

Montreal Architectural Review

Volume 3, 2016

<http://mar.mcgill.ca/>

edited by:

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Montreal Architectural Review
ISSN 2368-6952

School of Architecture, McGill University

Publisher:

McGill University Library
McLennan Library Building
3459 rue McTavish
Montréal, QC, H3A 0C9
Canada

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Temporal Earths: Technical Memory and the Global Map

Lawrence Bird

Ager Little Architects

Abstract

This paper discusses popular digital imaging and mapping systems (through the representative Google Earth) in terms taken from Bernard Stiegler's writing on technology, especially technical memory. Far from a perfect realization of the modern project to map the world, these systems are full of anomalies and errors, and in fact such failures are built into that project; as Stiegler puts it, the straight line generates the bent. To illustrate this point, the paper discusses three creative works in video which employ moving satellite images harvested from paths along the Earth's surface. Architecture has long been embedded in modern attempts to systematize the world (and vice versa); these observations might serve to help critically address that relationship.

This paper attempts to address aspects of a perplexing question which might have been posed for some time: why is it that, situated as we are at the tail end of well over three centuries of attempts to perfectly map the world, are we not yet in possession of that map; why does this modern promise remain unfulfilled? The question matters to architects because, as actors who have played key roles in the demarcation of the earth

at both local and global scales (from the delineation of building foundations to the ritual circumscription of cities, to the architectural celebration of global territories), we might see that action as our most fundamental gesture. The building industries today are hemmed in with standardized materials, components and modes of production, building codes, zoning regulations, ISO standards, as well as prefabricated systems and elements. We might well look to the modern mapping project, with its intention of making the world manageable and manipulable underpinning these later instances of modern regularization, as hopeful evidence of the *failure* of that project -- evidence that in the end our work cannot be so circumscribed.

I will provide two pieces of evidence for this bald statement, that the modern project to map has failed and is in fact doomed to failure. The first of these will take the form of a set of creative projects (in video and video projection mapping). The three projects are my own, and I beg the reader's indulgence for their inclusion, which allows us to address my subject more precisely. The projects address directly the failures I have spoken of as they emerge in popular Geographic Information Systems (GIS) like Google Earth. These popular systems are of interest for several reasons. For one thing, they are examples of the ubiquity of the promised global map, probably its most widespread and accessible form today. And as any of us who have used them know, their navigation-functions not infrequently drive us into error. But more than this, and as will become clear in the following discussion, they are built upon some of the most sophisticated mapping technologies available: through their integration of GPS they are imbricated with the military technologies and agendas which constitute an inescapable political dimension of this phenomenon. Thus, while popular and accessible, they bear a great weight of significance, a significance they often dissimulate. They are in fact representatives *par excellence* of the technological, epistemological, and political project which is the modern map.

The creative projects discussed below might be taken in the context of numerous other artists who have used tools like Google Earth to intentionally underline the damaged condition of modern spaces and their representation. Such artists include, for example, Mishka Henner (whose satellite-viewed landscapes and images captured from street view offer a commentary on the industrialization of the planet¹, the modification of the human body², and political and military of control of territory and its image³), and Montréal-based Jon Rafman (who portrays raw spaces and their abject inhabitants in images painstakingly captured from Google Street View⁴). Projects by artists like these make critical use of the images offered to us by popular GIS. The ostensibly neutral, accurate and dispassionate infrastructure which gathers such images is revealed by the artists as in fact broken, shot through with anomalies and ruptures, and offering an unexpected poetics.

The three projects I will discuss involve screencaptured video from Google Earth: *parallel*, which tracks the 49th parallel of latitude where it coincides with the international border between Canada and the USA (screened in various iterations since 2012, most recently in 2016 at Inter/Access Gallery, Toronto, and *Coder et Décoder la Frontière à l'Aube du 21ème siècle*, Université Libre de Bruxelles); *Transect*, which follows the Greenwich Prime Meridian and Antemeridian around the world (installed at Queen

Anne Court of Greenwich Naval College, United Kingdom, as part of the conference *Digital Research in the Humanities and Arts 2014*); and *Dominion*, a project currently in development, which will chart the Western Canadian territories covered by the 19th century Dominion Land Survey. Each of these takes as a starting point the grid of latitude and longitude, the abstract lines that carve up the world for modern knowledge, control and consumption. Lines of latitude and longitude -- parallels and meridia -- formed the frame of reference for modern mapping; and today also their grid helps capture, as though in a net, the images we see on proprietary platforms like Google Earth and Bing, Yahoo, and Apple Maps. The moving images generated by these works of video amplify the many digital flaws and anomalies in these popular mapping systems, as well as the physical scars and distortions in the landscapes they document -- features often generated, as we shall see, by the original attempts to map and manage those landscapes. The projects intend a close and patient study of our modern manipulation of geography, landscape, and image, while revealing something of the surprising potential for poetics which, somehow, survives therein.

That will be my first piece of evidence. My second will be theoretical, and will draw on Bernard Stiegler's writing on industrialized mnemonic systems. In his masterful work *Technics and Time* ²⁵ Stiegler makes the case that, far from establishing a perfect and absolute memory, modern technological systems by their very nature generate a condition of *différance* which resists stability. In Stiegler's terms, Google Earth would be an example of such an industrialized mnemonic system. It offers not just a spatial but also a temporal map of the world's form, albeit a very young one; it is not only a database of places but also an archive. Architecture has, of course, played a mnemonic role throughout history; it too bears a relationship to such systems. And architecture can be understood more generally as one of the prosthetic constructs Stiegler discusses in his earlier work *Technics and Time* ¹⁶, in which he makes the case that technics have always been constitutive of our humanity. For Stiegler we become human through our manipulation of tools and technical devices, not despite it, and error is foundational to that use: technics compensate for our shortcomings, and our creation of technics (he uses the prescient Prometheus as an emblem of that capacity) is the obverse of our insufficiency (for which he substitutes the Titan's forgetful brother Epimetheus). Stiegler's pondering on the fragility of our use of tools is particularly pertinent to architects following in the modern tradition.

Stiegler is my theoretical lens for this paper, but I should briefly place my claims in relation to the observations of several other writers on knowledge (and maps). GIS might be seen at first glance as a manifestation of Borges' map, the model which came to rival the Empire that it represented⁷; and its more seductive variants as perhaps resonant with Baudrillard's simulacrum, the episteme which succeeded the modern mirror of science and came to not just rival but replace the thing it modelled.⁸ Resonances to the latter might seem most obvious, but the phenomena I will be describing ultimately exist only in relation to a materiality. For thinkers like Casey⁹, Malpas¹⁰ and Pérez-Gómez¹¹, GIS would be seen as important contributors to the modern changes whose spatial impact has been the annihilation of place. Of course they are, but my assertions about the results are perhaps less pessimistic. I am presenting evidence that

what comes out of these systems and their interplay with the physical world is a place complicated and damaged by our modern condition -- but a place nevertheless. While such systems can in significant ways contribute to the impoverishment and evacuation of the meaning of space, my point is that their products also somehow, in strange ways and perhaps unintentionally, seem to enrich the world they represent. I will assert that they add to an existing material condition in a manner that cannot help but remind us of Ricoeur's assertion that fiction adds to reality.¹² They do this not in the generally accepted sense of "augmented reality", a layer added on top of an image of an existing world. Rather, in them material and image, landscape and its representation, intermingle to form a new, hybrid, World. Neither transcends the other, and in this sense the representations of landscape I discuss might be seen as a form of Vattimo's weak knowledge: it is precisely by convalescing rather than overcoming the illness of modernity that we can find a cure.¹³ Stiegler's work itself seems to me resonant here: it is only through acceptance of technics as constituent of our humanity that a way forward might be found for us in a technological world, indeed that we might recognize technology as our "saving danger".¹⁴ The suggestion that some important dimension of placelessness might in fact paradoxically be constituent of places today if they are to have any kind of cultural relevance, matters for architects. This is the condition with which contemporary architects must work and from which we must wrest some kind of meaning.

As I present these two pieces of evidence, one felt and made and the other thought and written, I will integrate a brief overview of the history of contemporary mapping as it bears on the subject of this paper. All three projects discussed here make use of the reference coordinate systems of longitude and latitude which currently dominate global mapping. It was Hipparchus (190-120 BC) who first used a system of latitude and longitude to measure location on the surface of the Earth. As this system was re-thought, forgotten, remembered and elaborated over centuries, it became what is now the modern system of latitude (or parallel) and longitude (or meridian). As we shall see, this process was fraught on a number of levels and continues to be so today.

Parallel

The first project I will look takes as its point of departure the 49th degree of latitude, the border between the US and Canada. *parallel* is an evolving single channel video which originated in 2012 and has since been through several iterations, each incorporating more recent and higher-resolution imagery.

Using functions internal to Google Earth Pro (especially Earth's *historical imagery* function), the project harvested satellite imagery captured along the length of the border as multiple sequential high-resolution images, collected, sorted, and edited into a single long aerial tracking shot from west to east, 7 hours in duration. Each still image is in a sense a found object, framed by the virtual "camera"

(a frame chosen by the author), but its contents composited automatically by the machinery of Google Earth from satellite images sourced mainly from government agencies. Audio in this piece consists of three superimposed tracks: found music, ambient sound from the International Space Station, and audio from an MQ-9 Reaper drone (these drones patrol the border today), all modified. *parallel* runs 2,000 km from the Strait of Georgia in the Pacific Ocean to Lake of the Woods.

If one follows the long pan long enough, anomalies become apparent, both in the landscape and its image. In Fig. 1, where the parallel approaches Lake of the Woods, the landscape and its image present a rich tapestry, in which the border itself has an ambiguous presence. Running vertically in the centre of the image (the pan moves slowly upwards), we can identify the line of latitude only through differences in land use: forest and wetlands have been cut away to create farmland, but only on one side of the border. Even on the farmed (American) side, distinct territories of land ownership and occupation can be identified; like the border, these are created by arbitrary lines of possession. As the border approaches the edge of Lake of the Woods, it dissipates; all permutations of land use give way to a shoreline ecosystem.

This amalgam of land is further complicated by another phenomenon. Google's machinery has spliced together satellite tiles collected at two different times; the border between them parallels but does not equate with the political border -- there is a displacement of some hundred metres. The result -- a cloud cut as though by a knife, and the sharp edge of a dark and shadowy territory bordering the bright lakeshore -- suggest distinct and contradictory realities coinciding in one space. What would happen, we might wonder, if we were to follow that curving road from the bright land into the dark one? This single image, one of many thousands that might be harvested from *parallel*, presents a complex ecology of image, material, nature, artifice, space and time; an ecology that provokes narrative.

