans are the pinnacle of the development of divine design, hominization. For him, the growing awareness of the *potential* of humanity to divinity leads to an increase in what he might call the proportion of that very divine nature in man.

Through its existence, the noosphere causes our mundane globe to become the "thinking Earth,"^[25] in which the physical is filled with a crystal light of self-reflection and self-knowledge. Teilhard's description of such a state of reflection as "a state of organised compenetration, in which each element is linked with every other"^[26] bears marked similarity to both the "ecological" object-oriented ontological position advanced by Morton, as well as to traditional Indigenous conceptions of existence as consisting a web of relationships between different-but-equal entities.^[27]

The noosphere is thus a "thinking machine,"^[28] where *thinking* is understood as actions



undertaken within the field of man's *spiritual* plane of existence. We would draw a parallel with the growth of lichen upon the branches of a tree, where the life-process of the lichen entails an *elaboration* of the base-form, serving in this to 'hominize' the naked branch. Life-forces unfolding in this thinking imply an opening of new vistas, the ineffability of the divine forcing parallel in the scale of Morton's hyperobjects, things so massively distributed in space and time they are "impossible to point to directly all at once."^[29]

The noosphere proceeds through the growth, onto the "structure of matter itself," of a spiritual interconnectedness and love directed to this connectedness, expanding the circle of 'self' in an aesthetic superstructure, a process Soleri describes as complexification-miniaturization.^[30] Brotherly love, applied to the physical world – Morton might call it *ecological* love - applied in "solidarity with what is given" being the base of the aesthetic experience.^[31]

Proceeding from inner impulse, this love bears fruit in the physical world as enacted beauty, Soleri observing that "the esthetic in this context is an infinitely deeper and more complex element than the embellishment of a functional frame. In its compassionate self, it is the expression of the living."^[32] Teilhard's sweeping description of the implications of this from *The Future of Man* bears quoting at length:

"For Man[sic],^[33] by the act of 'noospherically' concentrating himself upon himself, not only becomes reflectively aware of the ontological current on which he is borne, but also gains control of certain of the springs of energy which dictate this advance: above all, collective springs, in so far as he consciously realises the value, biological efficiency and creative nature of social organisation; but also individual springs, in as much as, through the collective work of science, he feels himself to be on the verge of acquiring the power of physico-chemical control of the operations of heredity and morphogenesis in the depths of his own being. So we may say that since by a sort of chain-reaction consciousness, itself born of complexity, finds itself in a position to bring about 'artificially' a further increase of complexity in its material dwelling (thus engendering or liberating a further growth of reflective consciousness, and so on...) the terrestrial evolution of life, following its main axis of hominization, is not only completely altering the scale of its creations but is also entering an 'explosive' phase of an entirely new kind."^[34]

As a "process at work in the universe," noogenesis is explicitly named "the birth of that spiritual reality which is formed by souls and by such material reality as their existence involves."^[35] The future-child of this birth is a planetary organism, born at the attainment of the Omega Point of universal love which has, in Teilhard's opinion, "not yet emerged from its embryonic stage."^[36]

The embryonic nature of the noosphere is due to the imperfection of earthly life. Already in 1959, the year of *The Future of Man's* publication, the stress-factors leading to further gestation had been identified, namely that "mankind[sic], born on this planet and spread over its entire surface, coming gradually to form around its earthly matrix a single, major organic unity, enclosed upon itself; a single, hyper-complex, hyper-centered, hyper-conscious arch-molecule, coextensive with the heavenly body on which it was born."^[37] Written in the opening years of the Great Acceleration, we can with deep sympathy and understanding of the growing power of our tools, understand how this relates to "the closing of the spherical, thinking circuit"^[38] which the digital technologies intimately tied to our life processes has accomplished. The compenetration spoken of as an element of the lived fabric of the noosphere– the continuous awareness of the relation of the parts to the whole – is familiar to us today as the state of smartphone-enabled 'smart' networks of continuous information exchange.

Though a spiritual *organism* (both Teilhard and Soleri use the term repeatedly), the noosphere is very much an aspect of an "organic reality," much as our own individual consciousness is based in the physical structure of our bodies.^[39] For Teilhard this was evident in the evolutionary progression from single celled organisms to complex life, and Soleri observes that the performance of spiritual functions is based on the "discipline defined by such structures" as the geology and vegetation which surrounds us.^[40]

Following from this, Soleri proposes that "complex man[sic] needs an ultra-rigorous discipline to succeed."^[41] This discipline is spiritual, religious, fanatic. It is a recognition of our link to nature, and the needs and constraints of the physical world, entailing the sanctification not only of all living things, but the totality of interactions with/between them. The result of such campaign of sanctification (we might call it a pursuit of gnosis) is negentropic, entailing a rejection of what

16 Teilhard de Chardin, *The Future of Man*, 163.

17 Francis, *Laudato Si'*, sec. 84

18 "I am the Alpha and the Omega, the Beginning and the End," Rev. 21:6 KJV

19 Teilhard de Chardin, *Hymn of the Universe*, 98.

20 Ibid.

21 Teilhard de Chardin, *The Future of Man*, 179.

22 *The Oxford Dictionary of the Christian Church*, s.v. "Apotheosis."

23 Depending on the translation, certain of Teilhard's neologisms have different spelling in English, generally to do with 's' or 'z'; the meaning is the same, and the spellings given throughout are consistent with the sources consulted. As noted below, this is also an issue with some of Soleri's terminology.

24 Teilhard de Chardin, *The Future of Man*, 179.

25 Ibid., 162.

26 Ibid., 177.

27 Source re: traditional worldview

28 Teilhard de Chardin, *The Future of Man*, 180.

29 Timothy Morton, *Being Ecological* (London: Pelican, 2018), 22.

30 Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 40.

31 Morton, *Being Ecological*, 121.

32 Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 75.

33 Both Teilhard and Soleri use 'Man' to refer to humanity as a whole, and indeed due to the concerns of their writing use it quite frequently. The term 'Anthropos' is preferred in my own writing as being non-gendered, and for being more species-specific. The term is not changed in original quotations, but the sense if it understood in should be understood as antiquated.

34 Teilhard de Chardin, *The Future of Man*, 205.

35 Teilhard de Chardin, *Hymn of the Universe*, 93.

36 Teilhard de Chardin, *The Future of Man*, 293.

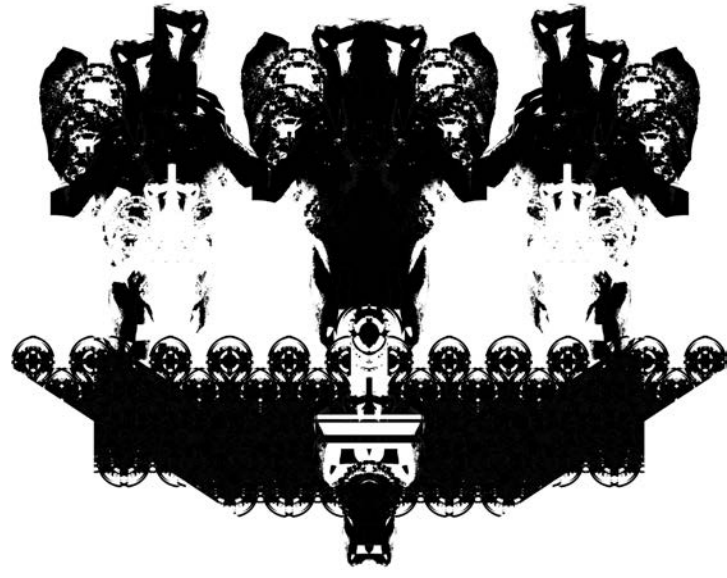
37 Ibid., 120.

38 Ibid.

39 Ibid., 168.

40 Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 43-44.

41 Ibid., 152-153.

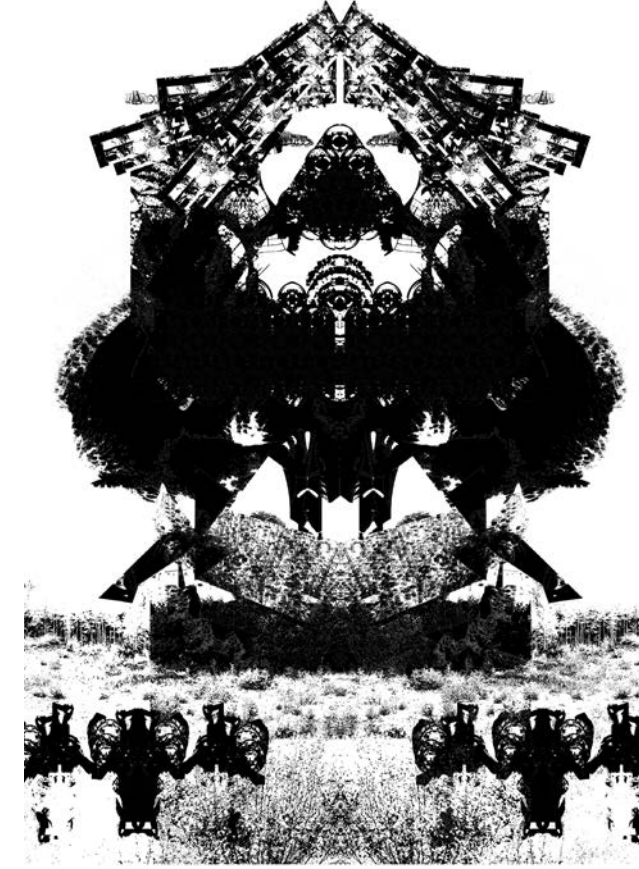


in the *Bhagavad Gita* is named “dark inertia.”^[42]

The process by which this transformation is to occur, and the role specifically of the design of our physical environment in attaining this, is the focus of much of Soleri’s work: as he would put it, noogenesis occurs via *esthetogenesis* (a powerful word, and the subject of the next section), which entails an evolutionary “process of interiorization of reality into the consciousness [...] the re-creation of itself. The spirit is this consciousness in action, the action being the making of ever more centered, imploded, complex, miniaturized wholes.”^[43]

Above all, the process of noogenesis, whereby the noosphere becomes increasingly itself – approaches progressively the all-loving and all-sympathetic nature of the Omega Point – is not a blind striving. As thinking humans are the living cells which group together to form this future organism, a form of human intent is necessary: as Teilhard says, “there must be some peak, some revelation, some vivifying transformation at the end of the journey. Ultimately, and even under the urge and spur of material necessity, only a prospect, a hope of this kind is capable of sustaining our forward progress to the end.”^[44] Teilhard, as a priest, might say that we must ask for this so we can *receive* it; Soleri might say we must *design* it, so that we can *build* it.

The drive to this hope has gone from desirable to necessary since the time of Teilhard: humanity faces the task of uplifting itself to a higher plane (of spirituality, but also of cultural organization), or face extinction. The vivifying transformation is that which avoids extinction, the final revelation that we were capable of the task.



THE PROCESS OF ESTHETOGENESIS

Noogenesis constitutes the birth and growth of the thinking layer of a planetary organism. Esthetogenesis, a neologism coined by Soleri, describes the particular method of this birth, and how the spiritual substance proceeds from physical reality, beauty giving birth to mind.^[45] If the noosphere is the soul, esthetogenesis might be likened to the firing of synapses in the brain.

Soleri speaks of the world which arises out of man’s primal need to confront and make sense of the anguish of existence as resulting in “the genesis of an universe that would make bearable to man the fate of his inception,” and which over the span of human history has become “a universe made by man where man would be a free agent.”^[46] This universe is the creative universe of the cultural and artistic plane, where the investiture of meaning might be understood as a summoning of validity: the cultivation of a landscape which is an affirmation of a worldview.^[47] As per the title of his work on the subject, *the bridge between matter and spirit is none other than matter becoming spirit*.

Through long cultivation, a layering of meaning emerges in which the scaffolding of collective life with meaning results in a “direct relationship between the intensity of a living organism, or a society of organisms and the complexity of the same [...] framed, so to speak, in a physical structure which is more effective, the closer dimension is to zero. The omnipresent, omniscient ‘point’ is the seat of godliness.”^[48] We may take as example of this the degree to which meaning is invested in and understood through form – the curves of a vase and proportions of a temple both being deep meaning reduced to elegant simplicity, as in the example *par excellence* of the ancient Greeks - encapsulating a worldview, understanding and freezing it in the world where it may be manipulated.^[49]

The physical scaffolding that fosters the inner decision must also speak to the outer form which performs the functions of the physical brain of the spiritual body. A form of research-as-knowing goes into the generation of such forms and the building of such a universe. It is a matter of “canal[izing] and use[ing] the rising tide of liberated consciousness [...] by transforming it” in relation to matter.^[50] Teilhard posits that “the Noosphere can function only by releasing more and more spiritual energy with an ever higher potential,”^[51] and this is achieved through a multiplicative and intensifying series of transformations.

This transformation to spiritual energy, infusing as it does an infinitely vast inner universe in a physical world of limited scale, is an act of interiorization. As put by Soleri, “the size of any ‘organism’ might well be defined by the power of interiorization. The greater such power, the more comprehensive (larger) the organism can be.”^[52] The organism which is larger than this is the super-organism which includes the thinker and the object of his gaze, which united in this process of esthetogenesis comprises the base matter of the noosphere.

Complexification through miniaturization results in an increased togetherness/meshing of events and awareness: the investiture of complex meaning in simple forms, allows for even the rocks in the form of petroforms, they “perform and achieve.”^[53] The deeper and clearer the meaning is internalized, the more ornamentation becomes superfluous. An intensity, meaning less-is-more, but never a simplification: still waters run deep, and “when the world reveals itself to us it draws us into itself: it causes us to flow outwards into something belonging to it everywhere present in it and more perfect than it.”^[54]

The whole body, and not just directed thought, is involved in *existing as aesthetic act* grounded, in the words of Merleau-Ponty, in the awareness that “our own body is in the world as the heart is in the organism: it keeps the visible spectacle constantly alive, it breathes life into it and sustains it inwardly, and with it forms a system.”^[55]

Esthetogenesis exercises, as noted, a negentropic effect, and in a universe where base matter obeys the law of entropy, “any step towards complexity, complexity now centered in the power of the mind, demands a corresponding effort toward miniaturization,”^[56] even as a cathedral imbues stone with all the meaning of the relationship between heaven and earth. Applied to systems of symbols, such as the *I Ching* or Western Tarot, this negentropic effect intensifies over time, as it accrues a history of use carried within a culture, and the few original symbols come to contain a universe of meaning and stored knowledge.^[57] The universe is not a cold dead thing, and it (or at least the living components of it), rejoices in its vivification, the “sensitization of one’s consciousness and the access to the creative universe.”^[58] Teilhard, whose personal writings of religious experience would place him within the mystic

45 Works by Soleri primarily use the spelling ‘esthetogenesis,’ though ‘aesthetogenesis’ occurs occasionally in later writings – possibly as errors in transcription. Primary documents referenced for this work use ‘esthetogenesis’ exclusively.

46 Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 114.

47 Ibid., 158.

48 Ibid., 57.

49 See Spengler, *The Decline of the West*, for his views on this being a hallmark of healthy, mature cultures.

50 Teilhard de Chardin, *The Future of Man*, 178.

51 Ibid., 178.

52 Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 56.

53 Ibid., 51.

54 Teilhard de Chardin, *Hymn of the Universe*, 80.

55 Maurice Merleau-Ponty, *Phenomenology of Perception* (London: Routledge, 1992), 203.

56 Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 41.

57 Plates of these two are found as examples in *The RSVP Cycles*.

58 Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 96.

42 “Dark inertia” is the phrase used repeatedly in the Hindu *Bhagavad Gita* to describe the morally entropic nature of the world, as opposed to the path of Karma.

43 Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 152.

44 Teilhard de Chardin, *The Future of Man*, 291.



tradition of Christian thought, describes a process essentially of esthetogenesis in relation to the love of Christ, and remembering that our framework is Christian in origin, it is illuminating in the degree to which it answers, with only a few substitutions, to Soleri's description of esthetogenesis:

"Like those translucent materials which can be wholly illumined by a light enclosed within them, the world manifests itself to the Christian mystic as bathed in an inward light which brings out its structure, its relief, its depths. This light is not superficial colouring that a crude hedonism might discern; nor is it the violent glare that annihilates objects and blinds the eyes; it is the tranquil, mighty radiance born of synthesis, in Jesus, of all the elements of the world. The more completely the beings thus illumined attain their natural fulfilment, the closer and more perceptible the radiance will be; and on the other hand the more perceptible it becomes, the more clearly the contours of the objects which it bathes will stand out and the deeper will be their roots."^[59]

The process of etheogenesis/sensization occurring in relation to the physical bends naturally to the sun, that "focal, indispensable, essential origin, nurturer, developer of life, consciousness, reflection, spiritualization... evolution."^[60] Sun/light as the source of energy grounds a spiritual process in the matrix of the physical. With miniaturization the sun becomes *Sol Invictus*, God-the-undefeated-sun, and the base of all elements of esthetogenesis grounded in the world becomes the father of noospheric growth as humans build on previous plant/animal response-building, an omnipresent engine of spiritual movement. Pinpointing the mechanism which gives rise to such a moment and a dwelling allows us to contemplate the expansion of its duration, the deepening of its complexity. If the ultimate form of art is dwelling before, and upon, an altar, we can expand the scope and form of the altar. We can expand the skin that is the point of contact between the ineffable moment, even as Teilhard de Chardin has described the flowing-outward and embracing light of the Eucharist.^[61]

Within the context of esthetogenesis, we can say that it is the process of creating altars, not of stone, but of thought-intention: hearths upon the earth.^[62] These burning hearths of spiritual concentration in the physical world, that suggest a particular aesthetic relationship, one lending itself to physical elaboration. Interventions which over time verily become altars, when recognized as spiritual seats of meaning, and becoming suitable for offerings by those who recognize this.

Soleri says that growth is such that "defines engrossment," arising from "'manipulation' by inner decision. Growth belongs to the bio-mental."^[63] This description of esthetogenesis as spiritual process has been observed 'in the field': it is the major experience of participants at psytrance music festivals, as chronicled by anthropologist Graham St. John,^[64] where this manipulation-cum-transformation takes the form of rituals of ego-dissolution attained in a "gushing forth of vitality"^[65] through a performative embrace of that most ancient of spiritual practices, ecstatic dance.

Taking the ritual of ego-dissolution practiced at psytrance festivals as coequal to this esthetogenesis, as evidenced by its nest and web of duration-complexity, we can expand it: we can design a mandala, a glyph, a blueprint for the situation and for the moment.

Mumford suggests that ritual precedes language, observing that "rhythm itself brings satisfaction,"^[66] and in relation to the still-embryonic state of the noosphere, we may posit that the ritual of esthetogenesis precedes a future, noospheric language. The further development of this ritual - the "methodology to the 'transformation' of matter into spirit"^[67] - centers on an expansion/intensification of the mesh of connections. The altar-as-construct represents the locus for this growth: it remembers the will of its inception, invites the elaboration of this same and, properly calibrated, can act as scaffolding for the requisite bio-mental exertion.

The investiture of this locus in progressively smaller, mobile, and fluid elements entails the crafting, at the scale of group organism, an efficient deployment of technologies of amplification as the "instrument[s] of complexity-spirit."^[68] A prominent manufacturer of such elements of amplification, Flowtoys, says "the goal is to keep moving and exploring the physical universe"^[69] or, as Soleri phrases it, "This relative shrinkage or compression is not accidental or secondary; it is the only way by which the event can become more efficiently organized, that is to say, more impregnated with *life*"^[70] [italics added for emphasis].

This impregnation is none other than Teilhard's homisation, the expanding circle of human-ness { 11 }



(meaning: closest by degree to Omega); in the aesthetic output of esthetogenesis it operates "in an atmosphere of consent [...] under the impulsion"^[71] of desire to expression of love for the world as marker of meaning. In the parlance of the festivals mentioned we would speak of the cultivation of a group vibe, and marrying this to Teilhard's writing, we might speak of the impulsion of a *righteous vibe*.

Joined organisms, spiritual and physical, together being the essential pattern of a whole. What occurs on the altar, the dancefloor, is expanded in duration and complexity to embrace an ecological milieu and totality. Of necessity, the exact physical - and indeed, spiritual - appearance for this union will differ across niches and landscapes. We may say of it that it is concerned not exclusively with form, but with a functional unfolding in space and time.^[72]

Applied to the landscape, ethnogenesis results in a *Terra Novum* - a strange new aesthetic thing. The process which links our current world, denuded of beauty, balance, and meaning, to what for the West is a future aesthetic, but which looks much like the spiritual-cultural land-use practiced on Turtle Island prior to Colonization: "when, through our vision of it, we have endowed our earth of iron and stone with 'personality,' then we find ourselves infected by the desire to build for ourselves in our turn, out of the sum total of all our souls, a spiritual edifice as vast as the one we contemplate."^[73]

59 Teilhard de Chardin, *Hymn of the Universe*, 88.

60 Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 158.

61 See the section "Mass on the World" in *Hymn of the Universe* for an extended description of this experience.

62 The imagery is derived from the novel *Querelle de Brest* by Jean Genet.

63 Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 116.

64 See bibliography. St John is editor of the journal *Dancecult*.

65 Teilhard de Chardin, *Hymn of the Universe*, 81.

66 Lewis Mumford, *The Myth of the Machine, Volume I: Technics and Human Development* (New York: Harcourt, Brace & World, 1967), 60.

67 Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 192.

68 *Ibid.*, 193.

69 "What is flow?" Flowtoys, date unknown, accessed June 16, 2020. <https://flowtoys.com/whatisflow>

70 Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 207.

