**Bunker auscultation: A classification system for a proto-method of sensory space composition**

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**Abstract**

*A subterranean WWII bunker, hidden under the City of Plymouth, is used as the context for the investigation. The enquiry considers the bunker as psychoactive in nature, that is, stimulating a range of psychological, emotional and behavioural responses in relationship to the percipient’s spatial register. The project focuses on developing a classification system, and examines space as a conveying medium. The project acts as a scheme for establishing a critical methodology of sensory space and develops an interdisciplinary architectural language for thinking about architecture as phenomenological constructions, whilst implying a greater understanding of the roles of mnemonic structures.*

**Keywords**

composition

profiling

spatio-temporal field

classification

environment

**Introduction**

This case study is predicated on the analysis of a WWII ARP bunker, Plymouth. The military site exists as a self-contained enclosure, where the concrete galleries and atmospheric volume strike a visceral experience in the percipient’s mind. Concerned with the phenomenological presence of the bunker, the project examines the structure through a series of architectonic experiments to construct a perception field classification database. The bunker provides the experiential framework to gain greater insight into how the felt sense of space plays an active part in influencing the creation of a dynamic architectural experience, and uses the *cognitive-tope* profiling methodology, a specific form of topological mapping, to unfold the complexities of the synergistic relationships between architectural space and perception. The article introduces a classification system that attempts to communicate the nature of sensory space through a series of profile investigations, or transference recordings, leading to a greater effective understanding of behavioural space frameworks.

Through identifying how space can expand our sense of perception, we can begin to ask what affects our cognition of spatiality. The research focuses on advancing a *perception field* theory, an interpretation of *field space* as outlined in the book *Field Event/Field Space*, where Kevin Rhowbotham (1999: 12) describes the territory of field condition as ‘the full extent of the event’, where the architectural ‘event’ is observed as ‘the multi-valent, multi-layered social perception of objects in use’ (1999: 8). The case study treats the term ‘objects’ as the bunker topology and heuristically uses a field analysis to explore the percipient’s psychological and physiological response to the architectural encounter. Further, the case study considers ‘direct agent-environment couplings’ (Clark 2008: 32), as a topological practice to heighten the body as an interface for studying the role of sensory adaptability in enacting the bunker’s profile.

**(Figure 1**)

**Practitioner as researcher**

The bunker case study is at the centre of a wider research strategy, which positions the ‘practitioner as researcher’. Rather than seeing practice and research as two distinct processes, the methodology integrates practice and research into a cyclical process of planning, acting, observing, reflecting and revise planning.

The research penetrates below the surface of the City of Plymouth, exploring the field of perception within the WWII bunker. The mnemonic structure envelops you in a heightened sense of perception, reinforced by the massive walls and the bunker’s counter-blast layout, which trigger a rapid onset of feedback and distortion signatures. This complex array of codex signals of emission and reception values serve as the starting point to expand the dimensionality of the perception field, resulting in calibration of a performative zone reflecting the agency and vectorization of sensory deformation.

During the process of profiling the bunker, a series of focus group sessions were devised to explore the organization of the data. The practice included a collaborative strategy with architectural practitioners, whose inputs helped to structure the data. The session’s focus is to categorize the qualitative data as quantitative perception values. This was done through mapping the complexities of exteroceptive and interoceptive incidents against a pentatonic milieu, a framework matrix of five operative layers set against embodied space and the external domain of sensory space. The visual analysis transcribes the deformation of the perception field to help communicate the behaviour associations and correlate the complexities of sensory space interrelationships.

(**Figure 2**)

**Classification system**

A coordinate system was developed from the explorations of the perceptual field inside the bunker. This was achieved by developing a series of practice methodologies that come from forensic science and ecological models. These were used for establishing a diagrammatic reference to chart the behavioural associations of the sensorium values, incited during the profiling of the bunker. The performative values of interaction and feedback transmissions from the environment are condensed into a series of maps that dimensionalize the complex systems of percipient–environment interrelationships. The location and volumetric attributes are abstracted into a value system characterized as ‘views’, which calibrates the loci of perception relative to the value or intensity of effect. The project aims to evolve a signature diagram that maps the percipient’s cognition shifts and behaviour manipulations in response to the bunker experience.