If in this hybrid world a digital artifact begins to take on the qualities of a territory, and enters into an ambiguous relationship with the material territories it parallels, this condition is often even more pronounced. In Fig. 2, the 49th parallel can be identified in the faint line running down the centre of the image, and just to the right another, blurred, border is apparent where two satellite tiles (each captured at a different time of year) meet and feather into each other. The image to the right was taken in the summer of 2005, when the Antler River overflowed its banks in one of the prairies' periodic floods; the one on the left dates from 2003. These two landscapes represent two distinct but related prairie geographies, one terrestrial, the other aqueous; one controlled by human artifice -- engineering works can be identified clearly along the river bank just to the left of the border -- and one escaping that control utterly. Thus far the image speaks of the natural cycles of the prairie and our inability to control them; the contrast between these worlds is made apparent by Google's tendency to marry images from different times at the political border. But another phenomenon is obvious in this image: an inundation of another order encroaches on the image from the far left. Google Earth's algorithms have spliced in a satellite image from yet another time, a lower-resolution image distorted through the series of automated digital processes that enlarge and reproduce it. As we look closely at this

pixelated and artefacted swath, it begins to take on its own qualities of darkness and light, opacity and texture; it comes to take on the character of a geography in its own right.

There are many other instances of this phenomenon along the entire length of *parallel*, and they are provoked by the temporal nature of Google Earth's map. Google Earth is not just a database of current satellite tiles. It is also an archive of historical images of the Earth dating back to the 1990s. Images like these reveal the unevenness of the data acquired at specific points in the past. Gathering images from the early 2000s for example, there is an obvious asymmetry between the imagery on the American side of the border—highly defined—and the Canadian side—highly pixelated, if present at all. And the temporal dimension of this phenomenon seems integral to even the most recently collected imagery. Satellite images are not captured simultaneously. They are gathered by a space-based camera moving along a path above the surface of the Earth, and are recorded in sequence before being composed as tiles into a single image of the world. The border between two satellite tiles thus represents a seam in time rather than merely space. Different moments in one day are juxtaposed between separate images. Different seasons coexist. The anomalies generated by image processing frequently stem from the splicing of different times in one space.

This strange splicing of times, responsible for the generation of new and contradictory landscapes where we might have expected to see a straightforward, uncomplicated representation of a physical reality, seems characteristic of contemporary conditions of media. I will discuss this condition further below, when I turn to Stiegler's discussion. But for now I would like to establish that in fact that this strange, occasionally eerie, modern condition resulting in part from technical errors is layered onto, and in an important sense is based upon, a long history of mistakes. The 49th parallel was always an arbitrary boundary. The political border was originally decided upon through a series of negotiations between the United States and the United Kingdom following the Louisiana Purchase of 1808. In principle the border was defined as the watershed between the Missouri/Mississippi river basins and Hudson Bay, but that line (which was in practical terms impossible to find, and furthermore could hardly be demarcated in the geometries understood at the time) was substituted by the 49th parallel. Yet even that simplified border could not be precisely pinned down. The border was laid out in several land surveys culminating in the 1880s. Cumulative surveying errors led to the border monuments between the Pacific Ocean and Lake of the Woods straying up to hundreds of feet from the theoretical parallel. Subsequent treaties have defined the border as the wavering line demarcated by these (inaccurate) monuments, rather than the 49th parallel itself. In the evolving iterations of the video work *parallel*, the path of the camera kinks imperceptibly to more precisely follow the original surveying errors which define today's political border. As it does so, it records a landscape whose technological mapping was compromised from the beginning. Of course that landscape in its current form is itself largely technologized -- today's prairie is a machine for food production. But *parallel* also documents how imperfect that machine is, and how subject to nature's whims.

Transect

Such are the complications introduced into the ostensibly simple and precise demarcation of the Earth one would imagine from a single line of latitude, and its contemporary representation. Yet, the situation gets more complicated. At the time the 49th parallel was being surveyed, European powers were gathering to standardize the different systems of latitude and longitude used in their various scientific and colonizing projects.

Latitude defines one's position along the circumference of the Earth at a given angle from the equator, and is easily calculated trigonometrically based on the elevation of the sun above the horizon at noon. As one moves north the highest elevation of the sun in the sky (on a given date) decreases. Longitude, the distance in degrees of the earth's circumference west or east from a given reference line, is not so easily measured. Back in the 2nd century Hipparchus proposed to measure longitude by comparing local time to a place with an absolute time: a prime or zero meridian passing through Rhodes. By knowing the precise time at the zero meridian, even when one was at great distance from it, and knowing the movements of the sun and stars through time, in principle it became possible to measure from their locations in the sky one's location on Earth east or west from the Prime Meridian.

But in fact knowing the time back at the zero meridian depended on access to a clock which accurately kept that time even when moved away from the point of reference. And such a clock would not be developed for centuries. At the end of the 16th c CE Galileo proposed that the movement of the moons of Jupiter could serve as such a clock, and in the second half of the 17th c Cassini was able to use this clock to plot the latitude of the island of Goree in the West Indies relative to Paris. The Royal Observatory in Greenwich, England, was built to allow observations of the stars and moon precise enough to allow the Earth's own moon to be used as such a clock.

This still left the problem of achieving the necessarily accurate measurements of such heavenly bodies from the moving deck of a ship at sea. By the middle of the 19th century methods to accurately measure time (and thus longitude) had been developed based on both the movement of Earth's own moon and on increasingly reliable timepieces.

But even as time became standardized, the locations of the reference points from which longitude was to be measured -- the zero or prime meridia -- continued to be disputed. Prior to 1884 any European power with scientific or political ambitions had its own Prime Meridian. In that year the International Meridian Conference standardized the global system of latitude and longitude around the Greenwich Prime Meridian (France held out, employing a Paris meridian until 1911). The internationalized system of latitude and longitude standardized at this time was a vast modern infrastructure for marking out space and time; it contributed to a division of the world which was at once epistemological, technical, and political. It also became a framework for producing images of the planet that have become ostensibly more nearly perfect over time and through the use of new technologies.

Yet even as the capacity to precisely delineate such theoretical lines was becoming stronger and stronger, their arbitrariness and ultimate indeterminacy became, counterintuitively, more and more pronounced -- as continues to happen today. This is nowhere more apparent than in the case of the Prime Meridian established in 1884, the subject of the next piece I will discuss, *Transect*.

Like *parallel*, *Transect* pursues its path along a single reference line, in this case the Prime Meridian (zero degrees of longitude) running through Greenwich, England, and its analog the Antemeridian on the opposite side of the world (180 degrees of longitude). These two lines form a great circle, a single long transect of the planet. Traversing this transect, so important to the European -- even Anglo-Saxon -- division of the world, the video project isolates many of the same phenomena identified by *parallel*. In Fig. 3 for example we can see an arbitrary line dividing the city of Tema, Ghana, invisible on the ground but apparent (displaced approximately one minute of longitude west of the Prime Meridian itself) in the line bisecting a cloud; as did the earlier images, this one also folds the passage of time into its representation of space. The meridian runs across a complex polity incorporating a military installation and former detention centre Michel Camp, adjacent informal settlements, and the roadways and highway cutting the camp off from its surroundings. This environment is a contemporary product of European manipulation of African political space a manipulation which not coincidentally made use of arbitrary geospatial lines, ignoring existing national identities and local definitions of place, to cut the continent in ways that worked for Europe.

While *Transect*, like *parallel*, was single-channel video composed of thousands of high-resolution sequential stills, these did not remain merely as video in this case. I have already mentioned Greenwich Royal Observatory, the building created to perfect astronomical observations for the accurate navigation of the Earth. This was the building through which several of Britain's Prime Meridia have run, culminating in the Airy Meridian established in 1851 and adopted as International Meridian in 1884. The Royal Observatory sits atop a hill above the Greenwich Royal Naval College (1696-1712). The College and Observatory together were arguably the most significant modern building complex dedicated to global mapping and navigation. On two nights in the summer of 2014 *Transect* was projected at this site, on a courtyard portico of Queen Anne Court of the Royal Naval College. This building was designed by Sir Christopher Wren (an astronomer himself), with Nicholas Hawksmoor.

The videos captured from Prime and Ante-meridia were superimposed in the computer (Fig. 4), sampled, and projection-mapped onto the portico (Fig. 5). On the first night, moving images from along the Prime Meridian were mapped onto the portico's pilasters, and those from the Antemeridian onto the interstitial wall. On the subsequent evening these roles were reversed. These projections effectively collapsed the two sides of the planet onto each other, amalgamating their image with the architecture from which the Prime Meridian originally emanated. Each of the original videos made use of phenomena of the kind already discussed, and as real and fictional landscapes flowed past each other over time; repetitive yet ever-changing, they formed a liquid patina for the 18th century architecture: a patina in which image and material appeared to mingle.

I have already discussed the indeterminacy of the 49th parallel, and we have seen already that the Prime Meridian shares something with the accidental nature of that line: more so, as the choice of zero meridian is inherently arbitrary. Rather than becoming more resolved with time, today that arbitrariness and indeterminacy have been exacerbated by the shifting of the Greenwich Prime Meridian 5.3 arcseconds (at Greenwich, this amounts to approximately 102m) eastward to the International Reference Meridian (IRM). The IRM is maintained by the International Earth Rotation and Reference Systems Service; it forms the basis of the Global Positioning System operated by the United States Department of Defense, widely used for civilian navigation systems. If this meridian and the lines of latitude and longitude set out from it were ever considered fixed relative to the Earth's surface, they are no longer so: we now know that the planet's tectonic plates move ceaselessly under them. Instead the IRM is today space-based, defined as the weighted average of hundreds of reference meridians running through Earth-based stations and communicated through several dozen Global Positioning Satellites. Derived from this system, the network of latitude and longitude is now mobile, having no fixed relation to any point on Earth, nor to the reality of political borders. The IRM and GPS frameworks, and their precise yet ambiguous delineations, are the basic frames of reference by which Google Earth's machinery composites the satellite imagery captured in *parallel* and *Transect*. The Prime Meridian thus no longer runs through either the Royal Greenwich Observatory or the Royal Naval College. If *Transect* brought the meridian back to those places, it makes sense that its appearance there was fluid and temporary.