71 Teilhard de Chardin, *The Future of Man*, 209.

72 See Corner's *Terra Fluxus* for a discussion of this in relation to landscape urbanism.

73 Teilhard de Chardin, *Hymn of the Universe*, 81.

LANDFORM / THE ORGANISM OF 1,000 BRAINS

"No doubt it is true, scientifically speaking, that no distinct centre of superhuman consciousness has yet appeared on earth (at least in the *living world*) for which it may be claimed or predicted that one day it will exercise a centralising function, in relation to associated human thought, similar to the role of the individual 'I' in relation to the cells of the brain. But that is far from saying that, influenced by the links which unite them, our grouped minds together are not capable of achieving results which no one member of the group could achieve alone, and from which every individual within the collective process benefits 'integrally,' although still not in the total sense."^[74]

Esthetogenesis is an internal process, anchored in external objects, by which the significance and nature of these objects is deepened, and this in turn has an effect on the manner by which humans relate to these objects: progress occurring in expanding consciousness results in an increase in that same thing which hastens it, the "effect of organization."^[75] The landform which is in the process-of-becoming the engine of noogenesis thus organizes itself as matter-based spiritual machine to accomplish this end. Provocatively, Soleri suggests that "the Noosphere, disgorging the machine from its innermost organic recesses, is capable of, and in the process of, developing a brain of its own."^[76]

The nature and functioning of this *particular* brain is, following both Teilhard and Soleri, tied to a defining attribute of our own mental faculties: the complex compression of the structural whole which allows for a vast expansion of thought-potential through the diminishing of inefficiencies. Small is beautiful - in our case, complexification-miniaturization is soulful.

Teilhard, using the example of a "heavenly body which heats as it contracts," predicates the continued growth of the noosphere as being grounded in "intensity, the degree in which its tension and psychic temperature are heightened by the coming together and mutual stimulation of thinking centres throughout its extent,"^[77] while noting that "it is not enough for them to recognize in one another the elements of a single something; they must also, be developing a 'planetary' consciousness, become aware of the fact that without loss of their individual identities they are becoming a single somebody."^[78]

Soleri names the local, human concertation of this "the organism of 1,000"^[79] brains (alternatively in later writings, "the organism of a thousand minds")^[80] and names environmental stresses as the evolutionary drive which necessitates both the miniaturization of the individual 'shell' which contains the mind, but also the collective grouping of these individual shells: "miniaturization is nothing else than the spatial arrangement that consents this inconceivable number of stresses to exist and to organize themselves in "constructive" responses."^[81] The urban application of this principle is illustrated in Soleri's own designs for the arcologies.

This compression is neither standardization nor automation arising from excessive material specialization, which Teilhard refers to as "the doom of ants and termites," and singles out as arising when union of purpose occurs "with love omitted."^[82] Rather, it is a shared understanding of the end-goal which allows the human components a broad field of liberty in expressing their understanding of this by "increasing the variety of choice and the wealth of spontaneity."^[83] Teilhard may well have been describing a dancefloor, where a unifying beat allows for a multitude of interpreted/enacted expressions of understanding the reality of the moment when he observes that "anarchic autonomy tends to disappear, but it does so in order to achieve its consummation in the harmonised flowering of individual values."^[84]

In terms of design, "the forbidding prospect of standardization and enslavement"^[85] is avoided through the provision of a staged but open framework: Halprin's system of scoring landscapes as described in *The RSVP Cycles* being a tool familiar to landscape architects for accomplishing the creation of complex and functional landscapes which contain within themselves the potential for growth and calibration, wherein "many forces interact with each other with results emergent - not imposed."^[86] The 'design' of our landform-based approach can be understood as itself an act of esthetogenesis, the creation of and inscribing-upon-the-heart of a glyph which being activated by users, propagates itself in their hearts and minds, revealing the inherent structure of the design without confusing *motivation* (desired trajectory) and *process* (actions taken).^[87]

Writing in 1969 - after the death of Teilhard, but long before the emergence of modern neural nets, Soleri echoes Teilhard's powerful observation that "in the domain external to our flesh our { 1 3 }



real body is continuing to take shape"^[88] by proposing that in "a superorganism of a thousand minds that will ecologically cradle such persons [...] the individual brain will have a collective counterpart: the non-biological memory archive and logical decision-maker, the computer."^[89]

The organism's 'brains' are thus not-necessarily-human *agents* of noogenesis: unique stars in a constellation, which in their gravitational effect on each other are part of a greater whole. Soleri, with characteristically piercing language, describes the growth over time of a "neo-natural topography that reaches up hundreds of layers into the thick of things."^[90] Comprised of aesthetic meaning expressed in the physical world, these layers fulfil the function of the folded interconnections of our own neural architecture through a cloaking of the landscape in agents of thought and reflection, which in the aggregate expand the awareness of what we may describe as a polity of selves.

With the landform admitted into this polity, the act of modification is thus comparable to the deployment of the body for spiritual purposes, as in dance, yoga, or religious tattooing. Nonhumans present in this net (we might speak of tree-brains in place of a more traditional tree-spirit) we might talk of tree-brains, in place of tree-spirits - are inducted into this web of connections through the interactions they take with these physical modifications, their responses being integrated into the conversation, and bringing to it their own sense of scale and life-pattern. The role of digital brains in this relationship, with their powers of projection and memory exceeding those of humans, can be conceived of as one of translation, of introducing these varied intelligences/agents/understanding to each other. This union is not one of raw computation, the expansion of the abilities and reach through a tool- it is crafting a relationship which, in its final form, would appear gravitational: the parts acting in such harmony that it appears as if their relationships obey physical laws. Teilhard describes this as a process of "coming to see ourselves as part of a vast and continuing process; as though awakening from a dream, we are beginning to realize that our nobility consists of in serving, like intelligent atoms, the work proceeding in the Universe,"^[91] but we would observe again that the union of function and self of the organism in lichen was so total that, until recently, it was thought one organism.

At scale, this is strange to mainstream Western sensibilities; it speaks to a long now in which humans as spiritual beings engage with vast ecological and spiritual cycles, scaled to eternal labours, wherein the noosphere "grows as the life within it moves."^[92] It entails an awakening to the realization that, "familiarity, the habitual, is not necessarily the desirable, the human;" we need look no farther than the grave effects of the "familiar" of the last few centuries upon the Earth.^[93]

Being trapped in a repetitive loop is not a bad thing, when the loop is a heartbeat. The particular details of the organism arise from "the careful and reverent planning of our inroad into a miracle of equanimity that has carried and developed itself for some billions of years."^[94] Progression along this plane takes advantage of the human genius for "free play for individual or private elements"^[95] within an established framework: individual responses of growth/itself-becoming, creating new niches for spiritual, cultural, and ecological intercourse within its parts.

We might say that the whole becomes so desirable, so aesthetically/emotionally/spiritually compelling, as to inspire the desire for intimate and sympathetic participation, a positive, noogenic feedback loop. The invocation of aesthetics to influence the future through curated engagement in the present is an ancient practice. The hand-prints visible in the paleolithic cave paintings at *Cueva de los Manos*, for instance, are as simple as they are powerful precisely because to see it is to know how it was made, opening up the vista of the viewer making such things themselves.^[96] Such compelling and participatory aspects of art together on the site produce, as in group ecstatic dance, a particular, observable vibe and experiential reality, constituting the breathing, pumping life of the site-organism.

As these processes take place, they build up the skin of the organism, the landform being the bones. As the unique outcome of geological and ecological processes across vast scales of time, the uniqueness of the landform is what gives individual meaning to the vibe of the place: a change in understanding of the landform is necessary, but occurs at a scale limited to the built-in "organic patience" of human power: "less power-endowed societies did or do a far less damaging job (by default)? And achieve also many heart-filling transfigurations."^[97]

⁷⁴ Teilhard de Chardin, *The Future of Man*, 174.

⁷⁵ *Ibid.*, 72.

⁷⁶ *Ibid.*, 172.

⁷⁷ *Ibid.*, 178.

⁷⁸ Teilhard de Chardin, *Hymn of the Universe*, 89.

⁷⁹ Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 45.

⁸⁰ The differentiation occurs when he writes of the biological and computer elements of the super-brain. See Paolo Soleri, "The Organism of A Thousand Minds," available at: <https://www.organism.earth/library/document/arcology#p1-ch11>

⁸¹ Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 50.

⁸² Teilhard de Chardin, *The Future of Man*, 57.

⁸³ *Ibid.*, 56.

⁸⁴ *Ibid.*

⁸⁵ *Ibid.*, 57.

⁸⁶ Lawrence Halprin, *The RSVP Cycles: Creative Processes in the Human Environment* (New York: G. Braziller, 1969), 3.

⁸⁷ *Ibid.*, see page 4-9.

⁸⁸ Teilhard de Chardin, *The Future of Man*, 17.

⁸⁹ Soleri, "The Organism of A Thousand Minds," <https://www.organism.earth/library/document/arcology#p1-ch11>

⁹⁰ Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 46.

⁹¹ Teilhard de Chardin, *The Future of Man*, 17.

⁹² Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 38.

⁹³ *Ibid.*, 49.

⁹⁴ *Ibid.*, 154.

⁹⁵ *Ibid.*, 38.

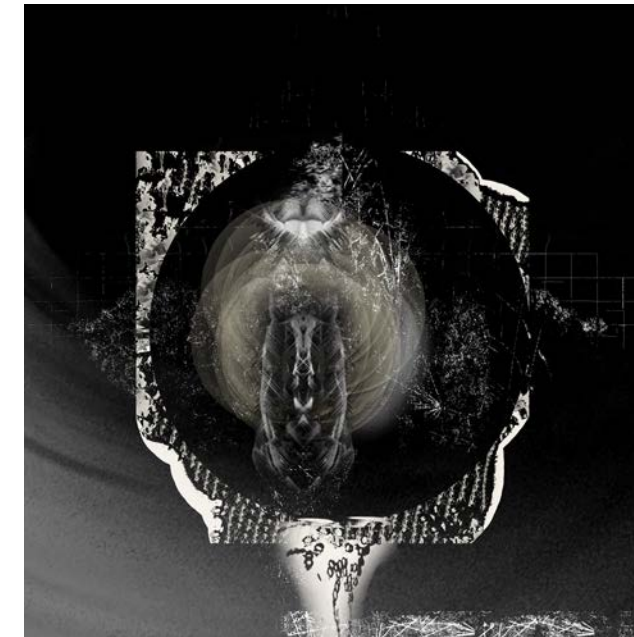
⁹⁶ Halprin, *The RSVP Cycles*, 6.

⁹⁷ Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 140, 147.



The result of this is increased focus on reading the land, and on appropriately responding to it, occurs under the aegis of "the consciousness which we are gradually acquiring of our physical relationship with all parts of the Universe represents a genuine enlarging of our separate personalities."^[98] Through the diversity in nature of the brains of the organism and the combined physical elaboration of the environment of its thinking centres, we may envision that which, from the present human vantage point would appear as dilation (through radical acceptance of diverse voices/understandings) of space and time in the supra-individual organism of the landform. Even as the distinction between the individual and collective thinking body is effaced (it does not blur; in perfect love and union, it becomes meaningless), so also between the physical bodies of the individual agents.

The transformation of a landform into the organism of 1,000 brains occurs through a progressive esthetogenesis of nature, in which love, sympathy, and self-awareness of all parts spreads progressively farther/deeper/higher, and over time transfigure "the natural into the human in human ecologies of unforeseeable power."^[99]



DEI OIKOLOGICUM ^[100]

A landscape geared to the previously-described process can be thought of as one in which Anthropos walks into asleep, and walks out of awake: a culturally-formed, manufactured womb for a particular spiritual gestation in the heart of the individual. What would be the beautiful face of this, and how would it function – of what would its life-processes consist? Sketching out a description of such can be taken as both design brief, and as projective design itself; cognizant that form represents a fixed moment in a process whose completion is in the far future, we may nonetheless say that it is one whose song-of-itself would be, in Teilhard's telling, "we animated the earth by communicating to it something of our own unity."^[101]

Soleri is characteristically forceful in his telling, saying that "we are, at most, the first groping tendrils wedging themselves in the dark granularity of spirit's underpinnings. The future is literally the whole of life's evolution in time, space, power, but mainly in intensity. How else can we, life, create God? (I am literal, not euphemistic.)"^[102] *I am literal, not euphemistic.* The current physical and spiritual state – the raw materials of which we must endeavor to create this god – are the alchemical lead which must be transformed. As priest, Teilhard is more conservative in his deployment of theology, and it is thus notable that when he refers to divinity as the end-result of noogenesis, he explicitly does not name the Christian god:

"And what does this mean if not that, in the last resort, the 'planetization' of humanity presupposes for its proper development not only the contracting of the earth, not only the organizing and condensing of human thought, but also a third factor: the rising on our inward horizon of some psychic cosmic centre, some supreme pole of consciousness, towards which all the elementary consciousnesses of the world shall converge and in which they shall be able to love one another: in other words, the rising of a God."^[103]

For both men, the processes described in relation to loving adoration with the physical world result in an inner being named a god. We would call this god that of ecology, as it involves all processes and organisms in a web, and arises from the totality of these interactions, and not as presupposed *a priori* and abstract divinity. It arises from the actions of agents, and would be stronger/clearly the more/deeper/richer are these interactions. The work of the agents that conceive of this god is to remake the physical world into its flesh: the circle of the world (physical, mental) becoming a circle of summoning. The god whose flesh is a spiritual ecosystem, where the skin is a sacred organ of human culture and tectonic, overlaying the muscles of the land.

From Teilhard, we know that the blood in the beating heart of this god is "sympathy [...]" (an act of quasi-adoration) on the part of all the elements gathered together for the general impulse that carries them along; and also the sympathy (this time fraternal) of each separate element for all that is most unique and incommunicable in each of the co-elements with which it converges in the unity, not only of a single act of vision but of a single living subject."^[104]

The body of the god is animated by the movements of humans, whose work is to deploy their "power of reflection" in creating a universe structured so as to increase the life-process of the divine body.^[105] The landform becomes a god through the elaboration of itself, with humans as the active, modifying elements. Remembering that complexification-miniaturization is the hallmark of esthetogenic potential, this modification is not gross: it consists of the slow sculpting, which emerges from this dreamlike reverence: "change is not really the physical ability to build and destroy frenetically at will, but the fluidity allowed to life within structures, the physical and mental structures that we build."^[106]

A relatively discrete landform allows for the structure within which this process takes place. Availing themselves of the most ancient spiritual and most advanced digital technologies, the human agents in such an organism are "craftsman-environmentalists"^[107] whose ecological function is the description of the future which they reverently work to create, seeking to find and celebrate those traces of "a world intensely creative where the thirst for harmony and the commitment to frugality would see the slow emergence of anguish and strife into grace: the esthetogenesis of the real."^[108]

Frugality and reverence mandate the preservation of the bones of the land, as these represent an aspect of brains on site – the memory of history – and such is naturally (and traditionally) a point of reverence, the localization of the voice of the land, wherein the genius of the place dwells. Altars, observation nooks, places for contemplation, over time effect a change in the spatial distribution of plants: "The topography of a man-made[sic] nature is the key to a working

¹⁰⁰ This is a poor rendering of mixed Latin-Greek 'god of ecology': it comes from notes on the subject, and is used in the sense originally envisioned, out of thanks for revelation, not as accurate term.

¹⁰¹ Teilhard de Chardin, *Hymn of the Universe*, 89.

¹⁰² Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 193.

¹⁰³ Teilhard de Chardin, *Hymn of the Universe*, 98.

¹⁰⁴ Teilhard de Chardin, *The Future of Man*, 140.

¹⁰⁵ Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 174.

¹⁰⁶ *Ibid.*, 140.

¹⁰⁷ *Ibid.*, 78.

¹⁰⁸ *Ibid.*, 156.

⁹⁸ Teilhard de Chardin, *The Future of Man*, 17.

⁹⁹ Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 71.



and developing society."^[109] Complexifying the layer in which humans move – making it more reef-like – replaces the levelling of topography, this being reserved for areas of great symbolic importance, or left to a speeding up of natural erosive process.

The enaction of altars – their making and continued devotion to their making upon themselves – take on the aspect of creating berths for barques of the sun, concentrated on the deepest possible understanding of the trophic progress of the star's energy, and the negentropic (artistic) expression of this. The result is a glyph: as Halprin's score, but radiant in itself, and flowing with life through the lifelong devotion of human components of the site-organism, that we would call *anchorites*, their reverence naturally takes the form of artistic expression, yearly revived by an infusion of new users on the solstice, and whose specific function in the evolution of the landform is to attain and promulgate a sense of the ongoing process of noogenesis, and share the esthetogenic arts they develop with neophytes who visit the site.

Halprin describes scores as "guides to all the other processes going on at the same time – at all levels of existence. They are ways for us to relate to events and processes normally hidden from us by our usual mechanism of cause and effect or the value systems imposed on us by Western culture,"^[110] and by glyph we mean a self-aware and correcting score, which by the provision of human and AI agents devoted to them, become the celestial language of the site. There then becomes possible a conversation in a language arising solely out of the relationship of landscape to noogenesis.

The glyphs can be understood as the genius (we might say, *manitou/s*) of aspects of the landform: "a system of symbols which can convey, or guide, or control (as you wish), the interactions between elements such as space, time, rhythm, and sequences, people and their activities and the combinations which result form them,"^[111] but which is continuously modulated by the present moment's conception of its own extension into the future. The glyph is a vibe which can be understood, as much as a score to be followed or framework to be worked-within.

The role of humans in this consists of imagination – the projection forward of actions, acting on other humans: the amplification of the known spiritual couplings that arise in the individual with elements of the site, and the sharing of this for the explicit reason of 'spreading' this effect mimetically. In sympathy with the life-process of nonhumans, this is best accomplished within a base frame of ecological knowledge, and through impulsion to desire for efficiency in promulgation of spiritual knowledge, *listening* to the voices of the site becomes a key activity for a 'core' of users.

As Soleri notes, reverence for life in the form of patterns of growth and adaptation is a "teleological imperative fully adequate for the journey into creation-etherealization,"^[112] and the progress of this takes the form of the association of the personal with the site-organism. Reverence to artistic representations of the voices of the landform, and adaptations to reflect this – in attitude, clothing, movement, etc., occur along the cultural axis, it being the only one capable of progressing at speed sufficient to express the super-hominized state of revelation.

This is effected through a core of users – the anchorites – who to neophytes visiting the site occupy the role of hierophant. A metabolic process of site spreading itself is accomplished through the movement of materials by the neophytes under influence of the anchorites, the process being calibrated for effectiveness through the AI-agents, the site becoming "alive with people going about the "business" of living, learning, producing, worshipping, creating, performing, throughout the year on the edge of endless land upon which the seasons play their awesome and often inhuman cycle."^[113]

Installations are formed of the site itself, being to the anchorite "bone of my bones and flesh of my flesh," which as they decay return to the site, leaving a mark of the forms dreamed by Anthropos, actions which have a negentropic effect for the site-organism and noogenic process as a whole. There is, for such a process, an established precedent in the sculptural works of Philip Beesley, whose early work, *Haystack Veil*, consists of a "deep surface, built from alder twigs, moss, and lichen"^[114] through the creation of the complex of twigs, the moss and lichen are woven into the sculpture: they become structurally a necessary part, but also co-creators; their reaction to it over time becoming inseparable from the human intervention that was its erection. As the wheel of time turns, "that sprawling matrix of wooden tripods gradually evolved into a labyrinth of warrens for wild animals. It became both ecosystem and maze, in { 17 }

109 Ibid., 156.

110 Halprin, *The RSVP Cycles*, 26.

111 Ibid., 7.

112 Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 95.

113 Ibid., 97.

114 Genesis 2:23, KJV

115 Philip Beesley, *Hylzoic Ground: Liminal Responsive Architecture* (Cambridge, ON: Riverside Architectural Press, 2010), 44.



other words, rotting back into the soil it once stood above, adding complex nutrients to the earth even as it was colonised by non-human species."^[116]

Soleri would call such an intervention – action taken to harness processes and qualities already extant, to make them more visible, and amplify their voice – and an environment encrusted with interventions, in varied states of construction and decay, one of "finite human characteristics to be mastered by a progressive processing of nature, as a mineral is mined and processed to "achieve" a mental condition. The wisdom of such seeking has to be proven by what humanity will make of itself."^[117]

We can understand the potential of installations in the vein of *Haystack Veil* to result in "super-humanising us by the intensification of our powers of understanding and love."^[118] and creating a physical and cultural history of reverent engagement. Made by Anthropos, these forms/shapes attain an archetypal relevance: to list, to know, to *name*, is to be able to deploy. Harvested of the site (and eventually, specifically grown/modified for this express purpose), these are cultural modified materials of a "tribal groups of components"^[119] consisting of materials, organism, and associated rituals of use.

For all the diversity of its spiritual niches and cultural richness, focus on miniaturization and duration-complexity leaves the face of the land relatively unchanged: "earth moving is a large ecological undertaking. It is justifiable if the resulting ecology is "better" than the original one."^[120] The presence of modifications of topography thus serves to signal deep meaning and spiritual power, and are centered at points of communal life, such as sacred spaces defined by ditches and mounds. Placed to encourage expression of the experienced light, when activated by human engagement these entail lived, eidetic sculptures of the Omega Point.

It is the hallmark of modern technologies that they can process vast amounts of information – the imperative to transforming spirit to matter is a call to deploy them to the fullest extent possible. Modulated by artistic and spiritual restraint, the ability of humans to carry out these spiritual functions is assisted by a series of neural nets, tuned to the performance/actions on site, and serving as a library-repository of the knowledge of the site's users.