The project also aims to interpret the distortion and modification of cognition as a result of entering the bunker network, where the sense of movement through the bunker incites and reflects another time, initiating a condition of ‘hyperspace’ (Baudrillard [1981] 1994: 75), an over-layering presence of war, historic and yet distinctly felt as a temporal ‘*mise-en-scène*’ (Corrigan and White 2009: 62) or ‘image at transformation’ (Deleuze [1983] 2005: 222).

The primary focus, however, is to trial the ‘cognitive-tope’ space analysis, aimed at exploring space as a conveying medium, a field of perception, ‘traversed by currents’ (Baudrillard [1981] 1994: 43) of signals and receivers. The project researches the very fabric of mind-space temporalities, to explore the dimensionality of immersive and visceral experience of space.

The analytical conceptulization of sensory space links the themes throughout the case study, together with the definition of ‘*cognitive-tope* profiling’ as methodology for heightened relational space-engagement.

***Cognitive-tope* profiling**

The term *cognitive-tope* is used to describe the nature of interchange between the percipient and the spatially explicit environment. The phrase is derived from ‘ecotope’ an expression coined by the ecologist Arthur Townsley (1871–1955), where ‘eco’ refers to the interaction and ‘tope’ means explicit or defined environment. Combining ‘cognitive’ and ‘tope’ together the profiling practice places emphasis is on probing the interrelationship between the percipient’s constructions of reality directly adjacent to the enveloping environment.

Through exploring a hybrid form of architectural practice called *cognitive-tope* profiling, we are tasked to interrogate the morphological domain of relative space, thereby questioning the geometric principal of ordination in architecture. The work attempts to penetrate the inner essence of relative space and involves the investigation of sensory processes, attention and cognition, to evolve a neuro-space typology of architectural design, as a counter point to the Euclidean system of ordination.

The *cognitive-tope* profiling methodology acts as a form of architectural forensics, where emphasis is placed upon understanding the architectural experience as an interweb of perception signals and morphological behaviours in direct response to the percipient’s interaction with the environment. The investigation, a form of event sampling, includes critical observation as a method for gaining first-hand evidence, collecting, recording and documenting site information together with perception-behaviour recordings in response to encountering the bunker’s ‘presence’ (Pallasmaa 2005a: 94). To observe critically, the percipient’s perspective is orientated towards a heightened mode of spatial awareness.

**Sphere of Influence**

Throughout the case study, space is considered as a conveying medium located through forces of sensory deformation and modulation. The ‘Sphere of Influence’ diagram describes the territorially inscribed fields or framed ‘views’, which can be considered as coordinates to navigate the concept of ‘self’ as a locative agent within the field scheme. The ‘Sphere of Influence’ can be summarized as a conception of the nature of sensory space, including (1) *locus*: the cognitive, internal furniture for psychological space; (2) *micro sphere*: the immediate physical space relative to the percipient, perceived by tactile sensations giving rise to series of qualitive sensations; (3) *meso sphere*: reflecting the bodily movement-sensation highlighting the extension of felt change that is natively adjusted relative to kinesthetic axis; (4) *exo sphere*: the environmental reference frame or realm contingent on visual and sonic sensations; and (5) *macro sphere*: the cultural relative ‘force’, conforming to transubjective experiences, independent from geospatial reference points, transmitting temporal information.

(**Figure 3**)

The resulting drawings, diagrams, photographs and database operate as an interface between the percipient and a series of interrelated spatially explicit encounters. The research attempts to plumb the bunker’s capability to incite, amplify and bracket perceptual experiences. The objective of the profile is to articulate the atmospheric conditions by freeze-framing the multisensorial values that consist of dimensions, proportions, depth, scale, texture, colour and materiality, and in doing so the research attempts to transcend the ocular to evoke a haptic, unmediated visceral reality, providing a hook into the bunker’s gravity of experience, revealing an echo to the catastrophic WWII Blitz or ‘lightning war’, stimulating projections of overlaid encounters triggered through the physical act of entering a subliminal, ‘interstitial space’ (Teyssot 2007; Architectural Association).