Dominion

A third project will bring these concerns back to the Canadian landscape. The project will take as its focus the Dominion Land Survey (DLS), the 19th century project which divided the Western Canadian prairies into the grid of perhaps one million one-mile squares we still see today. The DLS has its own Prime Meridian, just west of Winnipeg, Manitoba. The survey's title of course refers to the Dominion of Canada, but of course also for modern man's mistaken desire for dominion over the planet, of which the net of latitude and longitude are emblematic. *Dominion* intends to disrupt that project.

The DLS, like all other mapping systems, is full of anomalies. These are technical (due to the limitations of mapping technologies then and now), ecological (DLS-based land divisions are repeatedly undermined by the natural cycles of the prairies), and social (pre-existing patterns of land use -- aboriginal reserves, French river-lots, Métis settlements, and others -- survive as gaps in the grid). In other words, while the myth of the rational division of land survives, the prairie grid and its image are shot through with ruptures. A few of these can be identified in Fig. 6: besides the mile-square sections of the DLS, we can identify numerous features which disrupt it, including the path of a river, seasonal sloughs

and ponds, traces of larger-scale flooding, anomalous land ownership patterns, new industrial uses for the land (including fracking installations), and the faint edges of satellite tiles. *Dominion* will be a critical visual meta-survey of the DLS grid and landscape themselves, articulating the current state of the prairies, entangled in technologies old and new.

But what do the phenomena identified in these projects mean? How can they be further understood in terms that make them relevant to architecture? As I have suggested, answers may be found in ideas from Bernard Stiegler. It is to his ideas that we now turn.

Disorientation

Digital systems like Google Earth have been seen by some as a threat to our humanity. Bernard Stiegler takes a distinct position. His key thesis in the re-reading of Martin Heidegger through technology which is his *Technics and Time*, is that the technical is and always has been in fact constitutive of our humanity. We humans are incomplete and strive to complete ourselves through prosthetics: a technical support for our individual becoming, and our becoming as a species, which he refers to as *epiphylogenetic* – outside of any inborn nature. As he puts it, we are caught up in an *Epimethean complex*. This term refers to the forgetfulness of Epimetheus, for which the work of his brother Prometheus – his imagination, his anticipation of the future, and his inauguration of technical and technological projects – compensated. For Stiegler, Epimetheus's failure is humanity's failure, and while Prometheus's successes represent our fulfilment through technics, Epimetheus' condition is always embedded in them.¹⁵

In the second volume of *Technics and Time*, subtitled *Disorientation*, Stiegler develops ideas on the implications of this complex in current conditions of media. He develops his argument primarily in response to the writing of Derrida and Husserl. The prosthetics of which he speaks includes the recording of history: our memories are insufficient, and to complete them we have employed an array of mnemonic tools (which include architecture). There is thus no original or originary time, no pure experience or memory; we access history, and experience after the fact, only through prosthetic forms of recording. Stiegler understands industrialized media in the context of a long evolution of technical frameworks supporting memory, whose first substantial manifestation was orthographic writing.

In *Disorientation* Stiegler's underlying preoccupation is the relationship between orthography (whether in text or image) and *différance* – the term Derrida used to refer to written language's failure to pin down meaning, eternally deferred as it slips elusively between differing definitions. Meaning is inherently unstable. A common assumption in our time is that contemporary conditions of media imply the occlusion of *différance*. Ostensibly based on a positivist epistemology, the very notion of "Information Technology" implies the flattening or reduction of all knowledge to mere information. The immense scope

and scale of today's mnemotechnological systems, their reduction of information's value to capital, and the prevalence of instantaneity and speed in the transmission of data result, for many, in the denaturing of knowledge and writing; that is, its erasure of delay and *différance*.

Disorientation elaborates on why the opposite is true. Stiegler argues that the human experience of time and being, in all its ambiguity and indetermination, is generated paradoxically out of our tendency towards orthography – our attempts to record and communicate with precision. He embarks on an analysis of our foundational engagement with memory and technology in the production of *différance*, addressing it with reference to the image and to text. Drawing for example on Barthes' writing on photography, he emphasizes that the photographic image has built into it delays: between opening and closing of the shutter, between exposure and development. As he puts it,

the photograph contains an objective melancholy binding time and technique together; yet throughout the entire history of visibility, time and technique have been constituted solely through the refraction of their instrumental and technical surfaces: *différance* as a single movement of spacing and temporalization.¹⁶

He then makes a broader claim. Through Lacan he demonstrates the more general significance of the image, making the case that a preoccupation with the image (*imago*) derives from the mirror stage of human development. The mirror stage is:

a particular case of the function of the *imago*, which is to establish a relationship between the organism and its reality... altered in humanity by a certain dishesion within the organism itself, but a primordial Discord...

The *mirror stage* is a drama whose advent is precipitated by an insufficiency of anticipation – and which for the subject, caught in the lure of spatial identification, fabricates the phantoms that are succeeded by a fragmented image of the body into a form we call orthopedic of the totality.¹⁷

In short, our attempts to reflect the world – to record and mark it orthographically – have incoherence and fragmentation built into them. The lag between the Epimethean and Promethean movements, inherent in our imagination, production, and use of technics, is what generates *différance*. Text, no less than any other expression of the orthographic tendency, produces such gaps and ruptures.¹⁸

As he develops his argument, Stiegler tackles what he sees as a long-standing bias within phenomenology against the technical. Following Derrida and Paul Ricoeur, he discredits Husserl's understanding of primary, secondary, and tertiary memories. These refer to degrees of separation from direct experience: from our retention of immediate experience, to its recollection, to its recording and recollection through reference to (orthographic) documentation. For Husserl's phenomenology these are all pale shadows of direct experience, and usurpers of its value. But for Steigler, they are integral to it; one cannot sever the intimacy of direct experience from its record:

primary memory [retention, production] can no longer be any more opposed to tertiary memory than to secondary memory [recollection, re-production]: the already-there *qua* what, the third world-historical, is constitutive of a temporality always already emerging from its strict intimacy.¹⁹

He thus validates not only textual memory, but also all forms of record-keeping (including by implication architecture). Indeed, if memory is always about memory *loss*, about forgetting as much as it is about remembering (the Epimethean complex), tertiary memory is even more integral to our being than the original experience: it represents our recovery from that loss.²⁰ It is in fact through tertiary memory – memory supported by a technical framework – that we become fully human.

There are several points to underline here. First, our creation of the orthographic image itself generates *différance*. The straight line generates the bent, the attempt to determine provokes the indeterminate. Second, photography is a specific instance of this. Third, orthography today manifests in industrialized knowledge bases and mnemonic systems. Mapping as practised by the international organizations discussed above is of course a form of industrialized orthography. It is also a mnemonic system: Google Earth is one example of a spatial database which is also an archive. And it integrates, profoundly, the photographic image.

Stiegler's argument has existential implications: it suggests that our subjectivity, which for him was always realized through technics, is extended in modern times out into the digital tools we use for memory, or perception, or action. As Stiegler states the situation:

Evolving from the history of tools for the orientation of knowledge – an array of prostheses accommodating our originary hypomnesia, through computer-assisted reading systems, to an exteriorization of the cerebral cortex's functions and perhaps even the entire nervous system – the result is a displacement of memory from the who [his term for the subject] into the what [the subject's technical support].²¹

Our dependence on tools from organizations like Google is just one instance of this. These changes might seem to threaten the human subject.

Yet Stiegler maintains that it is in fact the engagement of the technological – the interplay of the *what* with the *who* – from which is generated *différance*. Delay is not in any straightforward way erased by industrialized memory; rather it is provoked by it. We might sense this in our own experiences with technology failing at its limit of speed and capacity: communication feeds breaking down, images and audio fragmenting into noise, from which we might seek to piece together or invent an elusive, indeterminate meaning. It seems as though the closer we get to the instantaneous communication of information, the more turbulence we produce, the more disruptions, delays and deferrals in time. As Stiegler puts it, referring to our attempts to annihilate space through “real-time” communications, in fact ‘Real time is a derealization of time, as if time were really real only in remaining unreal, chronically diachronic, asynchronized, late for itself.’²² There are other, related, impacts on our engagement with time – for example, the rapid

obsolescence of media substrates, which impose a recurring need to ‘migrate’ data from one medium to another: to displace it, which implies deferral (and often error). And as devices for the manipulation of digital material become ubiquitous, we are all able to record, play back, skip ahead, replay, and rewind our memories of events. The new information space gives us a power over time which, while never freeing us from its rule, enhances our potential to manipulate it at least in our representations of the world. As these phenomena become integral to our perception of events, so also do they become inseparable from our own acts. As Stiegler puts it: ‘deferred time is in the process of co-opting real time’s power.’²³

Stiegler identifies a specific kind of object native to this information space: the *temporal object*. These are objects generated out of montages of memory, currentness, and *real time*, which mark and bear traces of the passage of time, and are entwined with it in a complex relationship which even allows them to add to history. They produce a specific condition of time in which:

A combination of new texts/data and instruments make an entirely new mobilization of the *already-there* [the historical] conceivable. Citation and arrangement of the various elements furnished by available patrimonial and informational sources open the possibility of a qualitative leap from a new reading and writing at “light-time” laminated onto an other, deferred time.²⁴

In the first half of this paper, I discussed projects generated out of Google Earth, which might seem to be received purely passively by the viewer -- or at best, interactively, through the choice of views framed or paths selected. But users are also contributors and generators of much of the content on Google Earth, and even more so in its non-proprietary analogues like OpenStreetMap. And this content in turn is deployed as history unfolds -- famously, if not without ambivalence, in the events of the “Arab Spring.” If time is laminated in temporal objects, we might see another indication that what he is writing about is what can be seen in these images: composited, juxtaposed, overlaid, brushing up against each other and generating thereby a friction from which a gap for fiction, a space for ambiguity and deferred meaning, might arise. As further evidence, we might note Stiegler’s assertion that temporal objects tend toward a specific form of expression: the visual and spatial. He observes that the ‘secondary memory in which the past can be re-composed... enacts as image-consciousness, strictly speaking, namely, by its transcendent representations such as icons, drawings, photographs, tracings of all sorts, and other mondo-historical *what’s*’.²⁵ These “mondo-historical” *whats* might well include Google Earth, other satellite imaging infrastructures, and their products.