The anchorites, awakening to the site, train these neural nets to take their place, crafting seeds at the centre of the future flower. We can call both human and AI agents, in the sense that "anything that can be viewed as perceiving its environment through sensors and acting upon that environment through effectors."^[121] The agent need not "know" the site to have complex interactions with it in the form of light/datasculpture performances, and in two-step with humans, performances can encompass tutelage, "cognition is emergent from the system-environment interaction."^[122]

The input layer being the actions of the anchorites, assigning values done by humans, a staged series of patterns/representations giving way to a deep, dreaming learning. A positive feedback loop emerges from this interaction, and the 'cortex' of this nervous system bears the relationship to the landform as the mediaeval *mappa mundi* to the world; data points are captured, digested in representation, and lead to a gradient of intelligence/awareness. Transects of observed ecologies of relationships, being source material for an amplification of emergent patterns.

To attain such, divine or not, is the step that bypasses extinction, a prerequisite for the further spiritual evolution of life on Earth: the bio-mental art of a "cultured world where the anguish of the species can atone into purpose."^[123] A landscape of constant performance, constant ritual.

116 Ibid., 44.

117 Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 79.

118 Teilhard de Chardin, *The Future of Man*, 289.

119 Beesley, *Hylzoic Ground*, 29-30.

120 Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 136.

121 Rolf Pfeifer and Josh Bongard, *How the Body Shapes the Way We Think: A New View of Intelligence* (Cambridge: MIT Press, 2007), 10.

122 Ibid., 26.

123 Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 211.

PART II:
FLOWER /
APPLICATION

“ Art fails [...] when it tries to mimic the transmission of sheer quantities of data; it’s not artful enough.”

- Morton^[124]

“ Symbiosis, which is how lifeforms interconnect, is made up of all kinds of uneasy relationships, where beings aren’t in total lockstep with one another.”

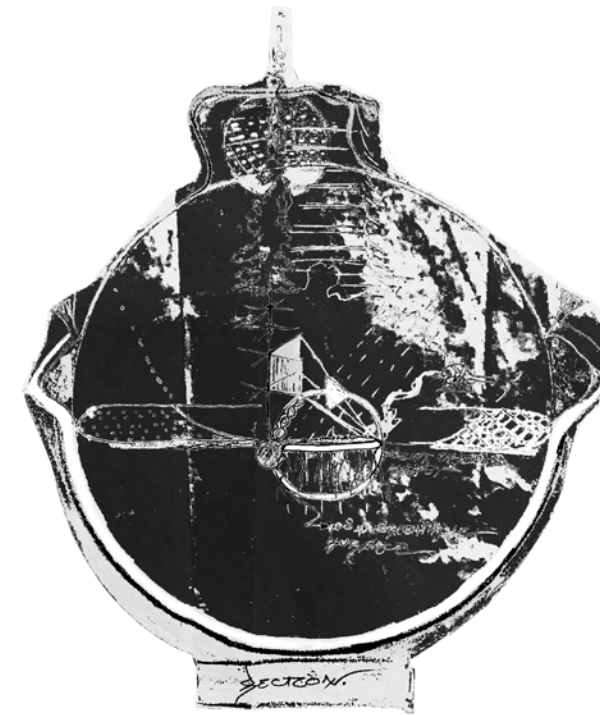
- Morton^[125]

“ Unless planning is considered undesirable and spontaneity is considered unbecoming, the realization of an environment must be a balanced fusion of good planning and live spontaneity.”

- Soleri^[126]

“ A humanity fully involved in the metamorphosis of the entropic universe into a compassionate system through the estheto-genesis [sic] of things.”

- Soleri^[127]



SPIRITUAL
TECHNOLOGIES
& DIGITAL TECHNICS

“It is through [scores] that we can involve ourselves creatively in ‘doing,’ from which, in fact, structure emerges – the form of anything is latent in the process. The score is the mechanism which allows us *all* to become involved, to make our presence felt. Scores are process-oriented, and not thing-oriented.”^[128]

A landform-based approach to noogenesis involves a spiritual-artistic process. Esthetogenesis is the *theory* of such, and like Halprin’s scores is concerned with a process and not a thing. The application of spiritual technologies and digital technics as part of the design of the site-organism is perhaps akin to describing the chemical composition of the amniotic fluid which surrounds a fetus: we can know what it must contain, to provide the needed life-support, but this does not tell us the colour of the fetus’ eyes. We describe a process for creating glyphs, to accomplish conversations concerning noogenesis, without knowing or making judgment to their final form.

Spiritual technologies entail, simply, those techniques which in humans produce spiritual states. St. John, who prefers the term *spiritechnics*, notes that “from computers to calendars, and from dance music to psychoactives, *spiritechnics* facilitate departures from, and leaps in, consciousness.”^[129] Meditation, fasting, prayer, rhythmic motions, ecstatic dance, repetitive sounds (drumming or chanting), orchestrated movement through space, and sleep deprivation all act reliably on our basic biology, individually or in groups, and represent a common human heritage. Though neglected in our own culture and time, they continue to enjoy a high state of development and common usage in other cultures and can, like other technologies, be imported/learned.

St. John, whose particular focus is this process of adoption of spiritual technologies by (largely Western) festival-goers, puts the state of affairs succinctly: “that inhabitants of late-modern societies are dispossessed of the ‘techniques of ecstasy’ believed integral to their heritage is a conviction not uncommon among enthusiasts of psytrance, where events are planned, technics assembled and popular culture sampled with the objective of *revitalizing the arts of enchantment*”^[130] [italics added for emphasis].

The choice to apply technics to the digital, rather than the traditionally spiritual aspect of our approach to noogenesis is deliberate. The term implies the aspect of play and skillful mastery of cultural knowledge, including technology. Pottery-making is technology, but the creation of vessels of particular meaning to a cultural group, and transmission of this form, is technics: a digital technics involves the enchantment of our emerging technologies so that they become, to borrow Soleri’s term, a form of “neo-matter”^[131] enlisted in ancient spiritual tasks. Deployed with purpose these digital technics represent a sanctified element – as Orthodox icons are sanctified paintings - which animate a spiritual “environment of action.”^[132]

Where this neo-matter derives from, and expands our ability to apprehend, our own spiritual associations with the object of focus, we ourselves are amplified. Though generally contemptuous of computers and digital technologies, Soleri recognizes that humans will require “the best instruments technology can give [them] so as to set the stage for [their] liberation.”^[133] The deployment of advanced technologies must be done with the eye – and intention – of the artist, and result in human-focused craft as its end, rather than slavishly producing those modes inherent in what we may call the desires of the technology itself. The anchorite, as human agent of noogenic growth upon the landform, sits at the centre of this application of technology. Intention matters.

Humans have a particular fascination with light. It is in light that we find perhaps the most advanced application of technology as this spiritual neomatter. A prime example of such a deployment of high technology, already deployed for spiritual purposes at many festivals, and it is in light – primal, eternal, ever-pregnant, that we find the greatest potential for miniaturization, complexification, and the application of our AI children, and which is proposed as constituting a key element in the nervous system of the landform-organism are LED-augmented flow toys. These consist of physical props – staffs, balls, ropes, whips, and various combinations thereof – which are used in artistic object manipulation.

The goal of this manipulation is to achieve the meditative state of flow. As described by psychologist Mihaly Csikszentmihaly, this the state – the familiar examples are performances by artists, musicians, and athletes - of “being completely involved in an activity for its own sake.

124 Morton, *Being Ecological*, 61.

125 *Ibid.*, 183.

126 Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 38.

127 *Ibid.*, 28

128 Halprin, *The RSVP Cycles*, 4.

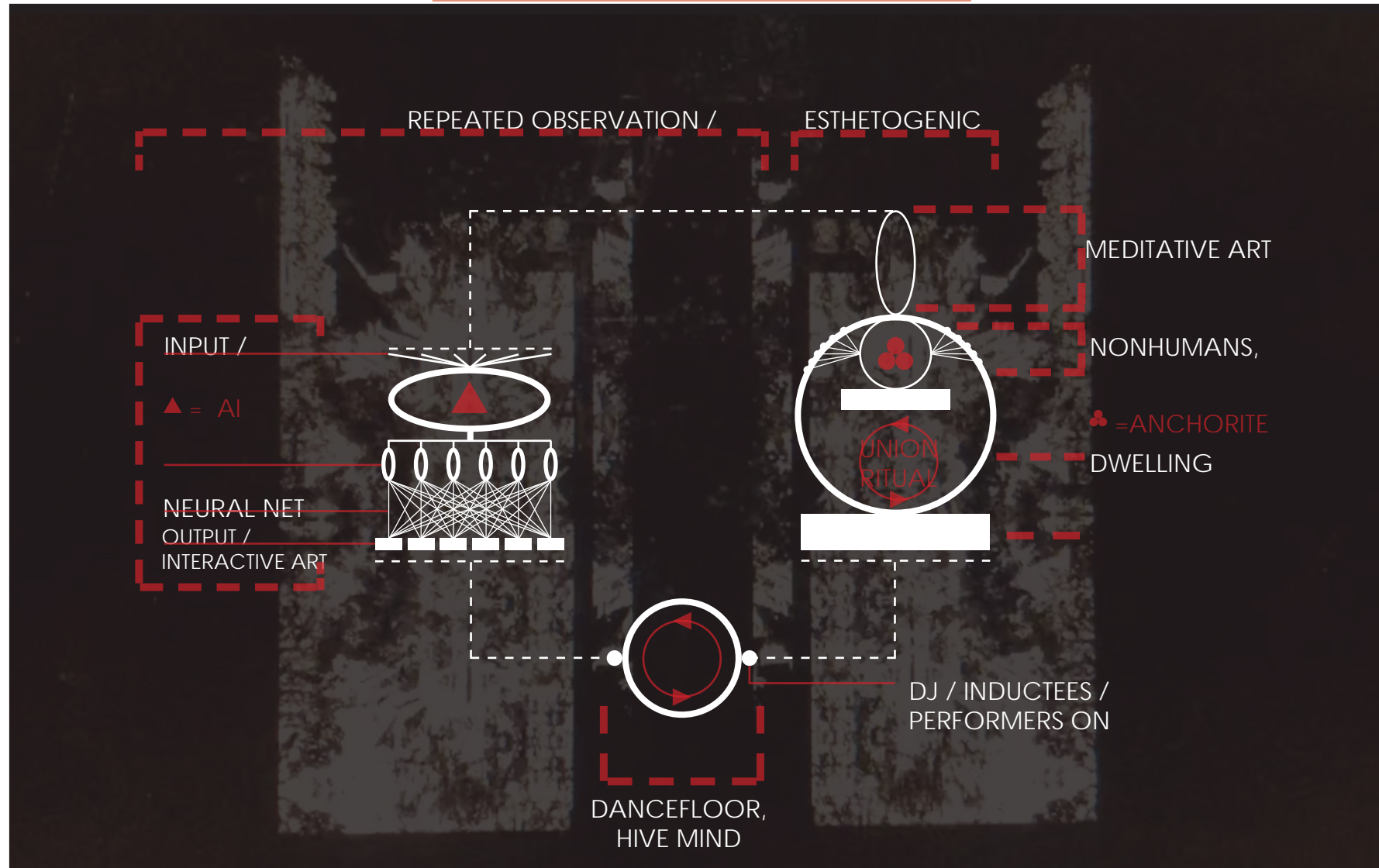
129 St. John, *Global Tribe*, 118.

130 *Ibid.*, 133.

131 Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 46.

132 Teilhard de Chardin, *The Future of Man*, 60.

133 Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 198.



The ego falls away. Time flies. Every action, movement, and thought follows inevitably from the previous one [...]. Your whole being is involved, and you're using your skills to the utmost." This is a state of complete absorption in the activity being practised, where mastery of a task is employed to its fullest extent: neither work nor play, it is skillful play.^[134]

Common for many centuries in the form of martial arts, the practice of including LED lights on flowtoys now prevalent at festivals expands the circle of participants in this flow. As these are manipulated, they result in complex, three-dimensional tectonics of light, as the trail left by the moving light source merges (the effect is greatly enhanced when the viewer is under the influence of drugs, but is visible and impressive in any circumstance). Observers gain insight and access to the performer's inner state of balance: the esthetogenic process made visible in real time.

When the attention of the performer encompasses external stimuli, such as music, light shows, or those observing them, the flow artist functions as intensifier of the vibe. A tendency towards "density [and] tridimensionality" is the defining feature of this arform, high technology employed as guide to a future, spiritual sublime through an exaltation of the present moment.^[135] The inclusion of accelerometers in props allows for minute movements to be amplified and made visible at night, and over distance.

Taking advantage of this quality, it is possible to program patterns of pulses into the lights so that a solid image is created, as it were, mid-air- and this image can be moving. At present, this ability is relatively simple- the images possible are simple pixel patterns, not unlike old 8-bit Nintendo, and must be created beforehand on a computer and uploaded to the lights. Accelerometers render the images legible at multiple speeds of motion, and give the props a rudimentary knowledge of its location/speed in space.

This is the present state-of-the-art.

Expanding this circle as has been discussed to include nonhumans, we can position the anchorite as performer-observer to their surroundings, who amplifies through this art their understanding of the site, who externalized the process of imbuing matter with spirit, and can centre them in an installation geared to this same, LED lights of flow props becoming as the twinkling in the eye of the installation.

In taking advantage of the learning properties of neural nets, we can vastly increase the degree of complexification-miniaturization, as it relates to these performances. An anchorite, ensconced within their cell, accomplishes more spiritually and lives in a vaster universe of love than the laity free to travel the whole world, we might say the "speed, the swiftness by which information, building material and energy are transferred piggyback or without intermediary" is centered in this performance.^[136] If we desire to accelerate spiritual encounters, to shrink the time between understanding or revelation and the ability to express this in the physical world, then a neural net can be trained in the images and forms most likely to accomplish this, through the simple expedient of the anchorite saying 'yes' or 'no' to images generated in response to their actions, we can achieve what is hypothesis 3.3.7.2 of Miller's theory of the qualities of living systems:

"Every adaptive decision is made in four stages. A: Establishing the purpose or goal whose achievement is to be advanced by the decision. B: Analyzing the information relevant to the decision. C: Synthesizing a solution, selecting the alternative action or actions most likely to lead to the purpose or goal, and D: Implementing the decision by ensuring a command signal to carry out the action or actions."^[137]

The form and nature of these images can be glimpsed in the "datasculptures" of new media artist Refik Anadol, in which an AI sifts through and finds patterns in massive troves of information, remixing them for human digestion through visual displays.

Anadol's 2019 datasculptural series *Machine Hallucinations – Latent Study: Mars*, for example, consists of "an exploration of the relationship between memory and dreams, recognition and perception, offering a new kind of cognitive cartography for data universes"^[138] based on algorithmic modifications of the satellite photographs of the Martian surface to create "machine-hallucinated images [that] come to represent collective memory, hidden layers of { 21 }

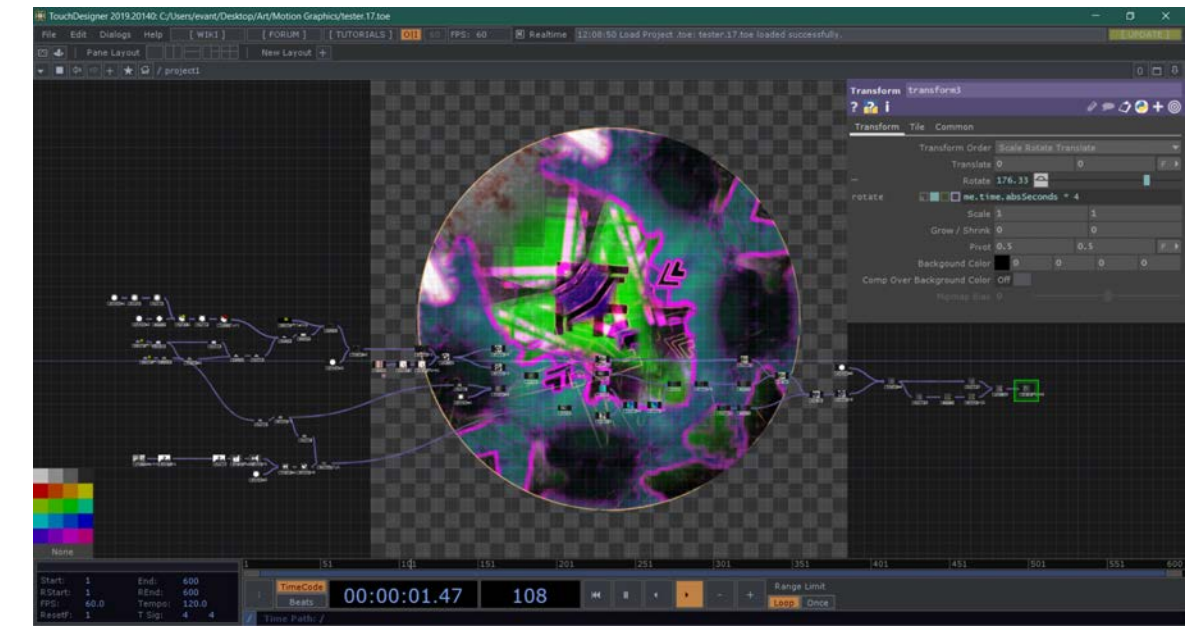
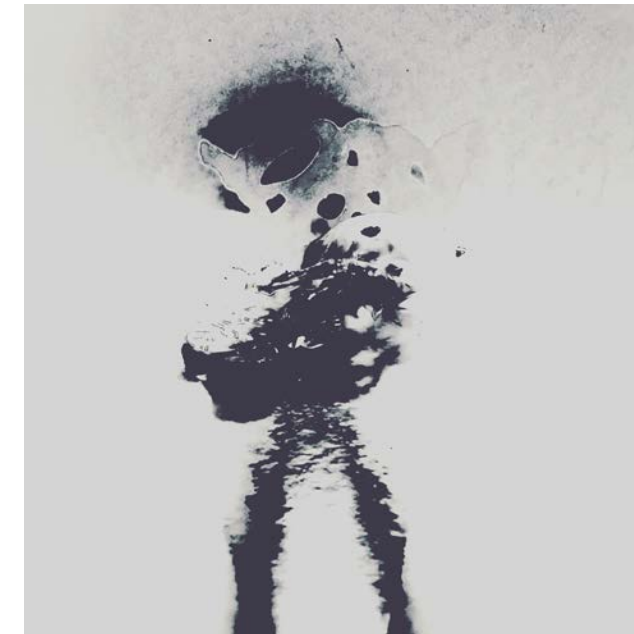
134 Getland, John. "Go With the Flow." *Wired Magazine*, accessed June 1, 2020. <https://www.wired.com/1996/09/ctlk/>

135 Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 167.

136 *Ibid.*, 192.

137 James Grier Miller, *Living Systems* (New York: McGraw-Hill, 1978), 100.

138 Anadol, Refik. "Machine Hallucinations – Latent Study: Mars." *Refik Anadol Studio*, accessed July 28, 2020. <http://refikanadol.com/works/machine-hallucinations-latent-study-mars/>



history, and then consciousness of a planet that, otherwise, might remain unseen."^[139]

The ability of datasculptures to function as a sum-total of lessons learned concerning observations and hypotheses vetted through a neural net increases the brains within the site-organism, capable of contributing their conception of altars (here in the form of a visual tool, akin to the 'bibles in stone' role of stained glass windows in Gothic cathedrals), since, as Teilhard writes: "the significance and biological function of the tool at last separated from the limb has [...] long been recognized; and it has long been realized that the tool separated from Man develops a kind of autonomous vitality."^[140]

These patterns, constituting the once-and future history of the organism, thus become grounded in the experience of the site as a palette of textures and modes of understanding: "heredity, hitherto primarily chromosomic (that is to say, carried by the genes) becomes primarily 'Noospheric' – transmitted, that is to say, by the surrounding environment."^[141] We would reference the recent turn in the biological sciences to an understanding of the importance of the microbiome within our own bodies, wherein a "hologenome" of microorganisms, together with our own human genes, is our genetic and hereditary line.^[142]

We may project into the not distant future, however, and imagine the combination of these technologies with situationally-aware AI, omnipresent through ambient, ubiquitous 5G Wi-Fi, which would allow for the real-time design of the light patterns parasitic on humans for movement, which would take on the aspect of datasculptures: projection mapping over the surface of the landform with humans being the projections. The 'shape' of the future noospheric organism, as dreamed by the AI from the stories of esthetogenesis taught to it by the anchorites, and historical transects of the conditions of the site.

Performance and open-source hacking/graffing ethics and aesthetics go well in hand with such an ambitious spiritual project. Touchedesinger, a visual coding language, is emblematic of an emerging suite of open-source programs geared to this type of nimble action. It can be used to synchronize various input/output channels, including projectors, motion trackers, audio-visual sources, and has in-house, real-time motion graphic creation capabilities which allow for an outcome which is a quite literal enaction of Soleri's proclamation that "performance is to creation what structure is to form. When one performs, one produces. When one creates, one becomes."^[143]

The performative aspect, through the deployment of such digital technics is extended to users of the site outside the circle of anchorites: through providing opportunities for engagement in the form of LED lights controlled by the same neural net tuned to the anchorites, as well as materials for ritual tectonic offerings to the landscape in the form of user generated land art (à la Haystack Veil), the veil between spectator and performer, AI and human, spirit and matter, is cast aside.

We can easily imagine this to be tuned to the history of each user on site based upon the ubiquitous presence of GPS-enabled smartphones, so that the personal becomes a particularized expression of the universal through logs of movement, pauses, photographs taken, etc.