**Practice methodologies**

The focus group sessions were developed through a series of different practice methodologies that would unpack the complexities of the bunker spaces. The investigations led the focus group to consider the domain of cognitive neuroscience in an attempt to establish the essence of spatial experience, through the research of Antti Revonsuo, a professor of Cognitive Science at the University of Sweden, and director of the Cognitive Research Group at the Centre for Cognitive Neuroscience at the University of Turku, Finland, published in his book *Inner Presence* (2006). The focus group developed tactics and protocols through Revonsuo’s six basic descriptions, or primary concepts of consciousness (2006: 32–35), namely:

1. *Phenomenal consciousness*: the ‘momentary sphere of subjective experience, the world-for-me’. Revonsuo frames the sensory-perceptual experience of consciousness through perceiving experience via visual, auditory, bodily, olfactory and gustatory experiences.
2. *Presence*: a sensation that manifests itself in the subjective perceptual space as both ‘spatially and temporal’. Revonsuo highlights the importance of dynamic space and temporality by referring presence to ‘flow’ and ‘momentary’; further, there is no distinction between externally or internally perceived presence.
3. *Location*: experience located within ‘sphere of subjective experience’; Revonsuo articulates the notion of ‘extension’ being triggered by value systems such as colour or intensity.
4. *Duration*: the presence of time, experience manifesting itself and passing through a durational value.
5. *Intensity*: distinguishing feature of experience expressed through ‘dimension of strength’ and time, which is durational.
6. *Quality*: the ‘identity’ of qualitive characteristic. Revonsuo notes the term ‘Qualia’ defined by C. I. Lewis ([1929] 1956) as the description of qualitive experience, in this context taken to mean the approximate values.

To help focus the observation, and place greater emphasis on understanding the spatiality of experience, a schedule of questions based upon Revonsuo’s conceptual map of ‘the diversity of conscious’ (2006: 30) were used as a framework to focus the sessions. The focus group session monitored and recorded how we perceive, feel, differ and interrelate with the site through a series of drawings and models. A summary of questions accompanied the *cognitive-tope* profiling exercise to help define the limits and context of the study, together with clarifying the purpose and direction of the profiling. The questions both opened up the concept of perceptual field and established the observed relationships and profiling activities:

* What are the phenomenal components of the experience?
* How does presence manifests itself in the bunker?
* Where in the ‘sphere of experience’ is perception located?
* What values of time are experienced?
* What are the distinguishing features of experience?
* What is the qualitative characteristic of the experience?

These questions establish a matrix structure for comparative analysis of sensory space; in response, the resulting diagrams, notations and documentary photographs record the perceptual proportion, intensity and duration of sensory deformation within the perception field. Each question can be considered as a form of focused ‘attention’ (Merleau-Ponty [1945] 1962: 3) specifically designed to calibrate the temporal and dimensional values of the case study by recording the deformation of attention and the mediation of difference in the percipients.

(**Figure 4**)

In the context of the case study, Revonsuo’s descriptions are interpreted as dynamic values of consciousness in response to direct spatial stimuli. These values of consciousness are also highlighted by Merleau-Ponty in *Phenomenology of Perception*, in which he describes sensation as a ‘sentir’, a ‘unit of experience’ ([1945] 1962: 3), although this implies a sense of isolated ‘instance’. Merleau-Ponty proceeds to describe the phenomenon of perception, as being part of a ‘field’, and it is this relational field interpretation of consciousness that is used to establish a typology territorially transcribed by ‘intensities’ (Massumi 2002: 27) and field forces (Brown 2002: 37) of ‘space-affect-conscious’ values.

Further, Professor Antti Revonsuo’s conceptual map of consciousness, although may ‘clip’ notions of reflection, introspection, *embodiment* (Gallagher 2009: 42) and Andy Clark’s *cognitive extension* (2008: 222), the outlined territory values openly align with compositional structures and cinematographic theories of perception control, in particular the methods used to express at state of mind, or manipulate perception, broadly termed ‘Hitchcockian’ (Brown 2002: 25) devices, and it is because of these compositional potentials with focal and peripheral spatiotemporal dimensions that Revonsuo’s consciousness map is used to identify a potential typology for exploring the experiential fabric of space consciousness, documented by profiling the WWII underground bunker at Plymouth.

The bunker acts as a container that draws the attention to the spatialization of perception and temporality; however, the bunker also sensitizes the body’s capability in becoming a site within the field of perception. The body performs to the notion of extension, a site for amplification, a site of adjacency to disclose the friction of interface. The ‘body as site’ provides the opportunity for the ego-loci experience to be revealed, reciprocal in its sensibility, contrapuntal in its response. The architectural phenomenologist Juhani Pallasmaa describes the body as a site of exchange:

All the senses, including vision, are extensions of the tactile sense; the senses are specializations of the skin tissue, and all sensory experiences are modes of touching and thus related to tactility. Our contact with the world takes place at the boundary line of the self through specialized parts of our enveloping membrane. (2005b: 10–11)

Studying the spatiality of perception at the bunker helps explain how the architecture can exert a spatial force; the bunker precipitates an overwhelming contraction of the ‘macro-sphere’ onto the ‘micro-sphere’, resulting in an amplified sense of latent estrangement and ‘heterotypic’ temporality. The ego-loci is further sensitized by the bunker’s hidden location, an estranged space divorced from the familiar normality.