Stiegler refers to Prometheus’s (de)fault – his failure, our failure as humans, for which technology makes up – and we can identify a fault in these accidental superimpositions, their failure to complete a strictly *orthographic* image. It is precisely in this that the significance, and the beauty, of these images lies. The Epimethean complex involves both looking forward – at what is imagined, at our bodies projected forward by prosthetics – and looking back – at what we missed. And that is what we see in images that

display both the past and projections forward: lines laid out on the landscape over a century ago in anticipation of development to come, lines which failed at their inception and periodically fail again before the changes of seasons and the passage of time, and must be redrawn yet again. Google Earth's machinery layers one year onto another. It becomes impossible to pull apart what the images are doing from what the land itself is doing. These spatial imaging systems display the emergence of differences and gaps that underline the passage of time: they are certainly instances of Stiegler's temporal objects, associated with textual and technical infrastructures oriented towards time and memory. We recognize an affinity between these layers of time articulated in fragments of image, and the landscapes they depict, fragmented by land use and ownership; we might infer similarities in the processes that generate them, as suggested by the history of modern mapping we have dipped into so briefly. The digital environment produced here is shown not to have left the Earth behind entirely; rather, it reconstitutes it. And these processes do not generate a homogeneous environment. Despite the aspiration to unite the entire surface of the world under one intuitive navigational scheme, labelled with a coherent and universal system of symbols and markers, in Google Earth as in other platforms a plethora of information, cross-referencing and inputs (often user-generated) provoke a condition of heterogeneity: of heterogeneous times laminated onto each other.

These images reinforce Stiegler's argument that *différance* and delay are not only not in any straightforward sense *erased* by technical memory, even industrialized memory: they are actually *provoked* by it. As was the case with memory, our orthography of space – while threatening to efface difference – proves to be Heidegger's 'saving danger.' Indeed, 'Contemporary technics have initiated the opening to another world, emerging in and as a new gap, a very large gap as required for the making of an "epoch."' ²⁶ This gap opens at the intersection of (spatial) database and (temporal) archive, as generating territories of land and image.

It also implies a new and similarly hybrid form of subjectivity. I have already discussed Stiegler's position that the *who* now extends out into the *what* of the technological matrix. There is not space enough to delve into this in detail here, but he makes the case for a new subject, the *idiotext*, similarly generated out of a process of *différentiation*. The term suggests both the Greek sense of one without professional knowledge, ill-informed, but also perhaps one in the dual and paradoxical condition of being torn from context (idiosyncratic) and profoundly local (idiomatic). This subject's relationship to place matters, and it is a paradoxical one:

The idiotext attempts to think place, the (re)constitution of place, and giving-place as such: the opening of a spatiality in the event's temporal having-place. This effort "has place" within the "context" of what I have characterized as decontextualization.²⁷

It is (we are) resonant with the kind of space we have been considering, (de)territorialized and mingled with time; and with the temporal objects that record and generate them. As we are renegotiated in new

localities, through and within our supporting *whats*, we seem to be placed radically outside ourselves even as we take place. Again, my discussion of this is limited by space, but my assertion at the beginning of this paper, that place and non-place are not oppositional but bear a complex relationship, is related to this new condition of the subject and its own simultaneous taking place and deterritorialization.

Conclusion

The foregoing might suggest to us a new, or renewed, role for the image of the Earth today: understood as what Stiegler terms a *temporal object*, that is, one whose constitution depends on a re-reading of preceding accumulations of image, contributed to (wiki-like) by a *polis* of globally distributed local scribes, generated out of a technical engagement of memory, generating a condition of *différance* through a laminated temporality, and contributing to the creation of (while also created by) a new subject – a new kind of citizen. We might elaborate slightly on an idea from implied by Stiegler but explored in greater depth by one of the writers to whom he acknowledges a debt in *Technics & Time 2*: Paul Ricoeur.

That is the importance of stories. In *Time and Narrative* Ricoeur draws on St. Augustine to articulate how our being is torn apart by our impossible experience of time.²⁸ In fact Stiegler's deconstruction of the primary/secondary/tertiary memory distinction employs an analysis of the reading of poems which appears to intentionally recall St. Augustine's discussion of the memorization and recitation of song, employed in *Time and Narrative* -- except that, of course, Stiegler is discussing a technical support, the orthographic writing in which a poem is written. For Ricoeur, working from Aristotle, it is only narrative which sews together our being thus sundered. Perhaps the intersection of database and archive expressed in the landscapes I have presented here can be understood best as a latent narrative, one which deterritorializes and reterritorializes space through a prosthetic both serving and failing memory. In Fig. 7, taken from the early work on *Dominion*, we see again the product of two adjacent satellite tiles. The first, on the right, shows us a human settlement, two homesteads amidst fields plowed and marked by the hands and machinery of the farmer; a form of prosthetics proper to an earlier era. To its left is another field, a pixelated digital field generated by Google's Earth's processing of an older, lower-resolution image. In this second territory we can begin to identify a landscape proper to the prosthetics of our own time, perhaps one to be inhabited by the idiotext of which Stiegler speaks. These two fields are linked by paths that might lead us between settlements, that make one field the umbilical source of the other. But which is which? If we were to cross the boundary from one these fields into the other, who would we find there? What might they become?

Images



Figure 1. Courtesy Google Earth, © 2016 Digital Globe.



Figure 2. Courtesy Google Earth, NASA, USDA Farm Service Agency.



Figure 3. Courtesy Google Earth, © 2016 Digital Globe.

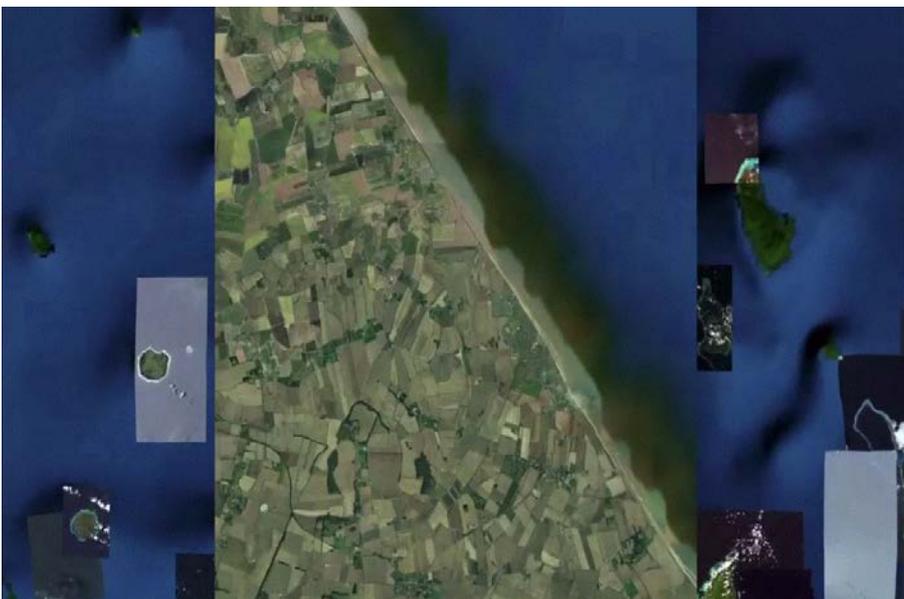


Figure 4. Courtesy Google Earth, NASA, portions of image © 2016 Getmapping plc, © 2016 Infoterra Ltd and Bluesky, © 2016 Digital Globe.



Figure 5. Image courtesy the author.

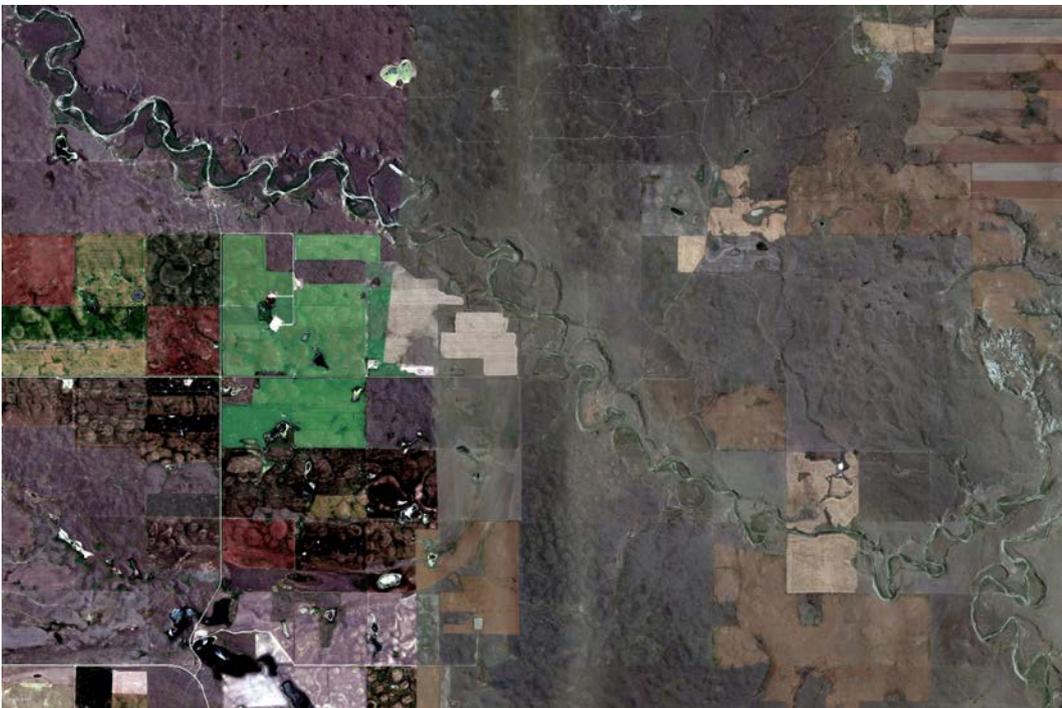


Figure 6. Courtesy Google Earth, NASA, © 2016 Digital Globe.