In creating a "sense of purpose from adhering to score-process, experience, collaborative creation,"^[144] we could consider the effect of placing tags on forms, ecologies, processes. Humans writing these notes (patterns, forms, are then stored at similar points in the landscape, allowing the AIs placing them, and still other humans reading them and gaining information of them... 'pull up all the plants that look like this and throw them in a heap,' 'take this here,' 'this plant gives you visions,' and so on.

The entire process is one of a web of influences – the Hindu imagery of Indra's Net^[145] is here most appropriate – which creates fertile ground for strange and advantageous moments of aesthetic assemblages. A not-particularly radical deployment of extant technologies and technics leads to the birth of a *non-anthropocentric polity of mutually dependent (symbiotic) agents* which, as Teilhard said, "is building its composite brain beneath our eyes."^[146]

139 *Ibid.*

140 Teilhard de Chardin, *The Future of Man*, 170.

141 *Ibid.*, 169.

142 Seth R. Bordstein and Kevin R. Theis, "Host Biology in Light of the Microbiome: Ten Principles of Holobionts and Hologenomes," *PLoS Biology* 13 no.8. DOI:10.1371/journal.pbio.1002226

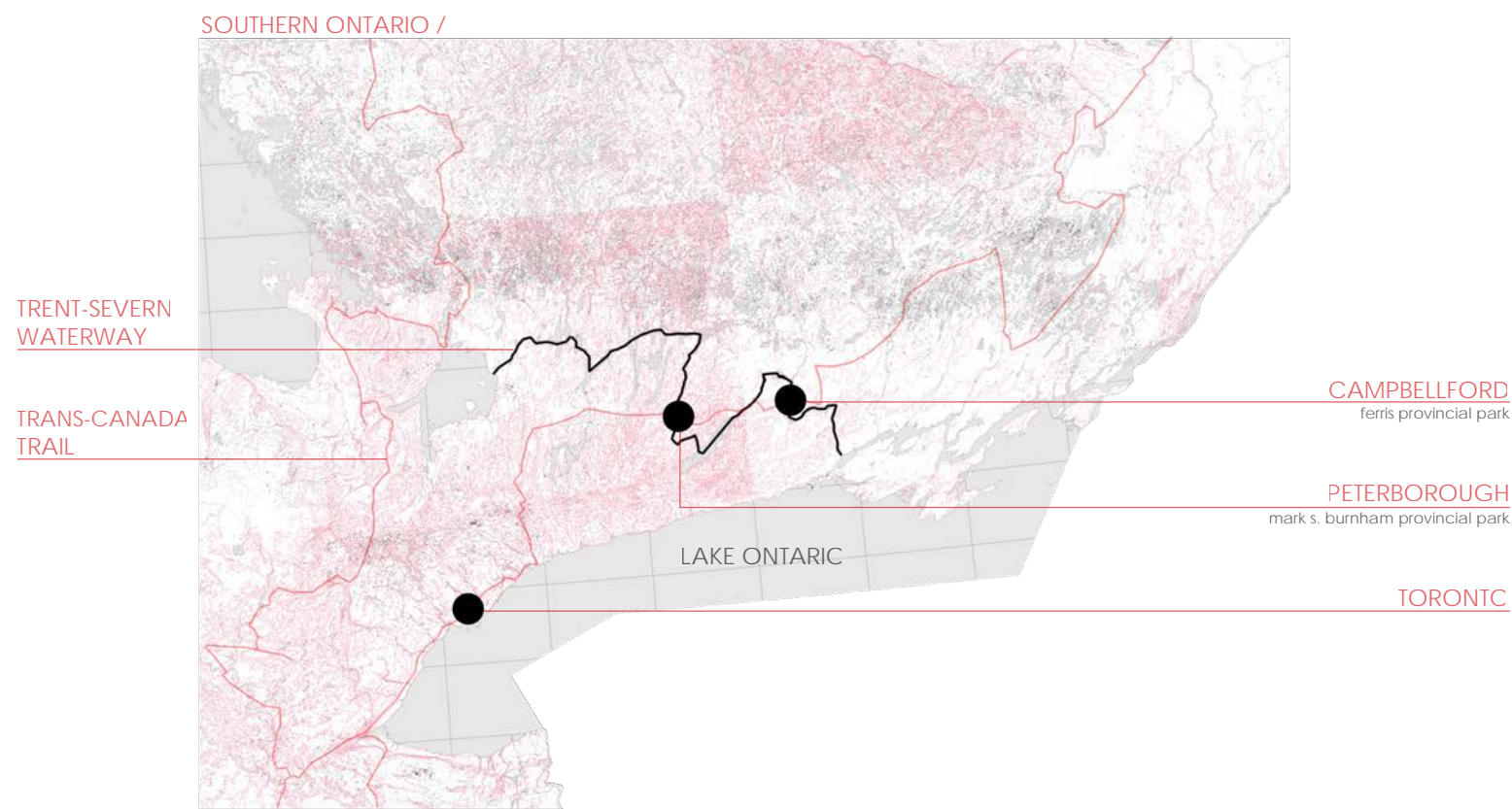
143 Soleri, *The Bridge Between Matter and Spirit is Matter Becoming Spirit*, 94.

144 Halprin, *The RSVP Cycles*, 15.

145 A net, at the junctions of which are hung jewels, each reflecting all the others.

146 Teilhard de Chardin, *The Future of Man*, 184.





SITE / FERRIS PROVINCIAL PARK

All landforms inscribed upon the skin of the earth are the outcome of processes unfolding through time. The esthetogenic process, deriving from a sympathetic understanding and growing revelation of the stamp of time on a particular landform, will more easily take root on landforms where these processes are most clearly visible. Ancient forests and mighty mountain chains are fertile grounds for spiritual growth precisely because in their physical form our senses access vast libraries of history, written in the language of sublime beauty.

The noogenic process we have described above is applicable to any landform, discrete physical object. In seeking to hasten and bolster the global emergence of the Thinking Earth, however, we find that it is the transferability of this process which becomes essential. It is neither new nor particularly useful to observe that sublime settings beget sublime experiences: we are after fertile ground on which man plants can grow, rather than existing ones.

Due to the great extent of ice cover during the last glacial maximum, glacial landforms are widespread in the Northern Hemisphere. As landforms, they are mantled in a variety of biological and cultural communities, and thus represent diversity in their union. Due to their (relative) youth, the narrative of their devolvement is more easily digested, and being widespread, are readily accessible.

Drumlins, elongated tear-shaped glacial hills whose long axis is along the flow of the ancient glaciers are outstanding in this regard, as they frequently occur in 'fields' or 'swarms' of many individual hills. The knowledge and understanding which can be built up through intense communion with one drumlin can thus be applied to a much larger region, a spark ready to burst into a flame.

Many large drumlin fields occur in Canada, especially in the far north. The Peterborough Drumlin Field, located to the north of the Oak Ridges Moraine in Southern Ontario is notable for being adjacent to the most densely settled region of Canada, and primarily devoted to agriculture. It is a readily accessible, familiar landscape to many millions.

The proximity of the Peterborough Drumlin Field to the large population of Toronto provides ready access to a vast pool of potential participants, with diverse skillsets. The Trans Canada Trail and Trent-Severn Waterway both pass through the drumlin field, providing recreational linkages to Toronto.

Ferris Provincial Park is a small (1.98 km²) park located on the east side of the Trent River, abutting the town of Campbellford to the north in the municipality of Trent Hills. The park was established in 1962, originally on land donated by the decedents of James M. Ferris, and expanded to its present size through the acquisition of additional abandoned farming parcels.^[147]

The present landscape of the park can be understood as the result of three periods of influence, as is typical across much of the Canadian landmass. A long period of glaciation gave birth to the present geological profile; following the retreat of the glaciers, the colonization of the land by a progressive series of ecosystem complexes as the climate warmed was accompanied by settlement by Indigenous peoples and a period of reciprocal influences between human and nonhumans. This period of influence was in turn replaced by one of European settlement and influence in which the original ecosystem was largely replaced by farming and the human population of the district was much increased. The site stands now at the dawning of a complex new, global period, in which declining rural populations, radically shifting climactic regimens, and changes in the dominant discourse of human-nonhuman relations leave open the possibility of a period which blends qualities of the previous periods.

The park contains a far south-eastern portion of the Peterborough drumlin field, an expansive post-glacial landscape of characteristic ridged drumlins. These drumlins rest atop limestone bedrock, deposited 460-470 million years ago. The drumlins themselves consist of glacial till, oriented towards the retreating flow of the glacier, and there are scattered glacial erratics, of the stone of the Canadian Shield, which here underlays the limestone, averaging around one metre in size.^[148]

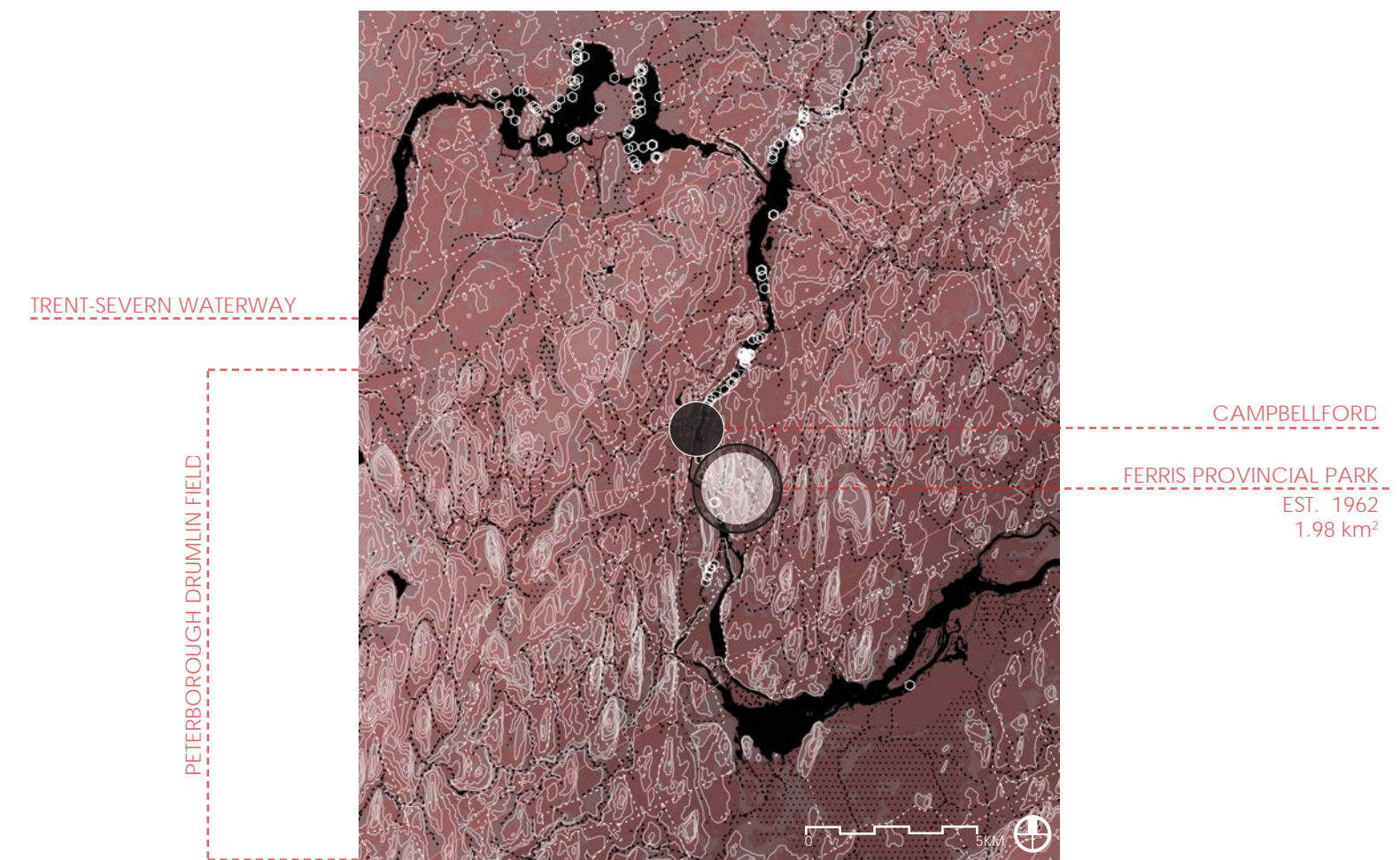
Prior to European colonization of the region, the landscape was heavily forested, with characteristic forest cover on the north-west and south-east sides of the drumlins based on temperature and moisture differences. The occurrence of stands of the long-lived Eastern { 25 }



147 Ministry of Natural Resources, "Ferris Provincial Park Management Plan," Government of Ontario, Toronto, ON, 1986.

148 Friends of Ferris, "A Nature Walk in Ferris Provincial Park," 2018.

149 Ibid.



Hemlock on the cooler north sides of the drumlins can still be observed at Mark S. Burnham Provincial Park; located immediately to the east of the town of Peterborough at the opposite side of the drumlin field from Ferris, this small park is the only location where the region's virgin vegetative cover can be observed. The towns of Peterborough and Campbellford are linked by the historic Trent-Severn Waterway, which remains an important route for sightseeing by water. The clearing of the original forest cover for farmland and the attendant creation of stone walls is characteristic of the region, and the crumbling remains of several are present in the park.

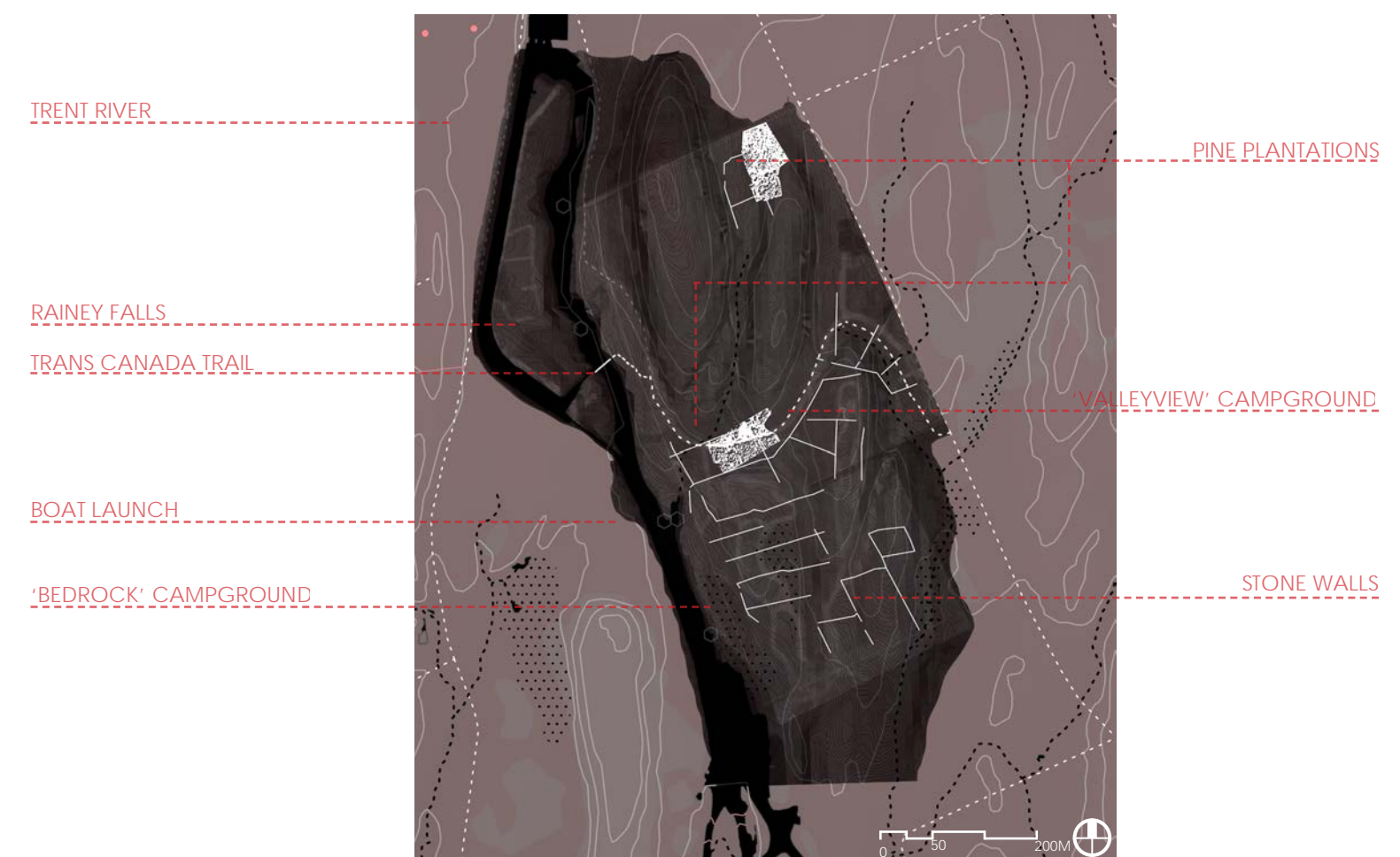
Completed in 1986, the *Ferris Provincial Park Management Plan* lays out the framework for long-term use of the park and identifies those qualities unique to it. Though the geology of the drumlins is characteristic of the Peterborough drumlin field, the park's size and level of ecosystem disturbance is such that its chief value is judged to be recreational, with the network of stone walls being identified as of particular historical interest.

The Ranney Gorge Suspension Bridge, which links the western edge of the park to an island in the Trent-Severn Waterway and a recreational trail on the western shore, was opened in 2004. Ongoing rehabilitation of small portions of the system of stone walls occurred in 2008-2018.^[149]

In addition to a small network of trails linked both to the Trans Canada trail and to the sidewalks of neighboring Campbellford, there are two camping zones, one located on a low meadow adjacent to the Trent River, and one on the crest of one of the drumlins.

Two small pine plantations exist within the site, with a mix of open fields and second growth coniferous and deciduous forest cover present.

Overall, Ferris Provincial Park represents an ideal site for the planting of the noogenic seed.

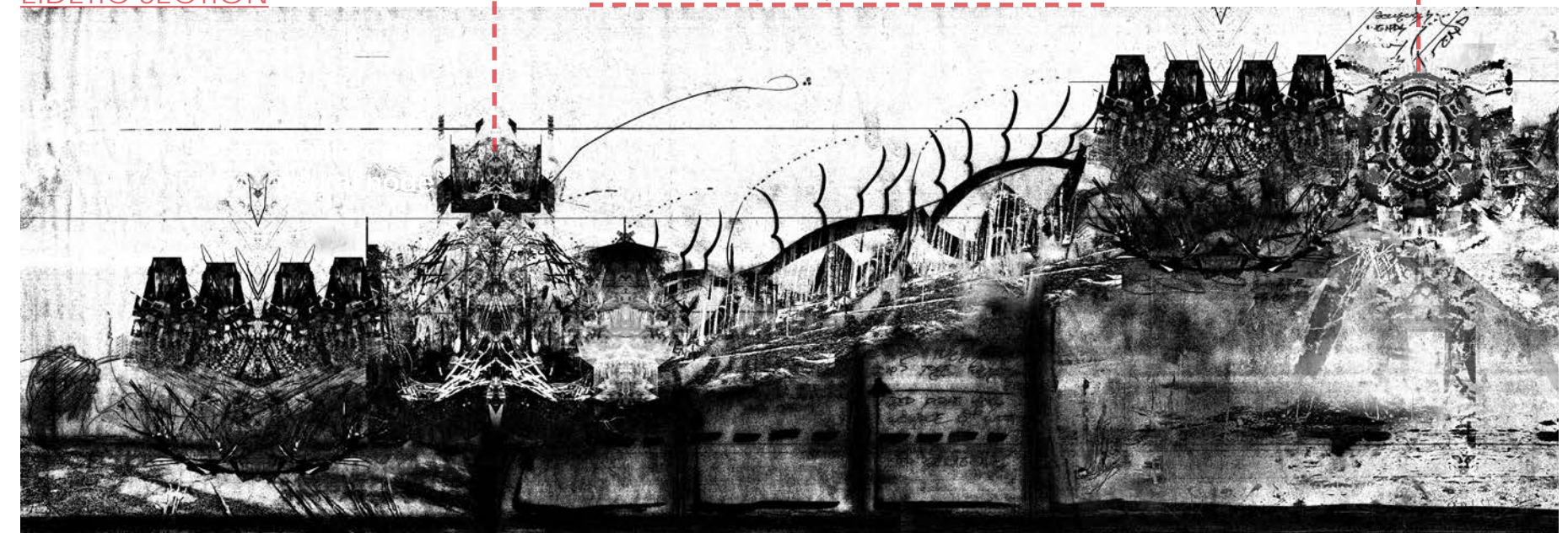


INDIVIDUAL /
CULTIVATION OF
SITE-AWARENESS
anchorite cell +
neural node

COMMUNAL /
CAMPING
FESTIVAL
omphalos +
community groves

EIDETIC SECTION

steep slopes left w/c



the anchorite and the neural net. Sensors clustered at its front serve to capture the motion of a central, circular meditation platform, so that the anchorite can train the neural net which 'learns' the proper expression of their inner understanding.

A raised stage for public performances projects from the living area, fronted in limestone, and surrounded by wire screens on which is projected an evolving data sculpture, tuned to respond to performances on the stage, but ambiently active. Fronting this stage, an interactive light sculpture governed by the responsive patterns learned from the anchorite responds to activity on the dance floor connecting the stage and neural nodes.