(**Figure 5**)

**Conclusion**

By profiling the bunker, the case study interrogates the way in which architecture can elicit complex perceptual responses. And in terms of the bunker analysis, the research asks to what extent the space acts as an active agent in triggering sensations of temporal dissonance. In an attempt to qualify and measure the governing ‘signature’ of the spatial experience, the self-reporting profile reveals a process of continual transition from the corporeal to incorporeal registers.

The bunker triggers a state of hypersensitivity, releasing the body to feel the depth of space physically, enabling the gap between experience and reality to be explored. The *cognitive-tope* profiling methodology looks at space as a form of score, a live scape for interrogation, charting the pervasion grammar of ‘volatization of all environmental conditions’ (Virilio [1975] 2009: 38), through the distillation of context. The bunker frames the perceiving of our own perception as a parallel adaptive system, forwarding the space as a psychological mirror in which we perceive ourselves reflected.

The site’s unique situation reduces the experiential variables and offers a fully immersive controlled space, liberated in its function, overturning the stasis of normality by positioning the percipient in an enclosed sensory receptacle, amplifying the causation and registration of the perceptual field. The bunker is a perceptual structure, connecting and converging the interchange, centralizing the encounter for host–agency coupling, a device to situate the engagement to study the spatiality of experience, decoupling the phenomenological systems from architectural form.

The physicality of the bunker establishes the platform, the causality of reference; conditioned through the dialogue attributes, you become aware of where you are physically in the world, and entering the bunker transports you into the middle of (an) ‘other’ state of mind.

The bunker context, ‘bereft of normal codings’ (Edensor 2005: 4), is used as primer for amplifying the body-mind-space networks, inciting a new spatial sensitivity. The *cognitive-tope* methodology makes explicit theses dynamic interrelationships and establishes a core language and alternative dimensionality. The case study positions the bunker profile as a tool to focus the engagement of interaction, and *cognitive-tope* profiling exposes the nature of sensory space as a platform to systemize the perceptual values, drawing attention and meaning to an unarticulated understanding of space.

(**Figure 6**)

Conceived as a field of transmission and reception, the bunker carries a historical legacy, an archive of memory with dormant energies offering a repository of trans-subjective experience simultaneously experienced as looped histories within the present continuum of the immediate. The site investigation becomes a resource, to systematically study these values. Exploring the site as working material imbues the research with a participatory action, a kinaesthetic frame to study the spectral nature of accumulating reflexes, eliciting a mode of relation to the self, a window to interpret the mobile forces and performative values, a place of ‘presentness’, a reflected mind-scape.

Readings and observations of these ‘other’ spaces bring the event evidence of the historical face to face with today, demonstrating the importance of the bunker as an integral and legitimate structure, although underground, hidden and divorced from the social realm of the city above. The enquiry explores the bunker as an extensive continuum, treating the physical conditions of the bunker as an infinitely extendable space, where fragments oscillate in temporal planes. The work telescopes the perceptible constructs of latent presence, by trawling and magnifying the *Raumfindung*. Through the investigation it is possible to come into contact with a dissonant past.

By asking ‘How does space affect us, how can we understand space and how can we dynamically manipulate the space–erception relationships?’ the work departs from the usual modus operandi of architectural practice, and by deploying the *cognitive-tope* profiling system, the project directly explores *Raumfindung*, the felt sense of space, and generates a space-concept, methodology and dimensionality for the very fabric of sensory space, magnifying outward the plane in which perception affects us.

(**Figure 7**)

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**Figures**

**Figure 1:** ARP bunker, Plymouth.

**Figure 2:** Bunker gallery.

**Figure 3:** Sphere of Influence.

**Figure 4:** *Cognitive-tope* profiling workshop.

**Figure 5:** Feedback deformation.

**Figure 6:** Three-dimensionalized profile.

**Figure 7:** Expanded space.