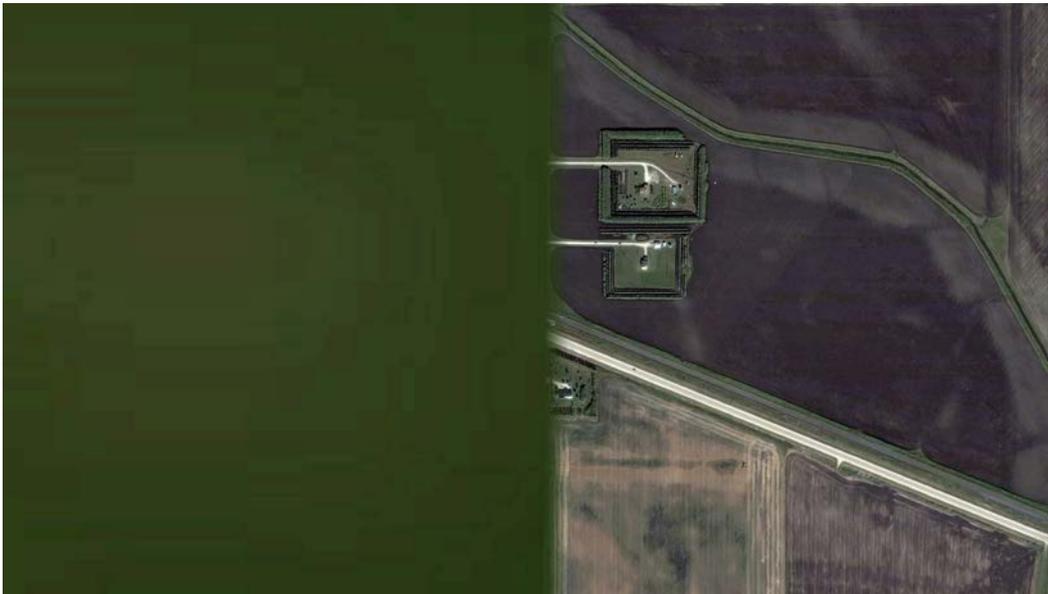


Figure 7. Courtesy Google Earth, © 2016 Digital Globe.

Notes

- 1 see for example: <http://mishkahenner.com/filter/works/Feedlots> and <http://mishkahenner.com/filter/works/The-Fields>
- 2 <http://mishkahenner.com/filter/works/No-Man-s-Land>
- 3 <http://mishkahenner.com/filter/works/Dutch-Landscapes> and <http://mishkahenner.com/filter/works/Fifty-One-US-Military-Outposts>
- 4 <http://9-eyes.com/>
- 5 Bernard Stiegler, *Technics and Time, 2: Disorientation*, trans. Stephen Barker (Stanford: Stanford University Press, 2009).
- 6 Bernard Stiegler, *Technics and Time, 1: The Fault of Epimetheus*, trans. Richard Beardsworth & George Collins (Stanford: Stanford University Press, 1998).
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- 8 Jean Baudrillard, *Simulacra and Simulation*, trans. Sheila Glaser (Ann Arbor: University of Michigan Press, 1994).
- 9 Edward S. Casey, *Fate of Place: A Philosophical History* (Berkeley: University of California Press, 1997).
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- 11 Alberto Pérez-Gómez, "Place and Architectural Space" in *Timely Meditations, Vol.2, Architectural Philosophy and Hermeneutics* (Montréal: RightAngle International Publishing, 2016); and *Attunement* (Cambridge, Massachusetts: The MIT Press, 2016).
- 12 Paul Ricoeur, *Time and Narrative, Volume 1*, trans. Kathleen McLaughlin and David Pellauer (Chicago: The University of Chicago Press, 1984).
- 13 Vattimo, Gianni. *The End of Modernity- Nihilism and Hermeneutics in Post Modern Culture*. Cambridge: Polity, 1988.
- 14 Martin Heidegger, "The Question Concerning Technology," in *The Question Concerning Technology*, trans. William Lovitt (New York: HarperGarland, 1977), 28.
- 15 Stiegler, *Technics and Time, 1: The Fault of Epimetheus*.
- 16 Stiegler, *Technics and Time, 2: Disorientation*, 18.
- 17 Lacan, cited in Stiegler, *Technics and Time, 2: Disorientation*, 26-27.
- 18 Stiegler, *Technics and Time, 2: Disorientation*, 61.
- 19 *Ibid.*, 199-200.
- 20 *Ibid.*, 222.

- 21 Ibid., 81-82.
- 22 Ibid., 124.
- 23 Ibid., 231.
- 24 Ibid., 148.
- 25 Ibid., 221.
- 26 Stiegler, *Technics and Time, 1: The Fault of Epimetheus*, 95.
- 27 Stiegler, *Technics and Time, 2: Disorientation*, 243.
- 28 Paul Ricoeur, *Time and Narrative, Volume 1*, trans. Kathleen McLaughlin and David Pellauer (Chicago: The University of Chicago Press, 1984).

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*Modeling Narratives: Architecture of Desire in Contemporary Seoul**

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Abstract

In the article “Modeling Narratives” we suggest a number of unconventional architectural interventions in the fast-shifting urban environment of contemporary Seoul. We focus on marginal phenomena of the city’s life and attempt to create for them appropriate architectural manifestations. We began with a socio-political reading of these phenomena, but have proceeded in modeling narratives that express their main characteristics and predominant parameters. These phenomena are the high rate of suicidal attempts in Seoul’s Han-river, the recent proliferation of illegal prostitution and abnormal sexuality, and the anarchical reactions against the authoritative government and conventional social norms in the heart of the city.

Trying to study these phenomena, which usually pass unnoticed by the official historiography, we build plausible narratives that describe the involved people’s repressed desires and their intentions for the future. These narratives become the main tool for the architectural proposals we then suggest and design, for they define the program, placement, form and materiality of the interventions themselves. In that way the narratives mediate between architecture and its socio-political context, reconciling the personal imagination of the architect with an understanding of local places and cultures along with pressing political and ethical concerns. By doing this, these narrative-based projects are intended ultimately to contribute to the reconfiguration of the ever-changing Seoulian society.

* The present research has been conducted by the Research Grant of Kwangwoon University in 2016.

Introduction

In the “*Modeling* narratives” we suggest a number of unconventional architectural interventions in the fast-shifting urban environment of contemporary Seoul. We focus on marginal phenomena of the city’s life and attempt to create for them appropriate architectural spaces. Based on a sociopolitical reading of these phenomena we proceed in modeling narratives that express their characteristics and parameters. The narratives become the main tool for designing architecture, for they define the program, placement, form and materiality of the final architectural interventions.

The home of Wonhyoro Street in Seoul
where I left childhood behind
is a clinic for plastic surgery now.
The Mapo home where I spent my teen years
listening to the government’s propaganda
Is filled with municipal offices,
and gorgeous Balm Island is now gone.
Near the Blue House, Jimnyung Girls’ High School,
my alma mater, is a government building, too.
The home where I spent my college years
in Sangdo-dong has become a cheap hotel.
Frogs once croaked near my newlywed home in Kui-dong.
Now, a convenience store stands there.
Today, I’m driven from the white villa
near Yoongdong Bridge,
and looking for a place to rent.¹

Contemporary Korean poet Chung-hee Moon, captures in the lyrics of “Where Is My Home?,” what could be probably a most poignant picture of the drastic transformation of South Korea’s capital. Over the last 60 years, Seoul has changed from a traditional city to a world metropolis, undergoing, as the poetic language discloses, dramatic changes on its path to modernization (Figure 1). Its urban characteristics and its architectural elements manifest clearly the nature of this change. The city has significantly expanded in size, and statistically has the highest population density among the world’s major cities, followed by Tokyo and Beijing.² Almost half of South Korea’s population nowadays resides in Seoul and its metropolitan area. Undergoing tremendous physical changes over a short time, Seoul’s current architectural conditions are characterized by a significantly temporal character. The city’s buildings have a very short life span, with the average building likely to remain standing for only 19.9 years.³ Moreover, since 1990 the city has witnessed the proliferation of a short-lived new type of space called “bang,” which in Korean means room. “Bangs” occupy temporarily small left-over spaces in existing buildings and accommodate

programs varying from entertainment and leisure, to commerce or any kind of services. At the same time, amid these fast developing transient environments, strong religious beliefs prevail among the population, with churches having been integrated into countless commercial buildings (Figure 2) (Figure 3).

More than 10,000 churches accommodate Seoul's growing Christian population nowadays.⁴ The city is unquestionably a mosaic of contradictions, oscillating between tradition and modernization, with its dwellers trying to adjust – not always without difficulties – to the changing conditions. Modern Korean fiction, with renowned representatives like Yean-hee Chung and Chung-joon Yee, has in particular captured a sense of both the joy and the pain experienced by ordinary city people in these conditions, persons who have become “misfits” by their failure to adjust to the ceaselessly – and rapidly - shifting urban lifestyle and who have been pushed to the perimeter of the city, literally and metaphorically.⁵

This project focuses its attention particularly on these kinds of people, looking closely into a number of socially marginal activities that take place daily in contemporary Seoul, understanding them as instances of repressed human desire. We identify three main categories of these repressed desires and strive to unearth them, giving them public expression through a corresponding architecture. The basic premise is that their existence in the city's daily routine is suggestive of how people adapt to fast-changing urban conditions. Accordingly, architects should take them seriously as a concern or preoccupation. The first category of repressed desire can be found in the wish to escape this world, as manifested in suicide attempts. The second is related to sexual desires and the quest to fulfill them. The last one refers to cases of anarchy manifested in incidents of protest against existing laws and regulations.

In order to grasp the sociopolitical implications and character of these phenomena we turn our attention to newspapers and journal articles, which have a bearing on the issues under examination, offering a general knowledge and understanding. On the other hand, though, in an attempt to engage in a more personal and imaginative understanding of these phenomena and thus envision an appropriate architecture for them, we take leave of this knowledge and start constructing our own fictional narratives. We construct three narratives based on the above-mentioned categories of desire, in order first to grasp what kind of mentalities have triggered them, next to imagine what spatial characteristics are related to them, and then to envision or sketch out appropriate relevant architectural interventions for them. The narratives are not merely descriptions of programs or spaces, as usually narratives are used in designing architecture.⁶ Given that, unlike many other representational forms, narrative is a linguistic means of expression *par excellence*, we believe, partaking from the discourse of phenomenology and hermeneutics on the topic,⁷ that narrative language can facilitate the generation of authentic architectural images and *models* that can meaningfully reflect their socio-cultural and political context. Thus the narratives we create for the three different categories of desires function as ways of capturing our imagination and means of working towards the final architectural solution. They depict aspects or even just fragments of proposed urban interventions, and describe atmospheres and possible rituals to be associated with the architecture. Finally, they portray the imagined lived experience of the future architecture, along with the potential emotional engagement of people with it.