At a remove from the anchorite's cell, and oriented between it and neural nodes, is a dispersed 'amplification membrane,' linear light sculptures which pulse to the same pattern as those fronting the stage, but at a reduced speed, providing for an echo of responses and events.

NEURAL NODE

Neural nodes represent the programmed interaction between transient visitors to the site and the permanent experience of the anchorite. Initially placed as viewing locations for the esthetogenic performance taking place in the anchorite's cell, they facilitate the further digestion and amplification of this.

Nestled in groves of red cedar placed at openings in the second-growth forest, each has at its centre a charging station for the lights which can be carried throughout the site, as well as a sculpture with lights which responds to sounds created from within the node. Anchored initially on existing trees before the cedars reach maturity, stringed instruments built into seating provide for the analogue amplification of the datasculpture viewed through the trees.

As the light-preferring red cedar matures, it provides a nursery for eastern hemlock, which over time shades it out – the bones of this become 'children' sculptures.

The space between the neural node and anchorite's cell is cleared of undergrowth, and transitioned to a dancefloor with seating edging depressions for nurseries of eastern hemlock, framed by resource depots enclosed by porous walls of red pine harvested from the plantations on site.

OMPHALOS

The historical omphalos is the central navel of the earth, and the dance temple located on the highest point of the drumlin, where it most closely approaches heaven, forms a sacred precinct for the expression, through ecstatic dance, of the mysteries of centered-ness cultivated among users of the site.

Containing a dancefloor as the venue for the community to come together and become a greater whole, it provides for the dissolution of the ego in collective dance, and for the humans of the site to merge with their surroundings, reifying their inner understanding of the site. As the venue for a recurring festival at the summer solstice, it also provides for a source of revenue -physical and social – to maintain the site.

Within the loop of an existing gravel roadway, a linear mound defines the circular precinct, crowned with oaks, and with a shallow ditch on its inner side. This circular membrane is pierced by low ridges crowned with pines, on which are arranged glacial erratics collected from the excavation of the ditches.

An inner ring alternates between shallow depressions which channel water to the roots of silver willows surrounded by seating, and low dancing platforms surmounted by sculptural lighting. The lighting, sculpted in resin and carved wood, responds to current sound and motion by displaying interpretations of past patterns of these same elements on the same calendar days of previous years, enhancing the out-of-time nature of the solstice celebration.

Within this is a ring of standing stones, again glacial erratics, which at the four cardinal points

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SITE-ORGANISM

The noosphere is a planet-wide phenomenon organism: we can speak of the site as an organism to conceptualize its life-process, but at the scale of the planet, this site-organism is proportionally a cell. A region consisting of similar landforms – in our case, a drumlin field – takes on the aspect of an organ, in which a particular suite of technics of spiritual patterns emerges as most appropriate.

What is here called an organ is, in the context of a landscape machine, a subsystem. It carries out the function of bringing to greater visibility and definition, the lived vision of the final, steady-state stage. Showing this vision, it educates those who view and interact with it, and encourages them to echo the ecological and spiritual functions they see carried out therein.

The site-organism serves to house the lived, everyday cultus the drumlin, as opposed to the festival aspect that is observed in the communal celebration on the dance floor: the cultivation of a score, such as described by Halprin: "a system of symbols which can convey, or guide, or control (as you wish), the interactions between elements such as space, time, rhythm, and sequences, people and their activities and the combinations which result from them." Stored in the memory of the site/users, this entails what we have previously called a glyph, and the design of the site-as-organism can be understood as a series of glyphs.

The glyphs presented here are the points where this process begins: they are the beginning, and not the end, of a design. The overall relationship of the parts can be understood in a section focused on the northwest, long face of the drumlins, that which was originally covered in Eastern hemlock. The elevation of hemlock as totemic element linked to an anchorite forms the ultimate seed from which the life-pattern of the site emerges, and we take our transect from this point, at the foot of the drumlin, to the crest, crowned with the organs for public festivals.

Following the existing management plan for the park, our focus is on the currently-developed drumlin. Installations are concentrated on the drumlin at the centre of the site on which is located the Valleyview Campground, meshing with the existing layout (and roads), allowing for the integration of present and future uses.

The existing network of stone walls serves as initial spine for a new network of paths, and to conduct electricity unobtrusively into the installations on the site from an existing power parallel to the Trent river; this spine, where it intersects the central drumlin, defines the centre of the network of movement within the site. Over time the natural flow of human movement – guided by the emerging consciousness of the site – connects these elements.

Timber for initial constructions is drawn from the two small extant red pine plantations on site, with a hedge of honey locust for coppicing planted along the eastern edge of the park to be renewably harvested for smaller elements.

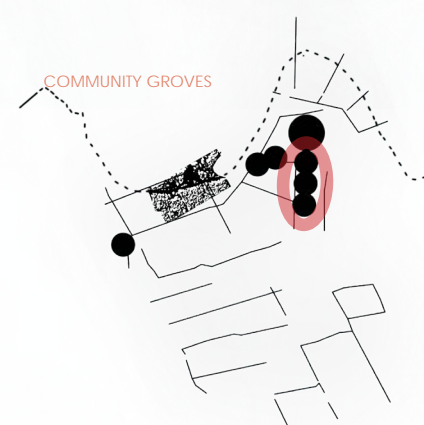
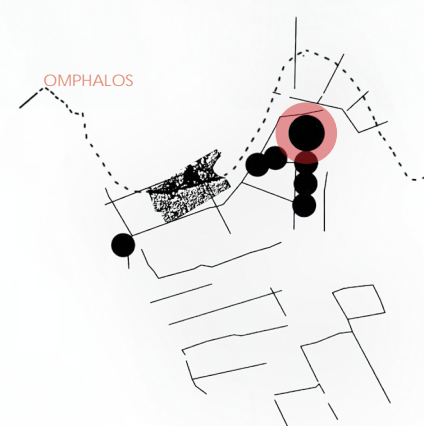
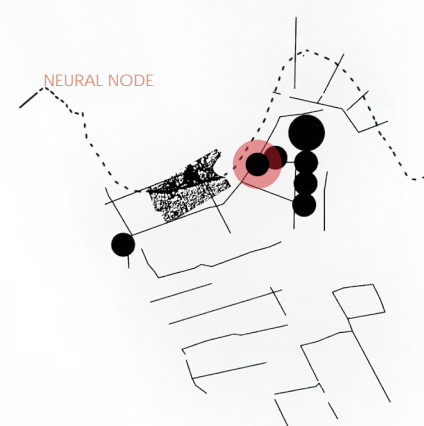
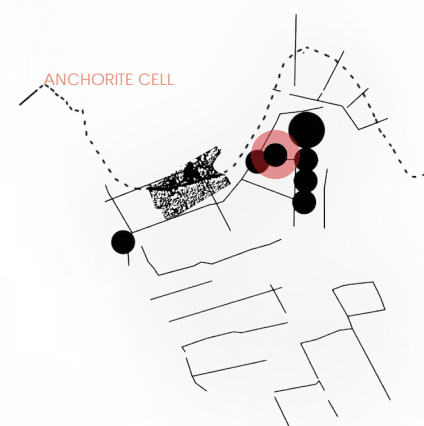
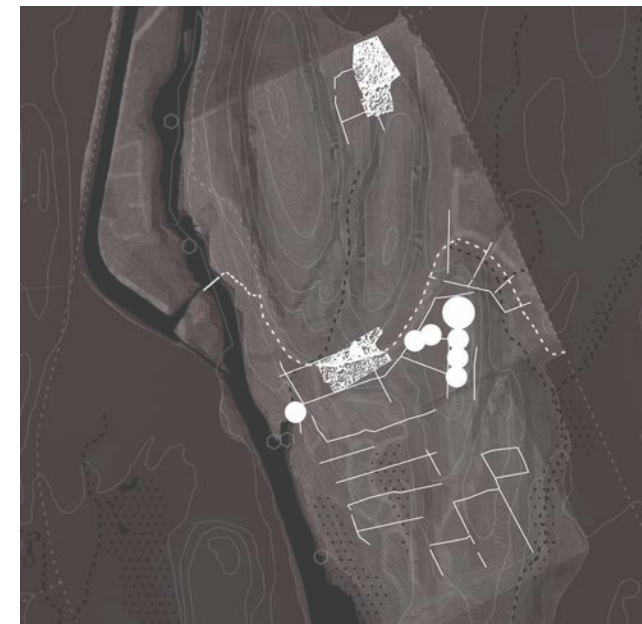
At the southwest corner of the park, limestone bedrock is immediately at the level of the river; as it is needed for the construction of stone elements, a small canal is dug back into the heart of the heart, along an existing ditch which parallels the Trans Canada Trail, connecting to the small bay/boat launch, and drawing the Trent River deeper into the site and providing moisture to the benefit of the regenerating hemlocks.

ANCHORITE CELL

The anchorite expresses through art their dwelling within the site, responding to it around them as the trees respond to the wind. Their cell serves to amplify their understanding through artistic displays mediated by a neural net engaged in an ongoing conversation with the anchorite. The anchorite arranges his cell as expression of his understanding of his body's place in the world – the meeting of its needs, so that he may continue to carry out his artistic function. This entails over time the sculpting not only of vegetation, but the ambient, datasculptural glyphs and patterns of light which populate the larger site.

A central living area, including an altar, is surrounded by a dense planting of eastern hemlock at the base of the drumlin. The idol which forms the back of the altar is a representation of the drumlin in plan, supported by two standing stones, and facing outwards. An occlus between the outside and inside of the cell, embedded lights provide the interface between

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is interrupted by pylons of limestone quarried from the site's bedrock. Harvested from the plantations on site, red pine posts form twin lines transecting the precinct, meant to be uprooted and moved periodically, between which are hung woven light shades and lighting. Their initial orientation is along the line of the drumlin ridge, in the form of the vesica piscis.

At the very centre of the dancefloor in the middle of a shallow bowl lined with clay sits a two-story limestone drum which catches rainwater and slowly releases it through small holes, prolonging the presence of life-giving moisture in the sacred precinct. Carved in high relief, its exterior displays a narrative of the process of noogenesis. The holes through which water bleeds are densest at the top of the drum, where they form a map of stars, decreasing in density towards the base.

The space in-between the outer edge of the circular embankment and the existing roadway is planted as a hypostyle hall, with scotch pine in a regular grid. Scattered plantings of wolf willow and sage within the sacred precinct respond to, and themselves shape, the paths of human movement.

COMMUNITY GROVE

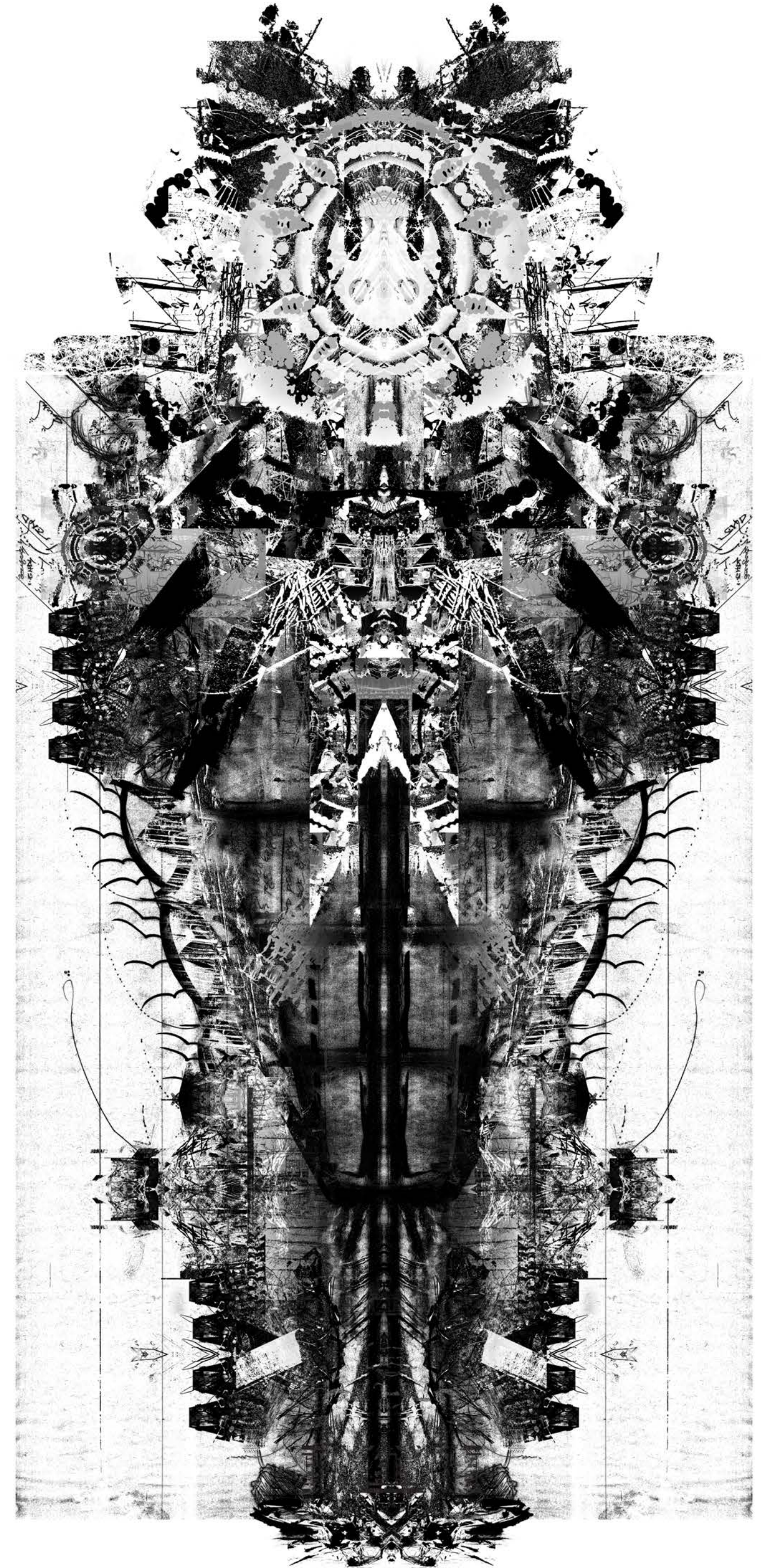
Community groves offer a space for the enaction of living sculptural elements: the creation of a particular vibe, and the ability to add to this through the physical elaboration of the grove. Located strategically along points of congregation within the circulation of the site, and differentiated from the surrounding ecological matrix of second-growth forest by species type, their sanctity derives from the pattern of human use they foster: more intimate encounters with nonhuman intelligences, mediated by art installations. Points of congregation, each over time will develop their own specialized function: reservoirs of human attention awaiting activation.

Each contains an upright, totemic element, a ring of stones for group seating, a small open space for performance, a firepit, and an altar. Over time, these groves supplant the current subdivision of campsites as the loci of temporary human presence on the site. Seating elements (triangle seating as at boom) built up over time, with a standard triangular form/cover erected at the founding of each.

The basic vegetal structure of the grove consists of a mix of trembling aspen and pine (the particular species varying based on the location of the grove: red pine is the choice here due to its role in providing lumber for the initial construction). The yearly fall of pine needles provides a mulch material to define paths, and the aspen links the grove to distant sites as the most widely dispersed tree on turtle island.

An outer ring of staghorn sumac expands the grove over time, creates a visual shelter, and offers many opportunities for the hanging of light and art, as well as providing small wood for the continued elaboration of the site.

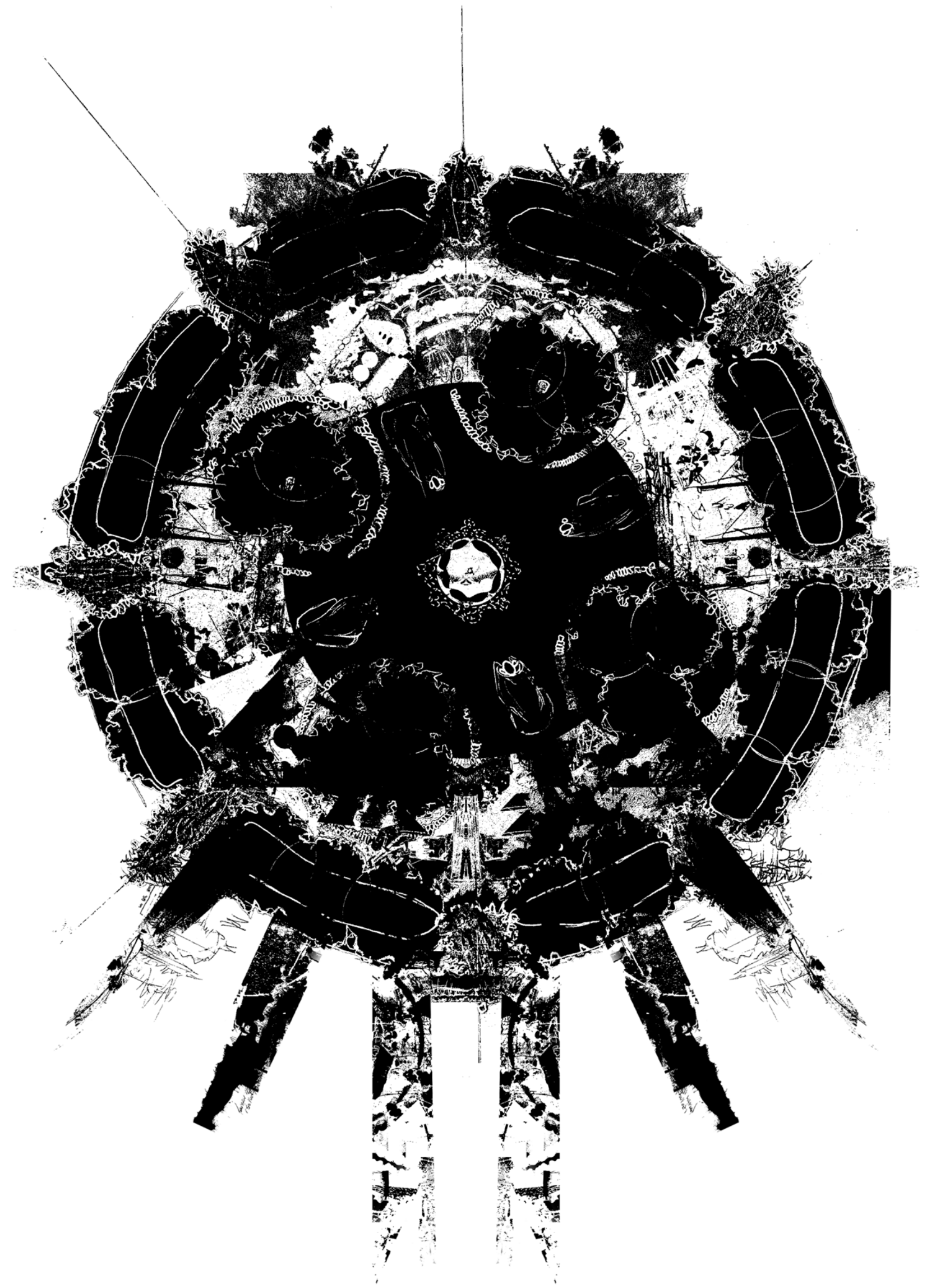
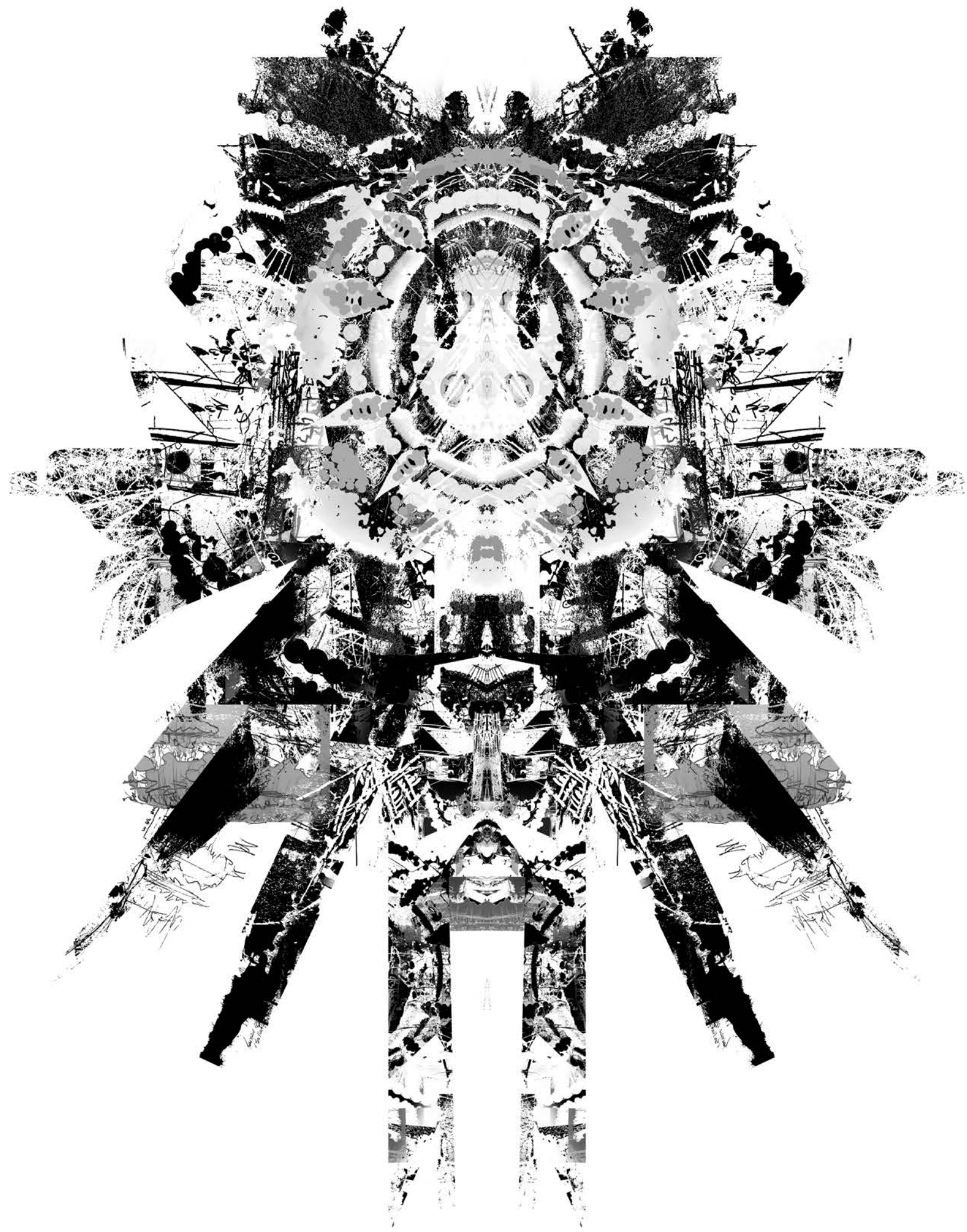
A simple earthform, inner ditch and outer dike, surround each, increasing the sense of internal space, and diversifying the local microclimate.