Seoul Episode 1

*“When I cross the iron bridge over the Han River
the ripples catch my eye. (...)
In this city where many lives toss and flow
I fell and struggled. I built
and tore down too many days on ripples
that never returned to their original spot.”*
Heeduk Ra, “That Part of the Wave”⁸

Seoul is bisected by the 1km-wide Han River into the Gangbuk district in the north and the Gangnam district in the south, with 26 bridges ensuring fluid transportation between the two regions. Han-gang Bridge is one of the twenty-six bridges that cross Han-river, and one of the first to be built across the river. It is an important mid-town crossing, accommodating a significant amount of car traffic on a daily basis. Yet it is perhaps better known for its infamous reputation of attracting the highest number of suicides in Han river.

“South Korea is the republic of suicide,”⁹ as sociologist Jong-Joo Ahn notes in his recent work, emphasizing the increasing socially-marginal dangers in Korean society. Suicide is indeed one of the leading causes of death in South Korea and a very serious problem for the younger generation.¹⁰ The ceaselessly increasing suicide rate in South Korea is directly related to the enduring economic recession that started in the late 1990s.¹¹ Given the high population density in and around Seoul’s metropolitan area, suicides are commonly featured in Seoul’s newspapers.¹² With deliberate reticence though, perhaps aimed at discouraging others, these suicides are usually reported in the papers as simply a number. Seoulians generally choose to ignore this tragedy.

Questioning this attitude, we start exploring alternative understandings of this reality, wishing to make it critically present in the daily life of the citizens. We set off by working on a narrative that can weave in a dense poetic writing the dreary reality of the suicides, revealing place-specific and socially-embedded truths, but also imagining possibilities of a future architectural program, its possible use and the emotional engagement of the people with it:

There is a group of people who continuously plunge their bodies into the river. The water of the river seems like the last refuge in the city. Most of them believe in the possibility of erasing their personal histories, gaining chances to live again. The water seems as if it could wash away all the past. But their falls lead only to death and bring pain to the ones left behind.

The city government has invested lots of money trying to save the drowned ones, but none of the applied policies have worked. In the end, the city government makes another proposal, which actually satisfies both sides: the government and the potential suicides. It gives people a chance to live in another persona and

at the same time, generates revenue for the city. People who accept this proposal work as performers for a “show” that stage their suicidal act. People who can survive the real show will receive a new identity.

For this show, the city government builds a stage-like structure which looks like a series of springboards for diving. Before starting, people have to fill out two forms, a death announcement and a birth announcement. This is the moment of turning their desires into reality. In this ritual of filling in the necessary papers and falling into the water afterwards, they drift from reality to pure desire. The fall is a moment of pure freedom for them. If they can survive, they will get a new life.

The gyro-drop, the swimming pool and the memorial

Through the fictitious narrative, the fall is imagined as an opportunity for someone to dive into all their desires, a moment of freedom, an action that can even cause immense happiness. It is also seen as a path towards a new life, as if the character is being baptized in the water again and given a new name, a new identity, a new future. Narrative language captures a different understanding of the falls, and even traces in them elements of joy or redemption. Revealing this alternative perspective it leads us to the conception of a new architectural program.

As the narrative already portrays, a stage for diving is envisioned as one of the architectural interventions. Based on this idea, we work towards the design of a tall gyro-drop in Han River that can incorporate the boards and a swimming pool at its bottom, and host the imagined ritual of rebirth captured in the narrative. (Figure 4)

Since the narrative also sketches the emotional frustration of the people who are left behind, it subsequently triggers the development of an additional program, a memorial that will constantly remind the citizens of the already drowned city-dwellers but also offer them a place in the city for mourning. The combination of these new architectural programs will intervene with the city’s everyday reality as following:

Having been drawn to the looming figure of the gyro-drop, people can climb the arches of the bridge to access the diving boards over the swimming pool (Figure 5). They can choose to climb up the gyro-drop and experience a free-fall into the river. They can also get on the diving boards and jump off (Figure 6). Whenever people jump from the boards, screams emitted from the gyro-drop dramatize the jumping moments; the sound of suicide attempts can be heard from afar. The pool they find themselves in is transparent and has eight swimming lanes, each of which symbolizes a specific past year. Each lane’s length varies in relation to the number of suicides committed during that specific year. At the end of the swimming pool, people find an artificial island made up of funeral urns with countless death-days and times inscribed on them. The inscriptions correspond to the moments of death of all the people that have drowned. The area can also be used as a resting area for the swimmers, but mainly it serves as a memorial where people mourn for their dead (Figure 7).

The screaming sounds echo in the distance. People can always visit the memorial from an underground passage beneath the swimming pool. The tower of the gyro-drop sinks into the water and gives access to this path, which arrangement also allows for clear unobstructed views of the people plunging their bodies into the pool, the swimmers, the memorial at the end of the pool, the tower of the gyro-drop perceived as even more imposing from below, as well as parts of the city. Submerged into the water of the river - the very environment that is the last one experienced by the suicides – the gyro-drop, the swimming pool and the memorial reconcile the tragedy of the unspeakable deaths with the reality of everyday urban life. The suicides may still continue, but the citizens now acknowledge their existence and their consequences for the city.

Seoul Episode 2

(...) The streets are full of sexual desire like a broil before it festers a wealthy
muscle

*a tower crane hauls a steel beam 100 meters into the sky
ah ah ah ah ah ah ah I watch the audacity, the diligence and insanity
the sincerity and blindness (...)*

Ji-woo Hwang “Looking for a Way to Live”¹³

A 2004 special law reinforced penalties for prostitution in Seoul.¹⁴ This has as a result that prostitution is carried on illegally and secretly, a fact contrary to the initial intention of the city government. As many journalists have actually criticized the Korean government has on the one hand prohibited prostitution by law, while on the other hand, it has played the role of a “pimp.”¹⁵ According to a recent report on South Korea’s prostitution, South Korean adult men indulge in prostitution regardless of their marital status, and 4 out of 10 (39.2%) had an experience of buying sex in 2010.¹⁶ The report also notes that almost half of South Korean men (49%) buy sex at least once in their life-time, a high percentage compared to those of other countries such as U.S. (15%), Netherlands (16%), and the U.K. (7%).¹⁷ Moreover, other kinds of sexual activities, like virtual sex, also proliferate.

On the other hand, pornography is a significantly new reality in Seoul, with South Korea having the highest pornography revenue per capita.¹⁸ In the area of Daehangno in downtown Seoul, for example, pornographic live shows entice people,¹⁹ and erotic film festivals take place every year. Some years ago, even a group of middle-school students produced an item of home-made pornography and circulated it on the web, which aroused a huge social criticism.²⁰

Our project's second narrative partakes of this new urban reality, envisioning an architectural condition that can incorporate it into Seoul's life:

There is a group of people who start filming themselves, making their own pornographies. By broadcasting them to the internet world, they believe in the existence of an ideal sphere where they can live through the imagination of others.

Virtual sex doesn't presuppose the physical contact of people, so it is beyond the clutches of the law. However, it inspires people's imagination, giving the virtual experience a fascinating power, like that of novels. It is a dream from which they don't want to wake up, solely made up of desire and imagination, without rooting itself to the ground. Moreover, it has the power inherent to anonymity.

Even though people are in search of a dream world, they still live in the actual one. In this sense their pursuit is a fantasy, one which becomes more intriguing if placed alongside reality. People want to enter into this ideal world, but the closer they approach it, the farther it moves away, as reality still holds their ankle.

The blooming flower

Emerging from the writing is first of all the new image of a condition that *cannot be rooted to the ground*, metaphorically but also spatially; an element related to the character of the imagined architecture. The ideal world is somewhere in the spaceless *space* of the internet, somewhere in the "clouds" since it is understood as a dream that cannot be lived. Only through the juxtaposition of this dream-like condition with reality can people's repressed erotic desires be fulfilled. The people take the roles of either "actors" or "spectators," always keeping their real identity hidden. The "actors" voluntarily share moments of their private lives with a broader public of strangers. They seem to enjoy living in their own showcases as they remain behind computer-screens and strive to find ways to indulge in the pleasures of sexual encounter without physical contact. The "spectators" are the ones who peep into others' private moments, they also keeping their anonymity.

The above-mentioned images captured in the narrative language lead gradually to the conception of the new architectural intervention: the blooming flower structure. The blooming flower is designed as a privacy-challenging rental-housing complex, a space *not rooted to the ground*, to be realized in one of the city's most crowded areas. The architectural intervention has to be *out of reach* for the majority of people, respecting the narrative's preoccupations. Thus it is designed as a parasitic structure on the top floors of one of the city's landmark buildings, near the large open square of Seoul's City Hall. The entire district, in which both the chosen building and the public square are situated, is constantly busy and crowded by

potential spectators, as big screens for watching events and spectacles are installed everywhere (Figure 8). The blooming flower structure creates a dream world in the city as following:

It consists of a limited number of small individual transparent units, each of which includes only a large bathtub and a waterbed. These small cells are situated next to each other horizontally and vertically, occupying five floors of the open hole found in the landmark building. The ritual requires that the people who inhabit the units wear beautiful masks to hide their faces while either taking a bath or indulging in sexual intercourse. They can see both the inhabitants of the adjunct units, and also enjoy the city view (Figure 9).

The structure becomes an urban theatre, exposing its inner skin to the city. Resembling a blossoming flower, it protrudes from the building and hangs on Seoul's cityscape, moving sensuously. Every night a large number of Seoulians gathers around the building to see it blossom, enjoying the city's famous flower-viewing festival. The distance between the street level and the rental units affords them blurred glimpses of the cells' inhabitants (Figure 10).

Seoul Episode 3

(...) The fragrance is in full bloom. I dig a grave inside it. The grave is not visible. In this invisible grave I go and sit down. I lie out. (...) I forget and am at it again digging a grave there. The grave is not visible. Toward the invisible grave I go forgetting for a moment about the flower.

Sang Yi, "Precipice"²¹

Reactions against authority and existing social norms are part of Seoul's reality, with those who wish to resist conformity and control of social conduct leading marginal lives of petty anarchy. This also has been manifested through student activism in the city. From the late 90s on, "anti-culture" and "anti-government" movements have emerged in Seoul's universities, especially through university festivals. Students have questioned the pre-existing social and cultural norms (including the social prejudice regarding homosexuality) and protested against the government's despotic control over the Korean educational system.²²

The project's last narrative is woven around these repressed desires, envisioning an alternative way of dwelling in the city:

There are people believing in the possibility of living in society without laws and rules. They feel an aversion to conventional culture functioning under an authoritarian social structure. Therefore they have started to search for a place where they can experiment with something new. In this place there won't be any notion

of social and cultural pre-existing norms. For this reason they move underground. This condition negates all the systems and relationships that the society has generated throughout its history.

Some of the people start isolating themselves not only by cutting off all their relations with others but also by placing a series of walls around them. They are confining themselves voluntarily. They intentionally make the whole structure complicated, not only to make it impossible to get out but also to minimize contact with people.

Some others, although abandoning the city, still wish to send back a new spirit to it. They gather in big empty rooms under the main street and dance frenetically to the rhythm of passing cars, horns and city sounds. Their gatherings are perceived through their emitted shoutings on the city level.

The underground

Expressing the intense aversion felt by a portion of Seoul's citizens towards authority, an element portraying the existing social conditions in the city, the narrative captures the architectural possibility of building an underground structure. The underground structure is further understood through the narrative as serving two different ways of living; either offering people the possibility of complete seclusion, or enabling them to establish another means of communicating with the citizens above, instilling a new spirit into the city's life.

We thought the most appropriate place for the imagined architectural intervention to be beneath the very heart of the old town of Seoul, the Gangbuk district. Our intervention expands in particular under one of the city's most central circulation arteries, the Sejong Road. Sejong Road is an area of dense symbolism for Koreans for a variety of reasons. First of all, a number of important public buildings are situated along its sides (including Seoul's Central Government Complex, the Ministry of Culture and Tourism – now the National Museum of Korean Contemporary History - the US embassy, and the Sejong Center for the Performing Arts), and their co-existence represents different degrees of socio-cultural and political control, unsettling notions of identity in people's consciousness. Moreover, the road is a constant reminder of Korea's past. On the one side, it faces Seoul's main palace where kings of the Joseon Dynasty lived for 600 years; on the other side it faces the statue of General Yi, who fought against the Japanese invasions in the late 16th century. Recently a new square was added in the middle of the Sejong Road where a gigantic statue of King Sejong (who created *Hangul*, the Korean alphabet, in the mid 15th century) was erected. The square looks like an island surrounded by traffic lanes (Sejong road has a length of 600 meters, a width of 100 meters, and ten car lanes in each direction) and can only be accessed through few underground passages (Figure 11).

It is beneath this highly symbolic area that an underground city is imagined and designed, envisioned to work in a twofold way: A never-ending network of mazes offers people the possibility of abandoning the urban reality forever. It is to be found in the lower level of the underground city. The mazes make their way around the foundations of the above-ground landmark-buildings and the existing underpasses. Countless new underground passages are thus created. An underground necropolis is one component of the mazes. People who fought against authority and lost their lives are buried in urns situated along the passages.

In a level above the mazes, a space hosting a new nighttime program is created for those citizens who still want to keep some contact with the city's life. The space is used as a dance hall: a flickering of traffic lights seeps into it from the traffic lines of the city level above, which have been turned into glass openings. People gather to drink and participate in a ritualistic dance festival (Figure 12). They dance as the passing cars shout rhythms of engine noise and car horns into the space. They cry out, their voices drowned out by the cacophony of traffic. People in the city above faintly perceive the existence of this underground space through these very screams; the attenuated voices haunt the city's nocturnal landscape and become one of Seoul's urban myths (Figure 13).

Conclusion

The project is an examination of the socio-political context of Seoul and how architecture can respond to it through the lens of narrative. Our narratives are hardly precise and clear descriptions of final design projects, but rather the modus operandi of a socio-political architectural study, which based on the innovative power of linguistic imagination, is not some "decorative excess of effusion or subjectivity, but the capacity of language to open up new worlds."²³

The narratives indeed uncover something new in Seoul's specific urban environment, revealing existing place-specific characteristics and social phenomena evolving from people's aspirations and desires. They disclose that the place of the Han River may be understood by some of the city's inhabitants as a passage to another realm; the City Hall square and its vicinities might contain elements of urban voyeurism of a collective nature; and the Sejong Road, much more than simply a crowded circulation artery, is a progressive representation of Seoul's long and troubled history submersed in a frenetic atmosphere. Providing an alternative and more personal mode of a site-analysis, they open up the possibility of *sketching* new architectural possibilities and programs, envisioning their appropriation by the inhabitants. The narratives are a way of capturing emerging thoughts and ideas in terms of program, use, and users' appropriation of the space, along with atmospheres and elements of the places in which these architectural ideas would appropriately be materialized.

By doing that, this narrative-based project contributes ultimately to the reconfiguration of Seoulian society. It is not just a commentary on it, but rather an addition to its reality, revealing the power of fiction in shaping the world around us. Accordingly, narratives do not need to be used only as descriptions of the conditions that architecture encounters (social, political, environmental, etc.) or of the architecture after its completion, but can genuinely mediate between architecture and²⁴ its socio-political context, offering better alternatives to reconcile the personal imagination of the architect with an understanding of local places, cultures, and pressing political and ethical concerns.

Images



Figure 1. Photograph showing a drastic urban re-development in Seoul's Dongdaemun area. (Photo by Y. Jung)



Figure 2. Photograph showing a typical Christian church in Seoul in a commercial setting surrounded by apartment buildings. (Photo by Y. Jung)



Figure 3. Photograph showing Seoul's cityscape of Christian churches. (Photo by Y. Jung)



Figure 4. Image showing the intervention of the gyro-drop, the swimming pool and the memorial in the Han-river.



Figure 5. Image showing people approaching the gyro-drop through the sidewalk of the bridge.



Figure 6. Image showing the moment of the drop. Whenever people jump from the boards, screams emitted from the gyro-drop direct the moment.



Figure 7. Image showing the osmotic relationship between the two programs: the swimming pool and the memorial.

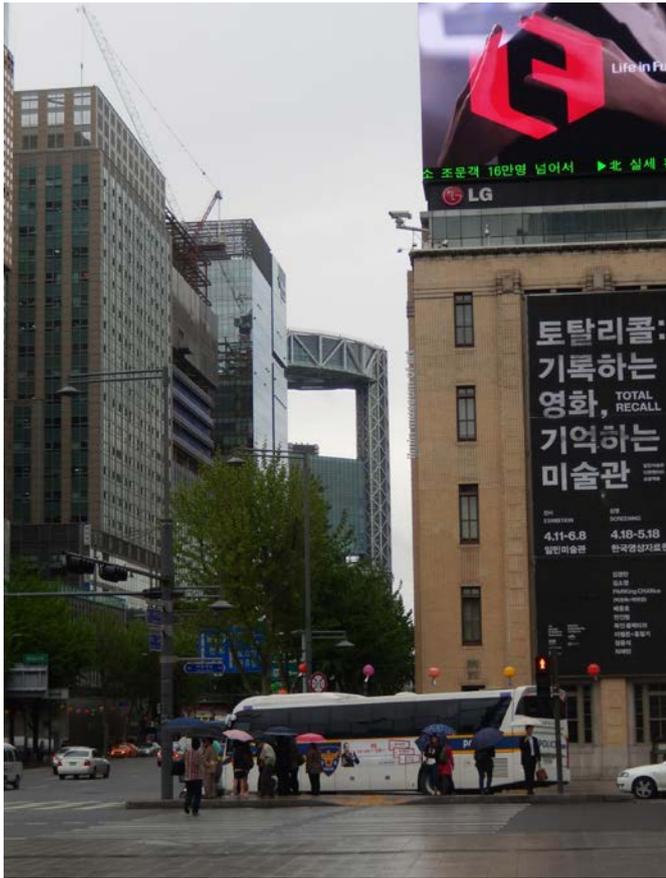


Figure 8. Photograph showing the site of the second intervention (The blooming flower) in downtown Seoul. (Photo by Y. Jung)

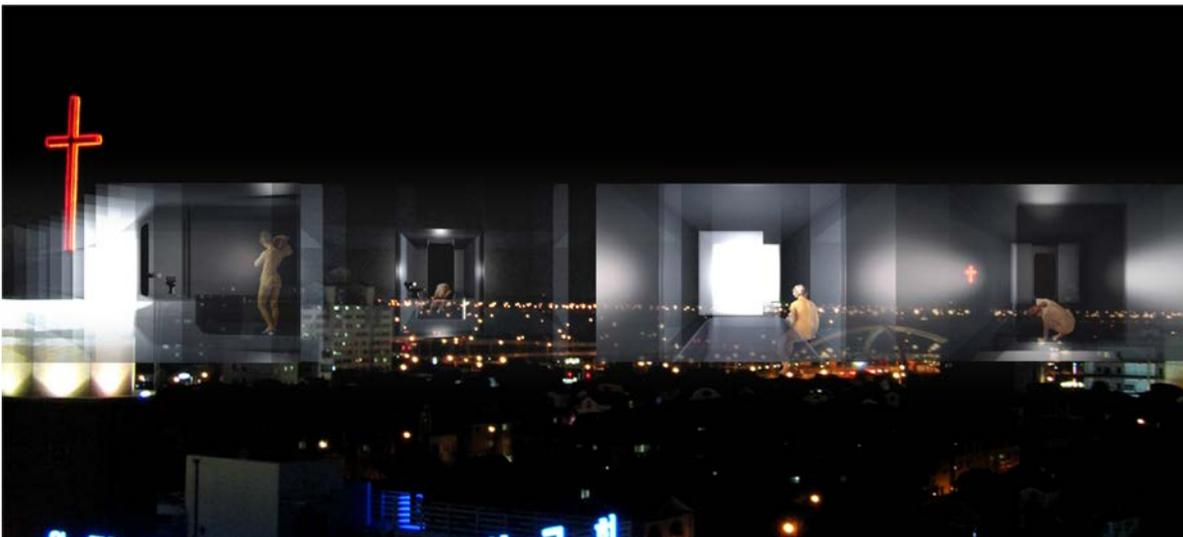


Figure 9. Image from the inside of the blooming flower. People can see the image of the city overlapping the structure.