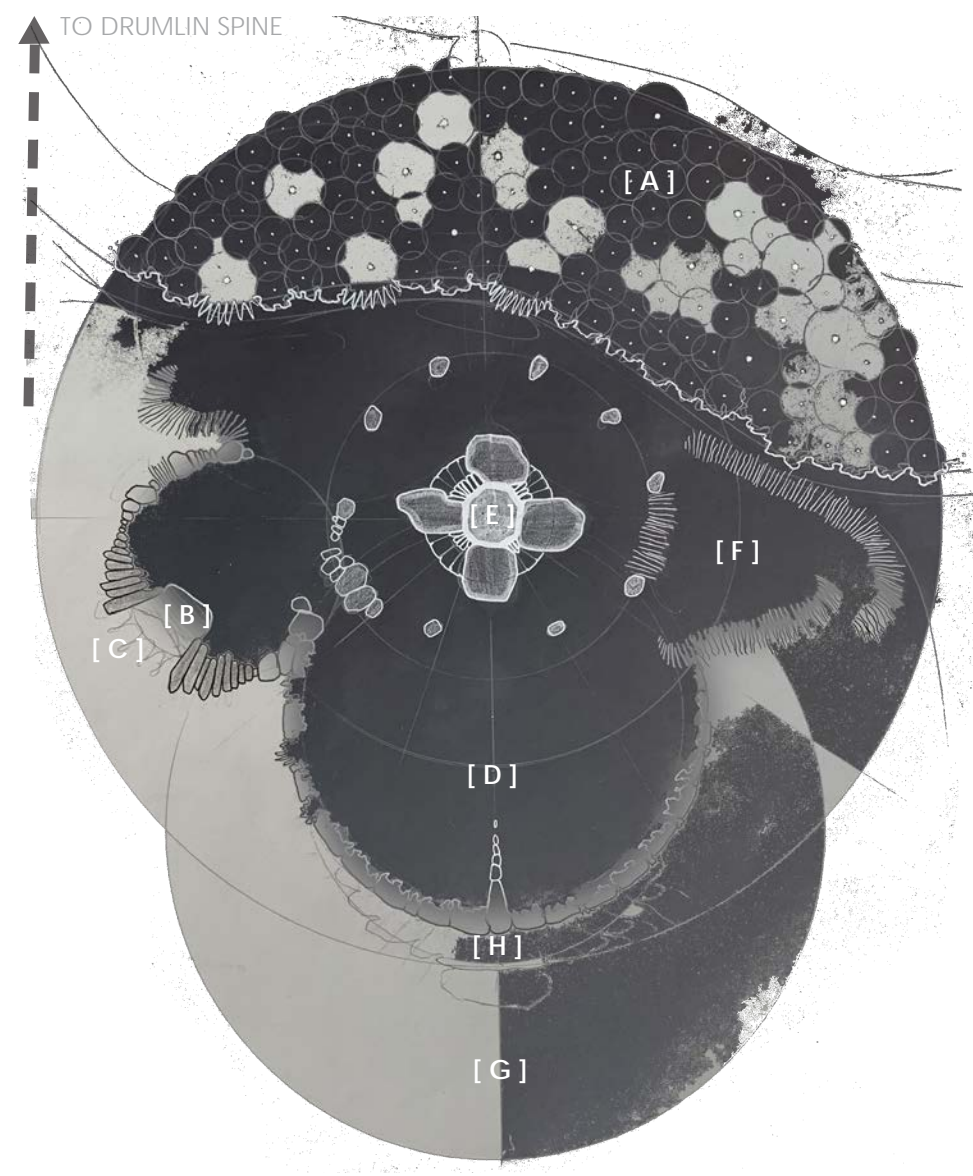








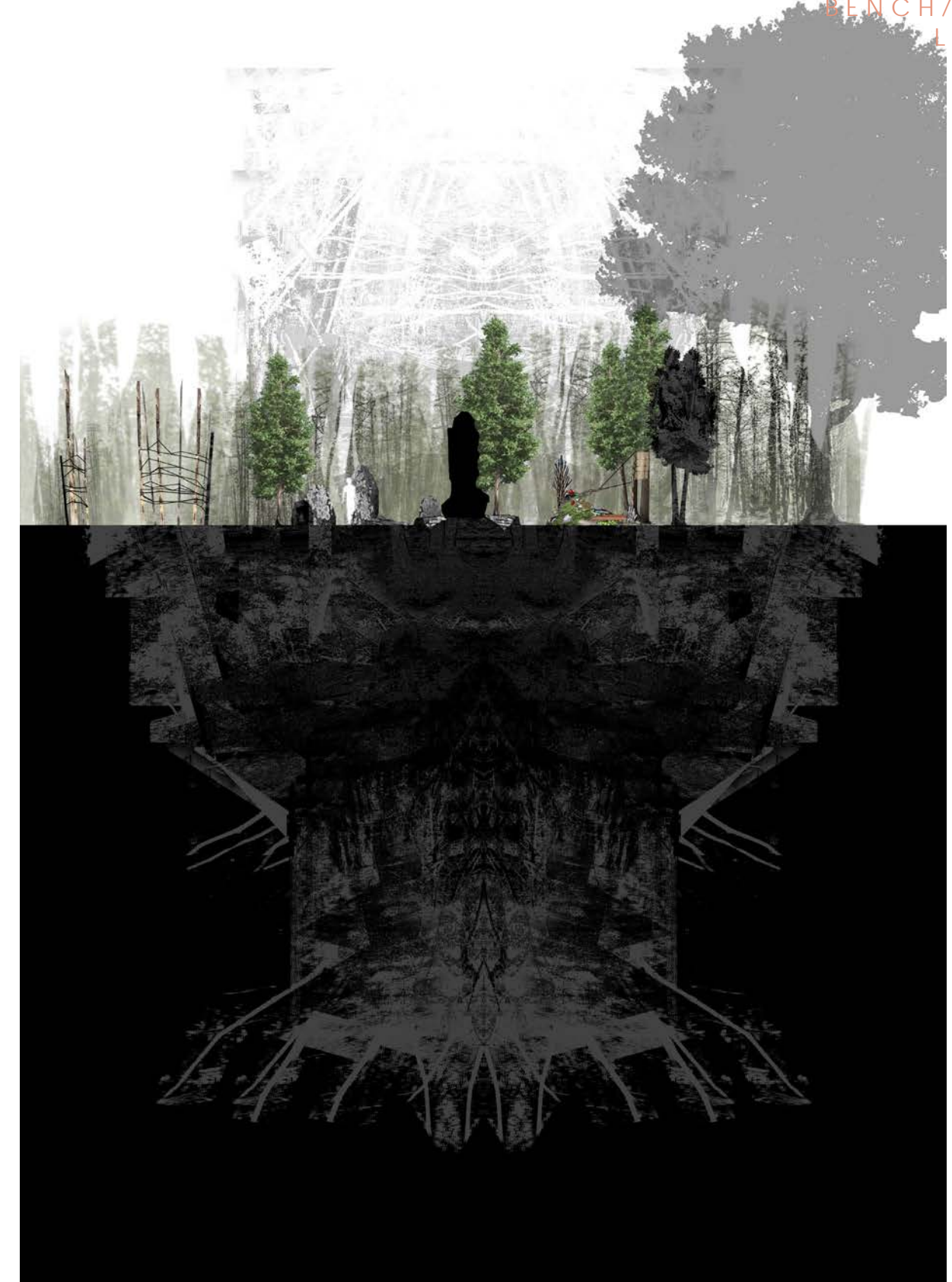


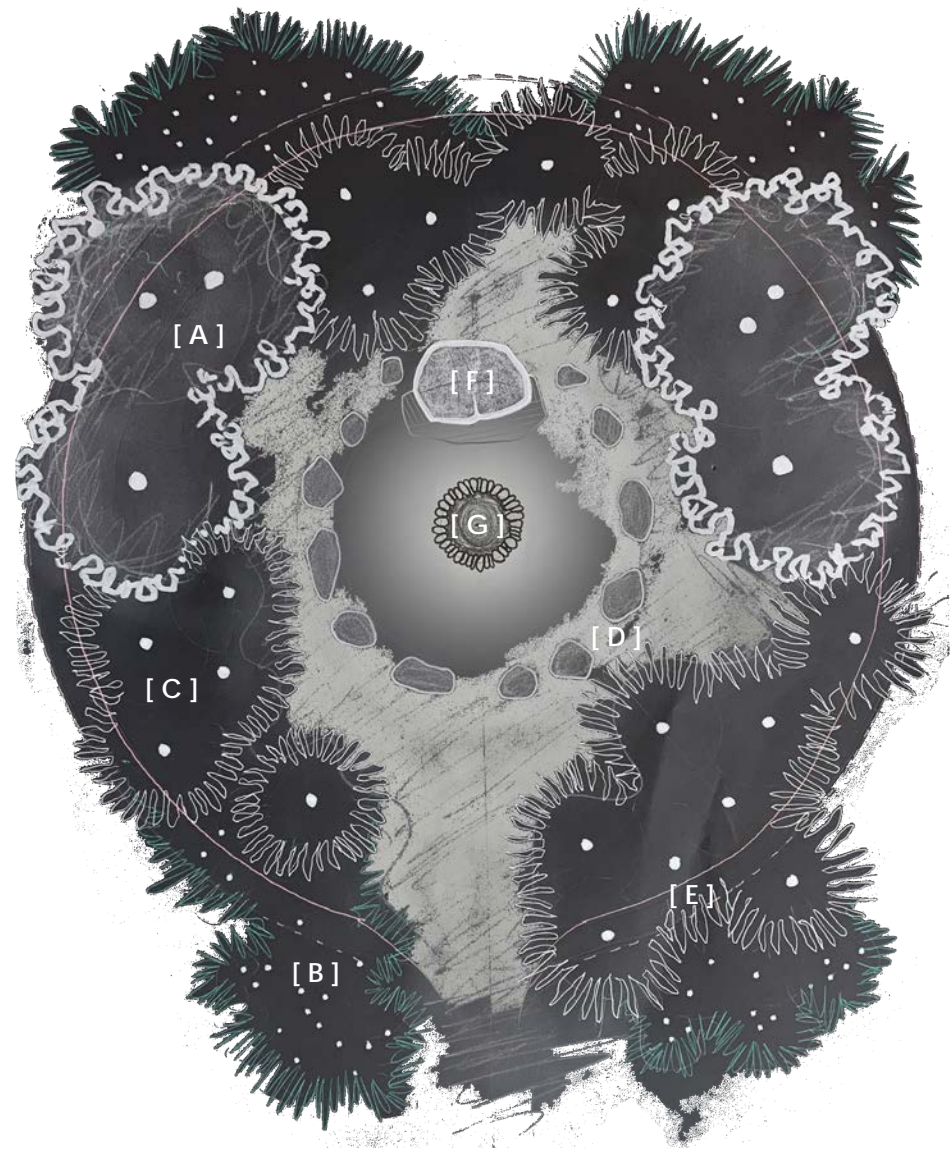


- A/ *TSUGA CANADENSIS*
- B/ ALTAR
- C/ OCCULUS
- D/ STAGE/SCREEN
- E/ PROJECTION PYLON/
SENSORS
- F/ HOUSING/NEST
- G/ DANCEFLOOR
- H/ RETAINING WALL

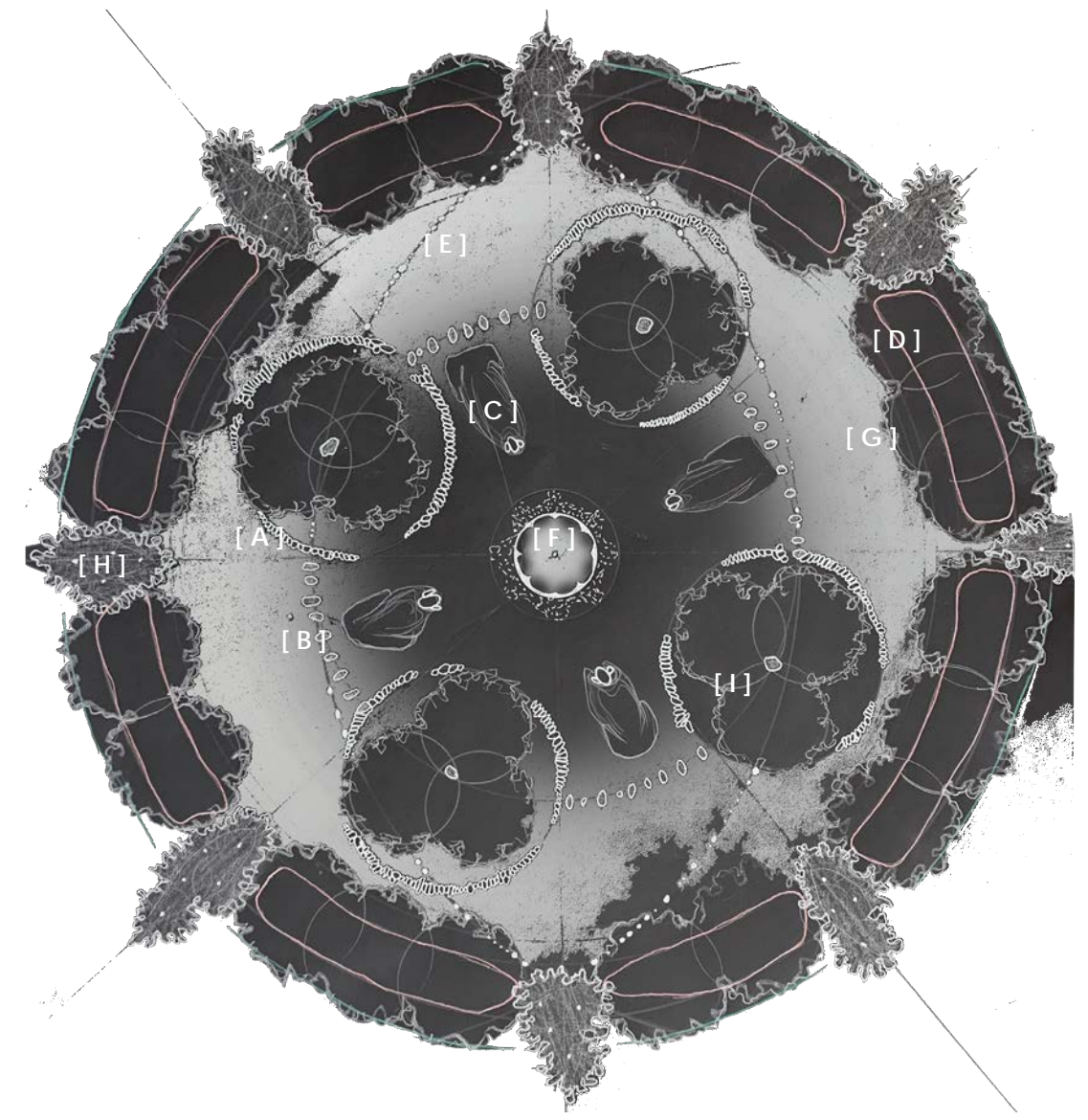


- JUNIPERUS VIRGINIANA* / A
- MATURE HARDWOODS / B
- RESOURCE DEPOT / C
- STANDING STONES / D
- CHARGING STATION / E
- BENCH/INSTRUMENT / F
- LIGHT TOTEM / G

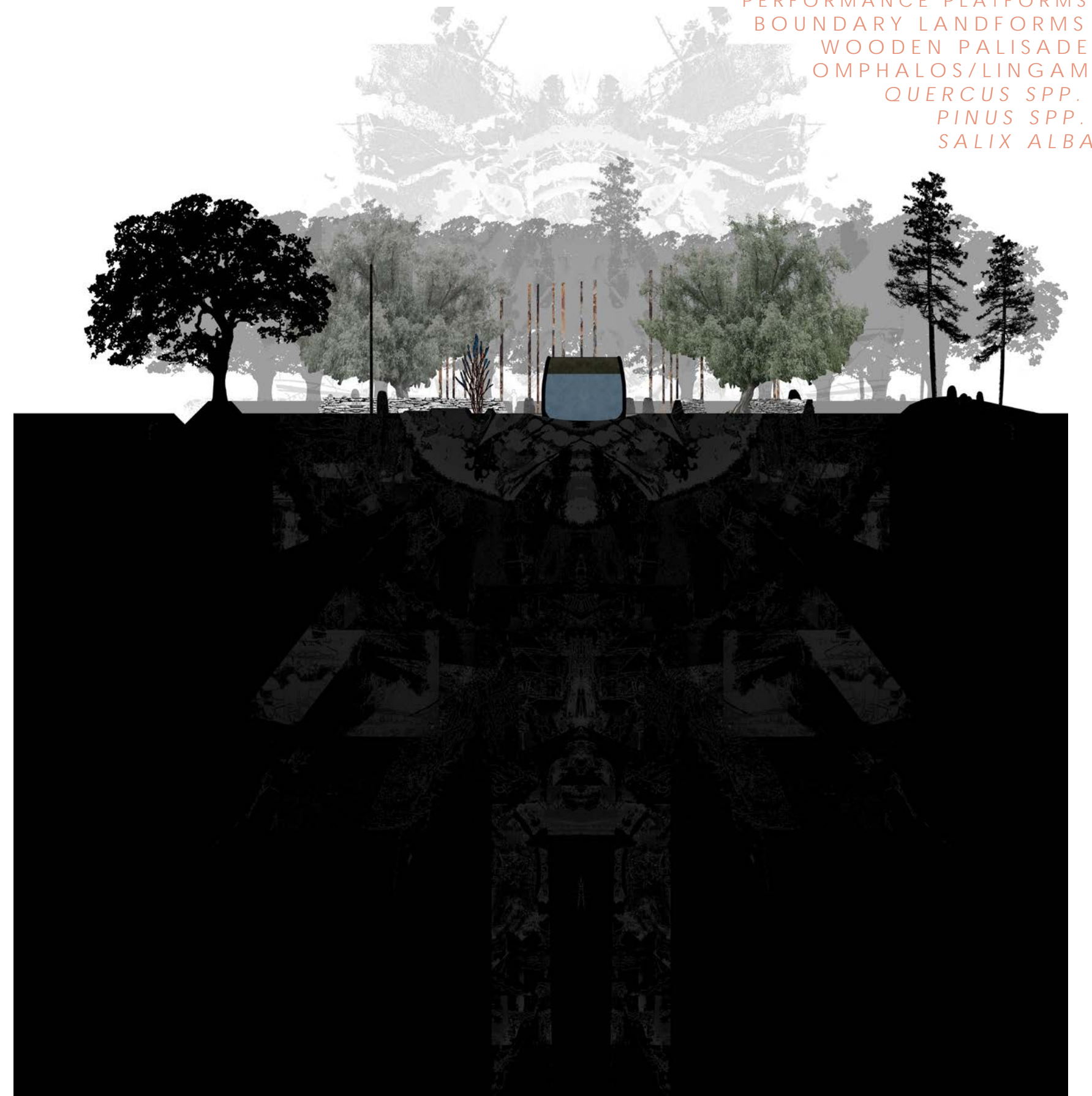




- A/ *POPULUS TREMULOIDES*
- B/ *RHUS TYPHANIA*
- C/ *PINUS SPP.*
- D/ COUNCIL CIRCLE
- E/ BOUNDARY LANDFORM
- F/ TOTEM
- G/ FIRE



- STONE WALLS / A
- STANDING STONES / B
- PERFORMANCE PLATFORMS / C
- BOUNDARY LANDFORMS / D
- WOODEN PALISADE / E
- OMPHALOS/LINGAM / F
- QUERCUS SPP. / G
- PINUS SPP. / H
- SALIX ALBA / I



THE SOUND OF HOLLOW WATER

An altar, the linchpin of spiritual functioning in the reality of a temple, occupies a very small portion of the overall physical structure: so it is with the design presented above: embedded within the site, a small core of designed installations organize the function of the whole. As the site evolves, and the entheogenic processes nurtured in these installations matures, what is the experience of users of the site – say a first-time visitor, camping for a weekend?

On the crest of the drumlin, there is the dancefloor, bearing clearly the mark of human intention – circular forms inscribed on the crest of the hill must resonate with all humans, even in a spiritually denatured culture. The community groves, intimate in scale, offer points of rest, socialization. Small paths over time emerge from the forest, connecting the crest of the drumlin to the flatlands. As one follows these, one begins to notice perturbations in the 'natural' arrangement of the materials of the site: arrangements of stones, branches, offerings in trees: even if not understood, they speak clearly to a human agency and connection, and invite the question – what- and why?

As one approaches the anchorite cell and neural nodes, the density and complexity of these structures increases. The sense that this is an active landscape – restless, self-organizing, must increase. Forms recently assembled and forms abandoned, decaying into the surrounding forest, intermingle.

The neural nodes and anchorite cell, loci of human energy, will more and more come to resemble delicate gardens: lovely, but perhaps still obscure in meaning. It is at night that the moment of revelation comes – when lights are seen gliding across the landscape, flickering with hidden meanings which invite discovery. The datasculptures and light totems, at night, serve as do the aurora borealis to focus the mind of the viewer on the *mythic substrate* of the world around them.

It is here – where at night lights and human forms intermingle, performing that most ancient of rituals, ecstatic dance – where the sense of the site's awareness of itself swims into view. Fireflies, observed at night, communicate their preference of habitat: the site-organism, at night, communicates its invitation to join it in noogenic gnosis.

There is in Manitoba a place named Hollow Water. A lovely and an evocative name, we may think it purely exotic – poetic for its own sake – up until we hear for ourselves the sound which liquid water makes as it runs across a field of ice, smoking and freezing before our eyes and ears. It really does make the sound of hollow water. So it is with the site-organism described here. It sounds lovely and poetic – but to see the already-extant, similar assemblages of humans and landform in action is something else indeed. The anchorite(s) described above, who sit at the centre of this process as mediators of symbiosis, are those with sure knowledge of what is possible: as DJs, they intimately conduct and understand the dance of coming-to-knowing.

They are those with knowledge that an Indigenous understanding of the world – a balanced, symbiotic relationship of all living things, including landforms – cannot be encased in trite symbols: it is something living, which is spread by testament: a living truth, their rule is the continuous shaping of an *epistemological epistle*. They are also those which know that *Indigenous* bears the same relationship to the noosphere as stained-glass windows bear to heaven: a useful tool, but one which can only buttress a human, personal, intimate understanding. The festivals which occur on the site are part and parcel to this understanding: they are an appropriate vessel, as an universal human mode of broadcasting an experience.

Thus, the form which the neural network learns is an expression of the evolving awareness of the site, but also a reification of the potential awareness of all sites: as such, it invites novel responses which can be carried in the heart of those who experience it into the greater world. At an immediate level, having understood the process, we ourselves gain the ability to generate it, whether or not the physical infrastructure for this mass-generation exists around us.

In a world where sampling, grafting, and hacking information is the artistic form *du jour*, we can find hope in the possibility of such an open-source road to self-awareness.



EPILOGUE: SHAMBHALOVE

The world is a -building. This is the basic truth which must be understood so thoroughly that it becomes an habitual and as it were natural springboard for our thinking.⁽¹⁹¹⁾

As I write this in the July of 2020, the ongoing Coronavirus pandemic has resulted in the cancellation of a great many festivals of the type which inspired this work, including Shambhala – yet the spiritual work which they provide the venue for enacting goes on. A group of Manitobans who yearly make the pilgrimage to Shambhala is assembling on a rural property to continue the noogenic work.

What begins as an encounter in a particular landscape, designed to enhance that moment, becomes a process, a drive in the lives of those who experience it. An inescapable, organic aspect of growth expressed in the joy of living life ensures the continued growth of the noosphere, as a wind transporting seeds to new and fertile soil.

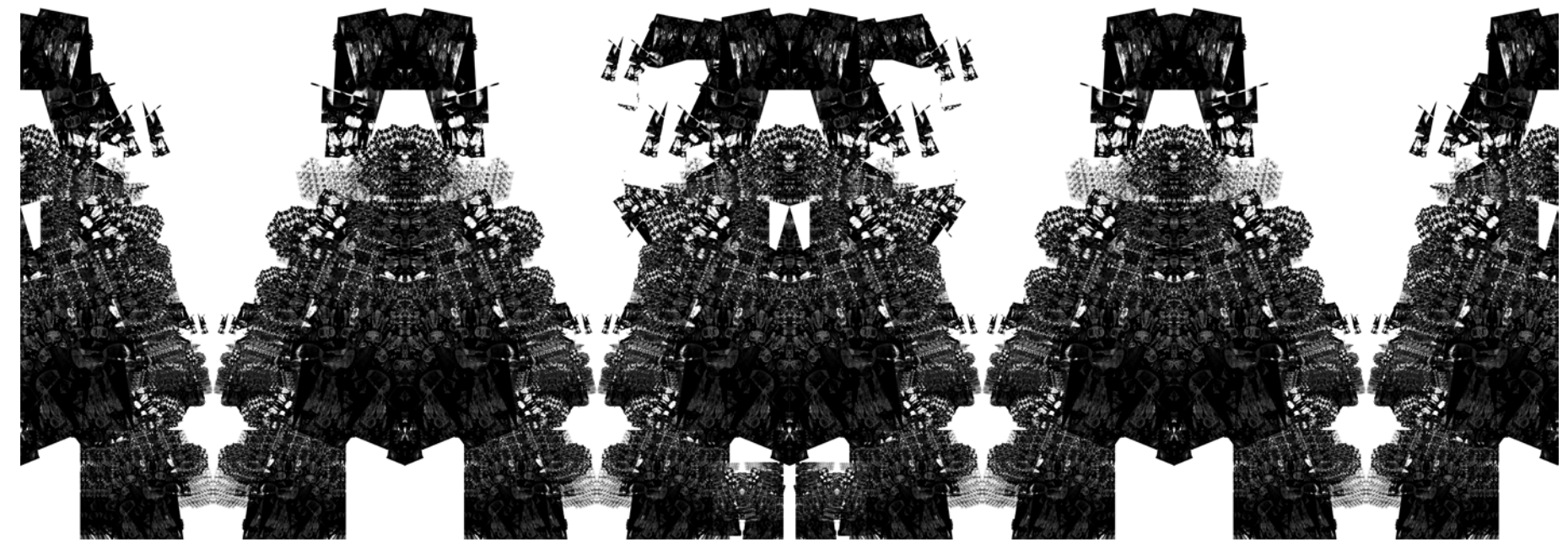
This process is greatly enhanced by the unstoppable progress of our technologies, and in this progress the growth of creative and spiritual applications – though certainly not the intended use – proceeds at a dizzying pace. The development of flow toys and pixel poi technology alone has advanced so very rapidly since this work was begun, and the commensurate ability of individuals to amplify spiritual understanding has thus expanded. What five years ago was theoretical, is today mundane.

In this vein, what began as a theoretical proposition has become a lived reality in my own life-ritual. In investigating the principals of an esthetogenic dwelling upon the landscape, I find that the performance of the resultant understanding becomes, for a lack of other words, compelling: both in its observed evocative capacity in relation to others, and in the acceleration of my own journey.

All that I have described, I have either seen done or done myself; the proof of concept can be observed in the organic filling of niches and spiritual ecosystem services present in psytrance festivals in Europe, where as Teilhard and Soleri predicated, the density of humans and stress of limited land and resources has forced an adaptive miniaturization and complexification.

The question of the growth of the noosphere is academic; it proceeds according to the evolutionary nature of organic life. The real question is whether our own human life will continue long enough to taste of its fruit. I cannot pretend to know whether this will be the case, but I do believe, with every fiber of my being, that it is only by active effort towards this that we can hope to attain this.

I hope that this work is in small way useful in this regard.





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A P P E N D I X : THE SOMA AND PSYTRANCE RITUALS: C O M P A R I S O N A S D E S I G N B R I E F

Agni do I invoke – the one placed to the fore, god and priest of the sacrifice [...]

-Rigveda, 1.1.1. [first line]

The word agni is both the common noun meaning "fire" and the name of the god who is deified fire. [...] But the ritual fire is not the only form of Agni. The poet emphasizes both the divine aspects of Agni and his purely physical form, often intermingling references to differentiate forms of fire in the same hymn.

-Translator's introduction, The Rigveda

Deviating from the anthropological invention and political recognition of "tribe," psytribes are characterized by freedom of choice, experimentalism and a polycentric fluidity of identification [...] notably, these psytribes deploy a technics of remixology, shared with other techno-tribes of electronic dance music, which provides not only a common artifice but is a principal means of identification [...]

-St. John, Global Tribe

Common is your purpose: common your hearts: let your thoughts be common, so that it will go well for you together.

-Rigveda, 10.191.4. [final line]

Introduction

This paper focuses on the nature of the Soma ritual as recorded in the Rigveda, and how an understanding of this ritual may be applied to a critical description and reconstruction of the landscapes of psytrance festivals. As part of this research, visual media were created, which form a critical visual study of the forms discussed; though not dealt with extensively here, in tandem with this research haptic explorations were undertaken through an artistic medium (contact juggling) commonly practiced at these festivals.

It is proposed that, due to cultural linkages of theology and use of an entheogen as linchpin of the ritual, comparisons of the Soma ritual and the spiritual experience of dancing at psytrance festivals together speak to a perennial, underlying ritual, which critically evaluated, may be employed as design brief for works of landscape architecture.

For some matters covered (notably a comparative study of the forms and structures of physical elements at psytrance festivals) there is no extant body of scholarship. Though the culture and form of psytrance festivals is at this point several decades old, and to a degree standardised, study of this subculture has been very much anthropological in focus. A critical visual study, in which drawings were then translated to digital collages was chosen to reflect this fact.

The reading of the Rigveda undertaken for this study was both critical and interpretive, and proceeded in the mode of reverence appropriate for the knowing of a great and ancient religious tradition. The focus was on the integration of the first book of the Rigveda into the spiritual technologies known to the author, which having their genesis at psytrance festivals, could be cross-referenced to St. John's extensive field notes and interviews with participants at these same festivals.^[1]

The Rigveda: Historical Context

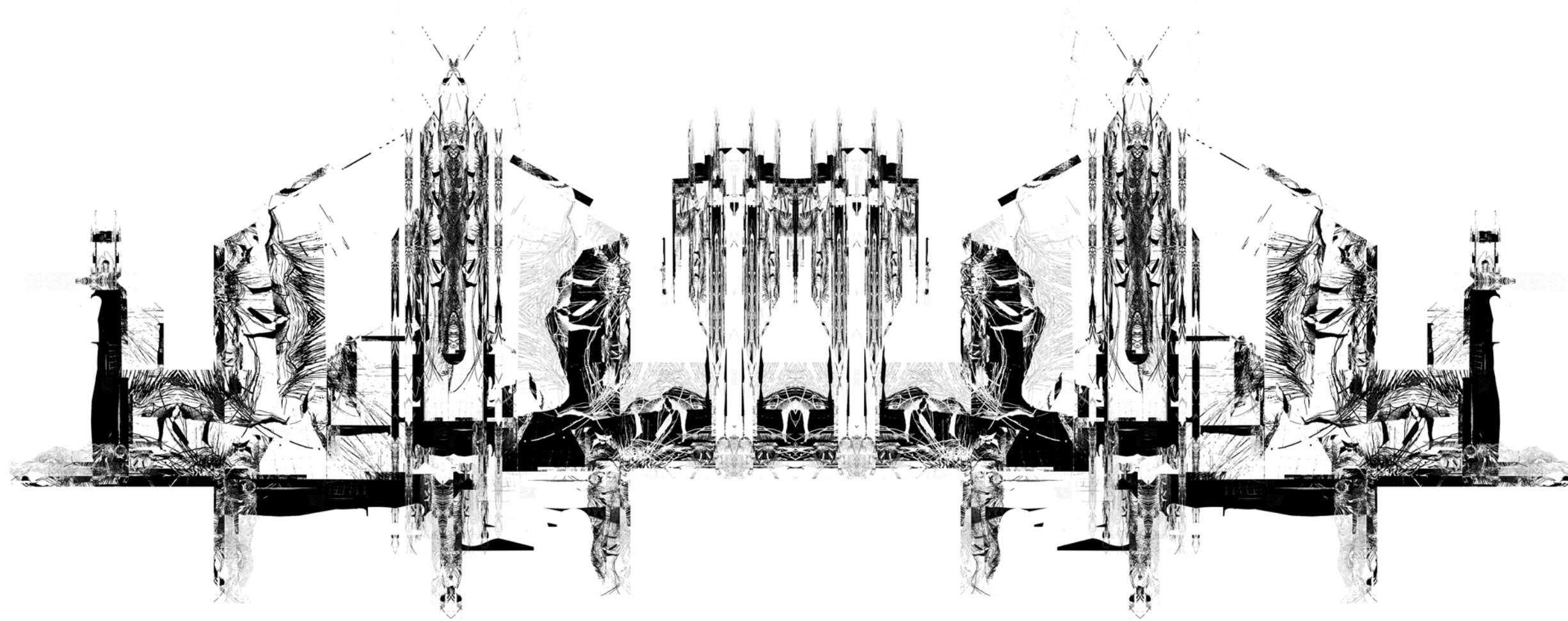
The Rigveda is the oldest extant Sanskrit text, and the oldest of the Vedas of Hinduism.^[2] A collection of devotional hymns, it represents one of the most ancient complete expressions of religious thought still employed in the modern world. If one considers valid the concept of a primeval and perennial human religion, it occurs far closer to this source than any modern theology. Though not precisely dated, the Rigveda was created in the Bronze Age (it makes no mention of iron), and thus the youngest portions of it might be dated, at the latest, to 1200-1000 BCE.^[3] The work as a whole is older than this, as it was written over several generations, and this setting into writing occurred following a much longer historical period of tradition and development.^[4]

1 Graham St. John, *Global Tribe: Technology, Spirituality and Psytrance* (Bristol: Equinox Publishing, 2012), 11-13.

2 Various Authors, *The Rigveda*, Trans. Stephanie W. Jamison and Joel P. Brereton (New York: Oxford University Press, 2014), 3-4.

3 *Ibid.*, 5.

4 *Ibid.*, 14-18.



Despite its great antiquity, it bears already the hallmarks of a culture deeply concerned with, and conversant in, the questions of existence, and the relationship of humans to the universe. The Rigveda consists of ten books (called *mandalas*) of varying length, each subdivided into various hymns, themselves of varied length. The hymns far exceed the subtlety and beauty of those contained in the Book of Psalms, to which they may be likened. The edition consulted for this work, including translator's introduction, runs to 1,693 pages; despite this length, the majority of the hymns are variations on the same themes, and the majority of hymns are devoted to the same divinities – Agni (the sacrificial fire), Soma (the sacrifice/entheogen), and Indra (the chief sky-god, who occupies a cosmological place similar to Zeus).

The people for whom the hymns of the Rigveda were the expression of their religion belong to the Indo- Aryans. They inhabited the arid northwestern regions of the Indian subcontinent, and practiced a lifestyle heavily influenced by husbandry and herding.^[5] The gentleness of cows, the strength of bulls, and the value of calves are recurring images in the Rigveda, reflecting the close connection to, and high value placed upon, these animals in a society that was not yet entirely sedentary. Though less degraded than it has become, the climate of the region in which the Rigveda was composed was arid, being focused on the valley of Indus and modern-day Punjab.^[6] the hymns devoted to the Maruts, a troop of storm-gods, contains powerfully poetic descriptions of moisture.

The hymns contained in the Rigveda belong to a religious tradition which, over time, evolved into modern Hinduism. There is no distinct point of differentiation between the two, and some divinities present in the Rigveda are still widely worshipped in India, either under their Rigvedic names or modern forms. Agni, both the sacrificial fire and the titular god thereof, is still widely invoked in Hindu rituals whose structures are based on the Rigveda; Rudra, a minor deity in the Rigveda, bears the honorific *Śiva*, "the kindly one," which over time became Shiva, one of the principle Hindu deities.^[7]

In the Rigveda, gods are not sharply differentiated from the physical elements whose qualities they are associated with. Agni, for instance, is not *alike* to the altar-fire, he is the fire itself. As noted by Jamison and Brereton, "the god is who the god is because the god obeys the truth embedded in that name."^[8] Though above and beyond humans, Rigvedic deities are, through the proper arts and forms of worship, intimately accessible to humans, and through their associated elements, present in daily life.

Psytrance Festivals: Historical Context

Graham St. John, who has written extensively on the psytrance subculture from an anthropological perspective, describes it as "a liminal underworld, where participation involves a techno-organic mixed- media collusion by which the sampling (consumption) of psychoactive substances and the sampling (digital production) of sound and vision are interrelated."^[9]

Psytrance is both a type of electronic music, and a particular subculture associated with it, which as a totality has been called *psyculture*. Psytrance music is descended from Goa trance, a type of electronic music which evolved primarily in the Indian city of Goa at a time when it became a centre for European and North American expatriate hippies seeking spiritual enlightenment and disconnection from the culture of the West. Designed to facilitate dancing as means of accessing altered states of consciousness, psytrance is characterized by a tempo of beats per minute designed to facilitate the attainment of states of trance, vocal samples, and extended track length.^[10]

Travelling from Europe through Afghanistan on the 'Hippie Trail' to reach Goa became a particular aspect of self discovery among those hippies who departed from North America and Europe. Goa was at this time the capital of the Portuguese possessions in India, and it was here that a growing number of Hippies began to congregate.^[11] Parties at which live music began to meld with then-emerging electrical abilities to repeat, splice, and sample recorded music became a venue for collective drug- taking analogous to the group-tripping being explored in North America by the Merry Pranksters, in which LSD served as gateway to rituals of ego-dissolution and self-discovery (see Wolfe, 1968). These dance parties in Goa became imbued with an ethos – a particular *vibe* - which emerged from a growing appreciation of Hindu understandings of the nature of the ego which meshed well with the experiences of the expatriated as they embraced a lifestyle focused

5 Ibid. 53-58.

6 Ibid. 5.

7 Ibid. 35-53.

8 Ibid. 35.

9 St. John, *Global Tribe*, 15.

10 Ibid. 66-70.

11 Ibid. 18-20.

12 Ibid. 26-31.

13 Ibid. 31.

14 Ibid. 202.

15 Ibid. 14.

16 Jamison and Brereton, *trans.*, *The Rigveda*, 27-30.

17 St. John, *Global Tribe*, 138.

18 Jamison and Brereton, *trans.*, *The Rigveda*, 32.

19 Houben, Jan M. E. "The Soma-Haoma Problem: Introductory Overview and Notes on the Discussion." *Electronic Journal of Vedic Studies* 9, no. 1 (2003): 22.

on group use of hallucinogens.^[12]

A particular suit of spiritual practices and beliefs were adopted by the subculture at this time, which have continued to develop and evolve. St. John observes that "The practice of smoking *charas* through a chillum was learned from *sadhus*," and that this manner of ritualized drug use "permeat[ed] the music and culture to come."^[13]

St. John identifies liminality as the key focus of psyculture, rooted in the fact that Goa was not the physical homeland of the participants. Journeys of personal discovery and reconstruction using entheogenic and spiritual technologies arose as key elements of a global culture rooted in nomadism and a rejection of dominant Western mores. Being non place-specific, this subculture takes the adoption, modification, and exploration of rituals and forms of knowing from non-western sources as a point of fine art, in which the ability to navigate rituals of ego-death becomes a badge of belonging; liminality is not so much embraced as it is sought after.

The approach to drug use by this group, arising at first in Goa and continuously refined since, is to be understood as psychonautic in nature, as opposed to hedonistic. A particular physical infrastructure and arrangement of landscape elements has arisen over time to facilitate this ritual exploration among participants: since the nature of this ritual is divine union with the universe, we may see this as the physical world being rearranged in accord with the spiritual, blurring the line between the two.

It is through Nataraja (the destructive aspect of Shiva) that connection is to be made between the Soma ritual and that practiced at psytrance festivals. In the formative days of psyculture in Goa,

"transcendence through dance was the ultimate concern, a spiritual carnival of dance in which Shiva, in the androgynous form of Nataraj[a], Lord of the Dance, became an iconic figurehead."^[14] The focus on the destructive aspect of Nataraja, echoed in the individual's ego-destruction through ecstatic dance, became a point of reference in the spread of psytrance festivals.

Soma

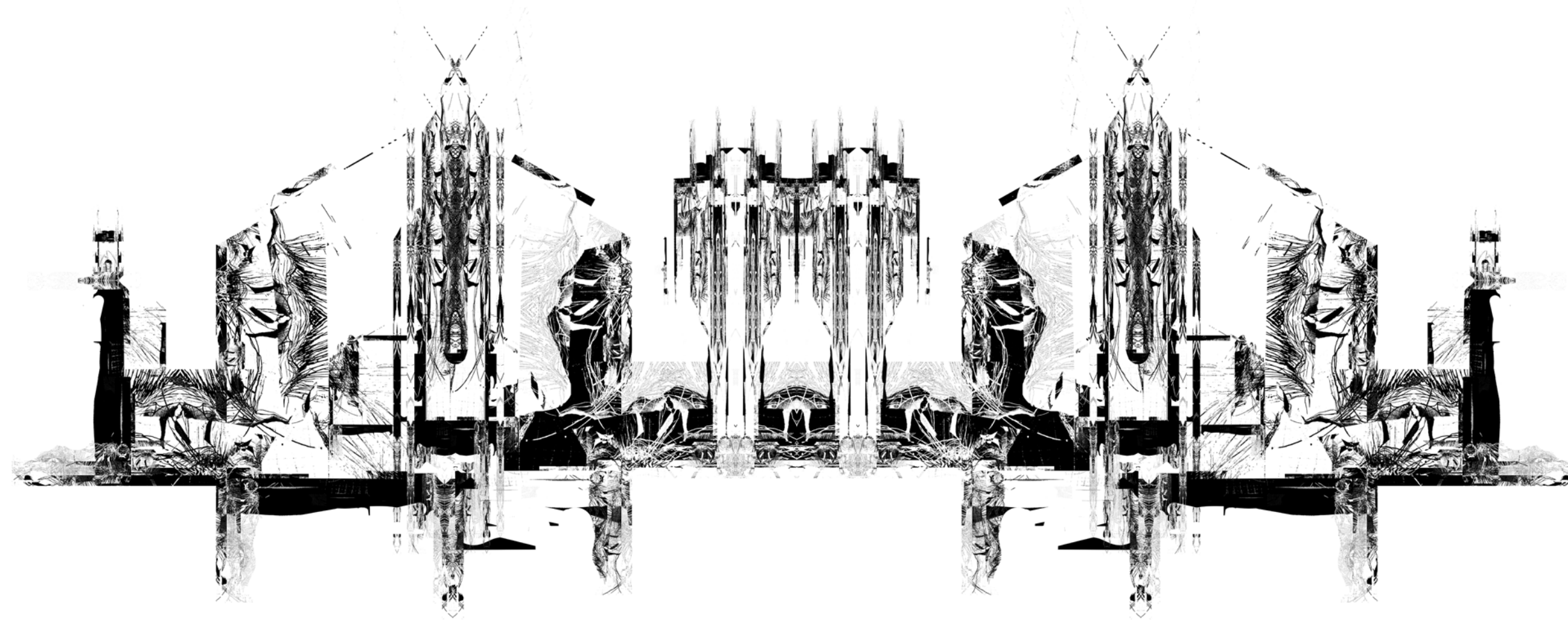
'Drugs' is a word that has polluted the well of language. Part of the reason we have a drug problem is because we don't have an intelligent language to talk about substances, plants, psychedelic and sedative states of mind, states of amphetamine excitation. We can't make sense of the problem and the opportunities offered by substances unless we clean up our language.^[15]

The use of entheogens to facilitate entry into, and access states of, altered consciousness is central to psyculture. Festivals exist to facilitate this, and psytrance music is designed to enhance this, but the role of the substance is the foundation upon which the rest is built.

Entheogen is Greek for 'becoming divine within;' it is the name given to substances used by humans to produce spiritual states of being. Soma is such an entheogen by its function - the entheogenic nature of Soma is explicitly stated in the Rigveda, and there is no distinction between the experienced effects of soma the entheogen and the answer of Soma the god to invocation.^[16]

The function of entheogens is to facilitate passage across "the membrane that exists between worlds, the seen and the unseen, the physical and the spiritual."^[17] through Soma this is done by specifying and *naming* the attributes of the god the worshiper seeks to partake of; in the psytrance ritual, this takes the form of a focused *knowing* of the mediated environment. As the priests in the Rigvedic ritual serve to focus the worship and guide its form, the physical elements of the psytrance festival – music, installations, and also participant's familiarity with varied techniques of meditation – draws attention to the effects of the imbibed substance.

The identity of the soma plant is not conclusively known. The proposal that the soma plant was a hallucinogen stems from a literal reading of the Rigvedic text, assuming that passages which describe its effects are a literal description of the experience of worshippers, rather than a poetic description of an inner, religious experience. As stated by Jamison and Brereton, "neither the imagery of the poems nor the vision of the poets requires a hallucinogen to explain them."^[18] Although soma was not necessarily a hallucinogen, it is known to have been a stimulant- more than sufficient, in the context of religious experience, to accommodate for its known effects, with the argument being plausibly put forward that it was a species of *Ephedra*.^[19]



We know that the effects of the Soma ritual were attainable within the spiritual technology of the Rigveda, which included fasting and meditation as preparation for the ritual consumption of Soma. In such a context even slight potency of a substance might provoke great effects, and as Houben observes "it is well known that fasting alone is suitable preparation physiology to receive visionary experiences."^[20] Whatever the identify of some the plant, the key point of consideration is that it contained within itself Soma the god.

While many of the entheogenic substances used at psytrance festivals are powerful hallucinogens, and this certainly affects the overall stylistic nature of elements geared to enhancing the experience of each particular drug, we may focus on the *role* such entheogens occupy. The beat of psytrance music, extended periods of dancing, and exposure to the sun can themselves produce the end-goal of ego- dissolution; the role of the entheogen is a physical connection to the divine, as soma the substance (whatever its particular identity) becomes Soma the god through preparation and ingestion.

St. John observes in field notes "the advanced relationship participants have with drugs"^[21] at festivals, one built up over years of *purposeful* experience in the construction of what St. John refers to collectively as *spiritechnics*: "technologies and techniques (analog, digital, chemical and cyber) that are purposed to spiritual ends."^[22] The role of both the Rigvedic Soma and entheogens at psytrance festivals can be understood as precipitating a differentiation from the profane experience of the world.

We can speak of entheogens as category, whose particular form is a mask on the underlying divine nature, much as we can speak of altar as a general category of objects and attendant spiritual technologies common to many religions, composed of a diversity of materials and forms. Entheogens, treated as the plant soma was in ritual context, become the god Soma, occupying the role of bridge between the physical and divine natures in the liminal psytrance ritual.

The Vibe

Vibe describes the lived experience of participants at psytrance festivals; we might refer to a 'cult of the vibe,' were psyculture a religion. It arises from the merging of the experience of individuals, and its creation can be taken as the desired end-result – essentially artistic and community-oriented – of the personal journey into ego-dissolution which permits the raw, naked experience of the world without prejudice.

The vibe serves as tuning-mechanism for individual experiences, and we may draw comparison to the divine powers that the Hotar, or head priest, invokes in the Soma ritual and summons to the ritual space. These divine powers exist originally beyond the participants themselves, but the realization in the individual of these invoked attributes is the end-result that the ritual is formulated to achieve.

As the function of the Soma ritual is the summoning of a particular power/aspect of the invoked god, the function of the psytrance ritual is the discovery and perpetuation of a vibe. Both rituals are a dissolution of the boundary between the self and a greater other for the sake of partaking in the nature of this *other*.

We may find in this assemblage of spiritual process a particular directionality towards a state of perpetual self-discovery and self-effacement, attained through a program which aims to engender, encourage, and create. In the Soma ritual, "power was understood as residing in the ritual performance as a whole,"^[23] and in the psytrance ritual, this ritual performance expands the limits of self to, as a participant quoted by St. John describes, "feel the personality of hundreds of people expressed through dance."^[24]

The complete immersion in the group-generated vibe is couched in the liminal nature of the ritual; each old symbol mastered (that is, each spiritual experience) becomes a letter in an expanding alphabet of experiences and modes of knowing which, deployed externally, serves to scaffold and expand the spiritual knowledge of the group.

The Ritual(s)

A ritual is a series of actions which produces a desired end-result: denuded of superstition, a ritual is at its core a (spiritual) technology. In both the Soma and psytrance rituals, the end-result is the elimination of the barrier between the individual and the divine, and this spirituality is activated through the relationship of the participants to an entheogenic substance as they "take undominatable dominance into [their] body"^[25] in the experience of ego-death.

Acting on the physical body, this ritual serves to bridge the spiritual and physical worlds; the liminal focus of psyculture and its subsequent reliance on entheogens echoes the nature of supplications offered to the gods in the Rigveda: "the praise of divine powers and deeds is not a disinterested act, for the aim is to persuade or constrain the gods to mobilize these same powers on behalf of their worshippers and to replicate their great deeds in the present for the benefit of these same worshippers."^[26]

The act of taking the entheogen into the body marks the beginning of both the Soma and psytrance ritual: "for the great (deed?) he gives himself golden skill [=Soma] to drink."^[27] The consumption of Soma by the ritualist marks the entering-into of the central aspect of the ritual, wherein a physical link is established between the god and the human. In the case of the psytrance ritual, this physical linkage is timed to take place with dance; in both cases, the human becomes the point of expression for the beating heart of the divine, and the area in which the ritual takes place becomes the circumscribed, spiritual microcosm of the world.

Within this microcosm, the spiritual journey can progress under the aegis of the "lord of skill," and the "ritual distribution" of this power through dance or contemplation marks the progress along a spiritual axis towards oneness with the universe.^[28] Participating on this journey, and the ability, through the dissolution of boundaries, to express the knowledge gained along the way – to communicate the inner outwards – is a validation of the journey, reinforced by the degree to which it adds to the collective experience.

The experience of this divine is supra-human: the successful participant is one who has "held encircled broad heaven and earth; they did not encompass his greatness."^[29] In mediating this experience within the physical confines of the ritual world, the participant makes use of this same divine skill to reshape their relationship to the physical world around them, through artistic expression and dance contributing to its progressive differentiation from the profane world not encompassed within the ritual. The need to constantly adapt to the physical context of others engaged in this same process results in a "state of perpetual re-optimization," since the group milieu of the dancefloor and the shedding of egos means that "shared exile assures compromise and collaboration on matters of mutual interest."^[30]

This dancefloor happening may be described, like the Rigvedic hymns, as an "elegantly formulated truth" which "spoken in a ritual context, was powerful."^[31] The particular ritual context functions through collapsing the distinction between individual participants; the individual triumph is transfigured into a collective knowledge. In the Rigvedic ritual, this occurs through the negation of difference between the priest who chants the hymn, and the primary participant who experience the powers of the gods described, and in the case of the psytrance ritual, each participant in effacing himself to know divine nature, "in service of the gods he entices them here with his oblation."^[32]

In the Rigveda once becomes one with the gods; in psytrance, one becomes one with the music, and all others who are also becoming one with this same music. Each individual transforms their bodily awareness to take on the role of Agni, "nave of all gods," in order to through dance "render service with a pleasurable offering."^[33]

The poets who composed the hymns of the Rigveda were involved in manufacturing "new formulations of the truth" in which individuals created new hymns to perform at the same, unchanging ritual. These poets were spiritual craftsmen, who were paid for their work, and whose prominence was based on their skill in expressing ritual truth.^[34] Their role is thus the same as DJs at music festivals, who create the sonic narrative to which allows the proper unfolding of the ritual, and whose livelihood is also based on their art. Both strive after the setting-into-work of Truth, and both are intimate observers of the participants in the ritual they oversee, able to modify and amplify it in real time through their skill.

20 Ibid, 23.

21 St. John, *Global Tribe*, 14.

22 Ibid, 8.

23 Jamison and Brereton, trans., *The Rigveda*, 28.

24 St. John, *Global Tribe*, 33.

25 Jamison and Brereton, trans., *The Rigveda*, 171.

26 Ibid, 7.

27 Ibid, 172.

28 Ibid.

29 Ibid, 179-180.

30 St. John, *Global Tribe*, 6.

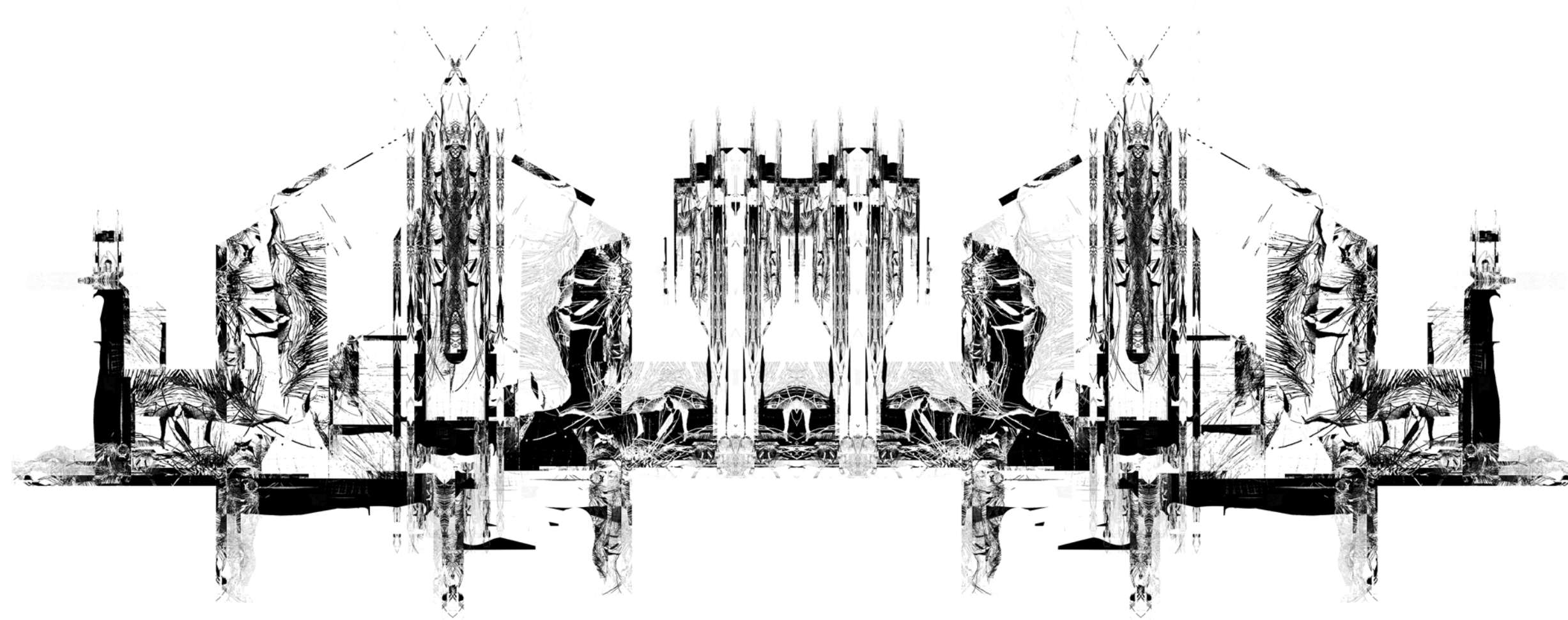
31 Jamison and Brereton, trans., *The Rigveda*, 22.

32 Ibid, 174-175.

33 Ibid, 176.

34 Ibid, 29.

35 Ibid, 25-27.



In the Soma ritual, there is a grass mat placed before the altar, a designated place for the appearance of the god invoked.^[35] This physically delineated space creates a locus for the entheogenic/spiritual experience, and represents a prepared location in which the embryo of divine experience is born and grows. The mat delineates a portion of the full circuit of the earth: a bubble of physical reality separated for sake of particular focus, and the portal for the summoning of the god is also the altar of his worship. The mat is very much the outline of the base of a pillar, extending from earth to heaven. In the psytrance ritual, where Agni is a component of each human participant, this mat becomes the dancefloor.

The Maruts, a troop of (male) storm gods, are perhaps the closest parallel to the dancers in the rapture of the psytrance ritual: they invoked always as a group, much as the loss of individuality is key on the dancefloor. The invocations of their powers – that they are “victorious at will” reflects the will to the spiritual journey of festival-goers. Like those on the dancefloor attired for particular spiritual purpose, “with bright unguents [the Maruts] anoint themselves for wonder; on their breasts they arrange brilliants for beauty,” and “swirling they swell the earth with milk,” the milk being the milk of Soma consumed.^[36]

The knower of the (spiritual) light of Soma, having consumed his (physical) milk finds freedom from the ego-based illusions of the external world. The victorious Maruts, who occur always as a troop, become the revelers on the dancefloor, whose part is to be one particle in a greater whole. The group embrace of the liminal experience and resulting ecstatic vibe permits a victory conceptualized as “dispatch[ing] the foes from their strongholds.”^[37] As Indra “aborted the stronghold with their black embryos” of his enemies, this victory occurs through temporarily negating the potential for further chains of ego-based awareness, and piercing the veil of reality (*maya* in classical Hindu theology).^[38]

Agni’s power of growth through destruction of parent material is likened to a river devouring wood, and as “embryo of the waters” the sacrificial fire, or “undistracted ritual expert,” is imbued with motion and also potential growth.^[39] In the Soma ritual this reflects the physical place of the fire which burns throughout the ritual, consuming fuel throughout; in the psytrance ritual, this occurs on the dancefloor when “they set the truth in place and they set the vision of it in motion,” Agni and its physical fuel, be it plant matter or human bodies, create an “ancestral partnership.”^[40]

Soma functions to permit the “blazing away the bad for us”^[41] and, in this purification, allows the participant access to what in the Rigveda is already conceptualized as an “age-old formal invocation:” the individual’s ego-freed senses allows for “Agni as tongue and the sun as eye,” and Agni as tongue finds realization in the body of those undergoing this experience.^[42]

The participant in the psytrance ritual, enact through ecstatic dance an ancient truth: “Agni and Soma, having grown strong through a sacred formulation, you have made a wide space for the sacrifice. Agni and Soma, the oblation set before you- pursue it, yearn for it; bulls, enjoy it.”^[43]

Mundane Embryo, Sacred Seed

The music, entheogens, and festival milieu taken together are the landscape which supports the liminal, spiritual journey of participants at the psytrance festival. The nature of such is intensely personal; and yet, one can judge by the collective result its nature, much as the personal experience of the participants in the Soma ritual may be unique, but one can judge its ‘standard’ nature by the form and content of the ritual itself.

In the case of the psytrance festivals, we can make this judgement based on the collective activity of participants on the dancefloor and adjacent areas consisting of altars and art installations, wherein the many participants may each be at various stages of their spiritual journey. This collective journey is the essential culture and experience of the group which is transmitted: the vibe is a journey not of the individual mystic, but of the collective organism.

In seeking to replicate the physical apparatus of psytrance festivals which accords with the spiritual components of the Soma ritual, we may speak of particular parts which serve to stabilize and reaffirm the spiritual journey of the participants, allowing the festival experience to become essentially autopoietic - reproduceable on an inner plane once the physical scaffolding of the festival is no longer present.

The dancefloor and its associated components are essential; it is the site of expression, and the beating heart of the collective consciousness expressed as vibe which results from the collective ego-dissolution of the human participants. Surfaced in sand to facilitate dancing barefoot and to avoid compression, this is the ritual floor, and since the participants into themselves summon the god-form, it fulfills the function of the mat of grass in the Soma ritual.

The dancefloor is arranged before (occasionally around) a DJ booth and banks of speakers.^[44] In creating the soundwaves which are the genesis of the shared group ritual, The DJ, serves as head priest and animator of the dancefloor. The prominent inclusion of samples from thinkers such as Terence McKenna and Alan Watts describing spiritual techniques and states of enlightenment plays the same role as the recitation of the powers of the gods that participants in the Rigvedic ritual seek for themselves in focusing the mind on the end-goal of the ritual.

At larger and longer-established festivals, dancefloors are capped by elaborate sunshades; a design element responding to environmental conditions, these nonetheless serve to reinforce the delineation of a sacred space differentiated from the rest of festival grounds. Their form and shape is often a reflection of the art located adjacent to the dancefloor, and thus they serve to dissolve differences in directionality and focus attention on the inner space defined by the dancefloor. The dancefloor as a whole takes on a placental role, protecting and encouraging the birth and growth of a particular awareness, so that it is ready to be carried into the world outside the festival.

Misting systems attached to the overhead structures at larger festivals serve to reinforce the placental nature of the dancefloor, harking back to a primordial union, and beyond being a necessity to avoid physical exhaustion, serve to enhance tactile awareness. Recalling the association of the Maruts with the moisture of storms, it serves also to bring a feminine, liquid element to the place of the dancer’s spiritual rebirth.

Areas adjoining the dancefloor host art installations and places for meditation. These represent a maturing of the spiritual experience, translated to physical form with the intention of invoking such experience in others: these are the marshalling of the powers granted by the liminal ritual, translated into physical form through the mastery of this process. Hosting logistical as well as spiritual systems, these installations blur into the surrounding landscape, uniting landform and festival.

Altars, beyond the dancefloor, occur in a variety of places, dependent on the particular festival. At smaller festivals they frequently occur immediately before the stage/DJ booth, though many of the art installations surrounding the dancefloor are created with the knowledge that they may be called on to serve as impromptu altars.

Conclusion

The setting-down of hymns originally sung out loud as part of the Soma ritual allows an understanding of the inner life of participants in this ancient, entheogenic ritual. Connected across a vast span of time by a focus on spiritual discovery through the use of entheogens, and an adopted cultural lineage and philosophical frame of reference, psytrance festivals provide a modern, built environment through which to understand this ritual. The connections made between built elements which can be observed at psytrance festivals can thus be taken as a starting-point for design work which seeks to expand and duplicate the effects of this ritual.

Critically, the linking of ancient and modern ritual can serve as a design brief for the enactment of what St. John terms “radical immanence.”^[45] The central role occupied by entheogens in the rituals described is the keystone element essential to the practice of each. A provocative design question regards what may be substituted for this entheogenic element, while preserving the inherent stability of the ritual.

Schmidt has described the spiritual and ritual technologies of psytrance festivals as being composed of a system of “relational aesthetics,”^[46] and it is perhaps to aesthetic systems that we must look, if we wish to sew the seeds of this particular flower in new gardens.

36 Ibid. 184-186.

37 Ibid.

38 Ibid. 240-241.

39 Ibid. 192.

40 Ibid. 193.

41 Ibid. 236.

42 Ibid. 220.

43 Ibid. 229.

44 St. John, *Global Tribe*, 163-164.

45 Ibid. 20.

46 Schmidt, Bryan. “Boutiquing at the Raindance Campout: Relational Aesthetics as Festival Technology.” *Dancecult: Journal of Electronic Dance Music Culture* 7 no. 1 (2015): 35-54