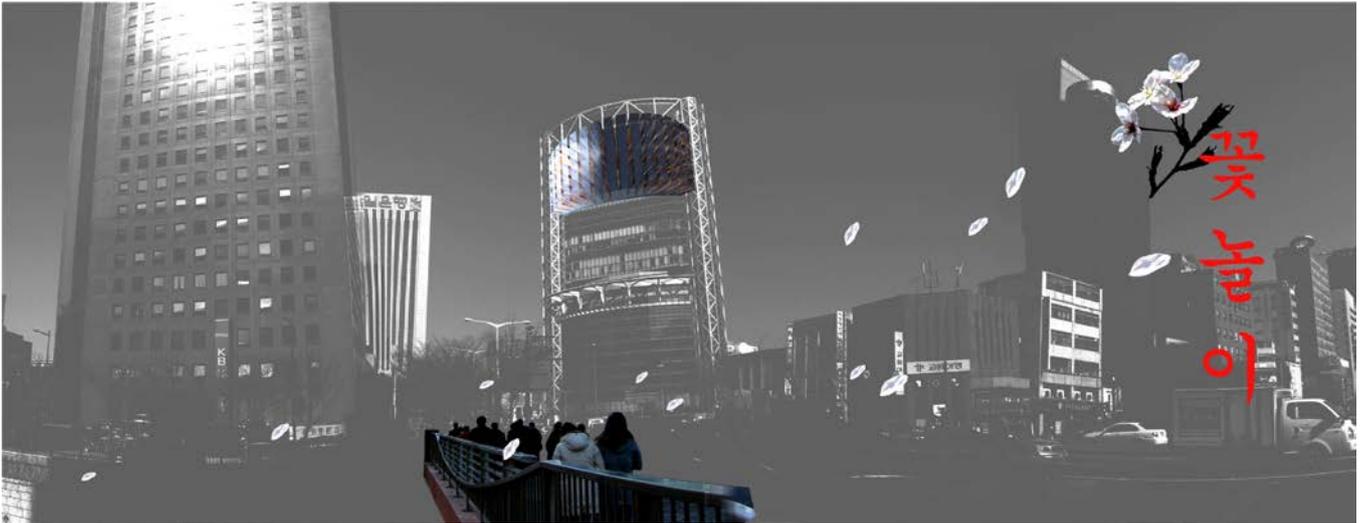


Figure 10. Image showing people gathering around the area to see the structure blossom.



Figure 11. Photograph showing the site of the third intervention (The underground) in downtown Seoul. (Photo by Y. Jung)

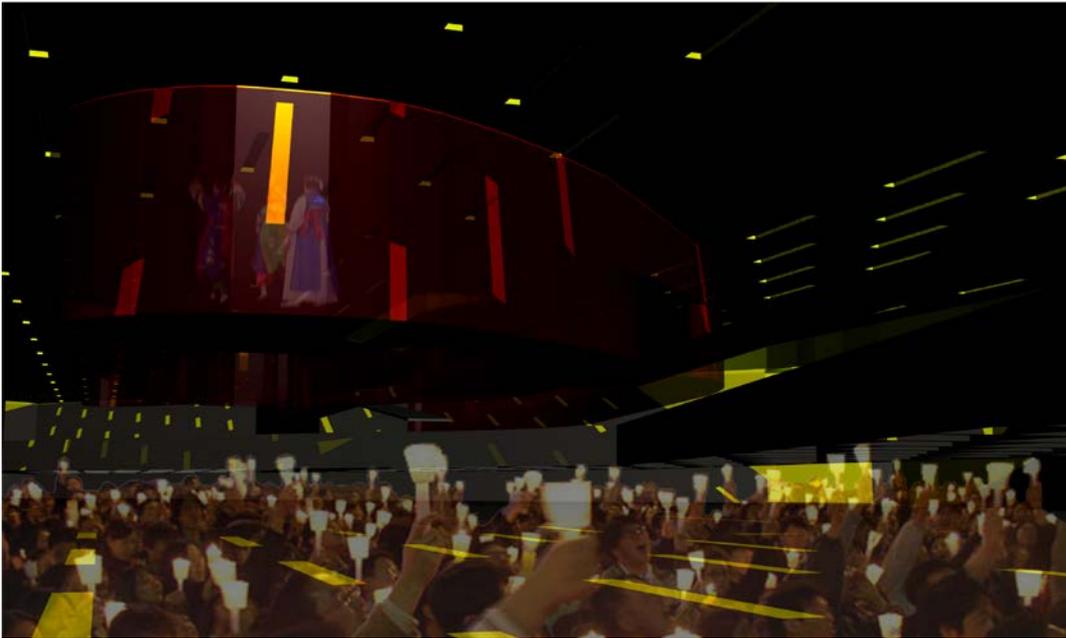


Figure 12. Image showing how at night light from the jammed traffic above permeates into the space. People make wishes with the rhythm.

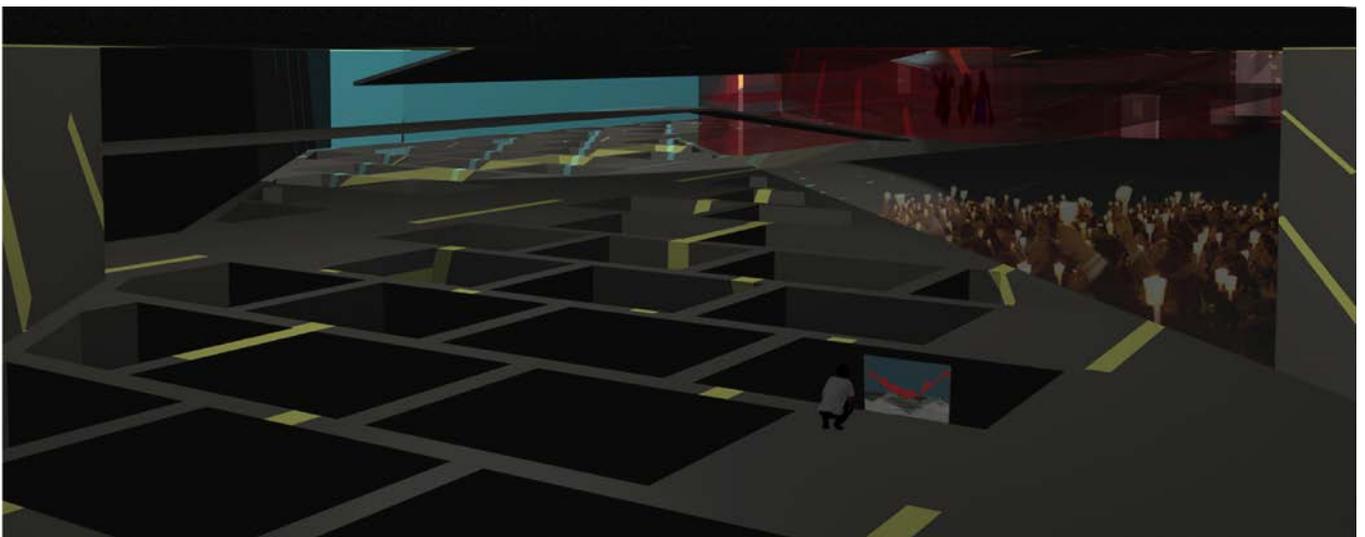


Figure 13. Image showing the multi-layered underground intervention.

Notes

- 1 Chung-hee Moon, "Where Is My Home" in *Woman on the Terrace; poems by Moon Chung-hee*, trans. Seong-kon Kim and Alec Gordon (Buffalo; New York: White Pine Press, 2007): 77.
- 2 In 1945, the population of Seoul was only one million and it exceeded 10 million around 1988, remaining mainly stable ever since.
- 3 Sang-nim Yi et al., *Seoul Scenarios* (Seoul: Space, 2004): 287.
- 4 Jun-Gon Kim, "Hanhyereul bonaemyo saenggakhanda," *Kukminilbo*, 27 December 2005.
- 5 Yean-hee Chung's literary work deals primarily with people who are affected by a modern society that has evolved too rapidly for them. Chung-joon Yee describes the sharp contrast between a traditional and a modern way of living. Hyun-Jae Yee Sallee, ed., *The Snowy Road – and Other Stories – An Anthology of Korean Fiction*, trans. Hyun-Jae Yee Sallee and Dr. Teresa Margadonna Hyun (New York: White Pine Press, 1993): 14.
- 6 The notion of a connection between architecture and narrative is not new to architectural discourse. Today, even in popular design thinking resources, narrative is acknowledged as important. According to the guide to architectural terms *Archispeak* for example, architecture can be formed around narrative or narrative can be spun around an architecture. The definition points out that various architects have described the sequential experience of their buildings as an unfolding narrative (a plot), and it also explains how even conventional architectural proposals often need to be presented in a *narrative* form, in order to tell the story of the design process, even in the absence of the architects themselves.
- 7 In his renowned essay "The Function of Fiction in Shaping Reality," Paul Ricoeur argues that the productive imagination - before taking shape in any of a thousand possible images - has primarily linguistic origins, and that only the emergence of new meanings in the sphere of language can generate images that may be both new and culturally significant. Paul Ricoeur, "The function of fiction in shaping reality," *Man and World* 12, no. 2 (1979): 127.
- 8 Heeduk Ra, "That Part of the Wave," in *Scale & Stairs; Selected Poems of Heeduk Ra*, trans. by Won-Chung Kim and Christopher Merrill (Buffalo; New York: White Pine Press, 2009): 54.
- 9 Jong-Joo Ahn, *Wiheom jeungpog sahoe* (Seoul: Gungli, 2012): 176.
- 10 South Korea has the highest suicide rate in the OECD. "Exit Strategies: A national debate about the alarming high suicide rate," *The Economist*, 8 July 2010, <http://www.economist.com/node/16542639> (accessed 15 July 2015).
- 11 Ahn, *Wiheom*, 179.
- 12 For more on this issue see: Young-Joo Kim, *Jeongchaegjalyojib-Daehanmingug jasal hyeonhwang mich yebang daechaeg* (Seoul: Seonjintongildang, 2012): 15.
- 13 Ji-woo Hwang, "Looking a way to live," in *Even Birds Leave the World; Selected poems of Ji-woo Hwang*, trans. Won-Chung Kim and Christopher Merrill (Buffalo; New York: White Pine Press, 2005): 28-29.
- 14 The first law banning prostitution was promulgated in 1947 and was modified in 1961, but in 2004 the government made a special law to reinforce the punishment.

- 15 For more on this issue see “Daehanmingugjeongbuga pojuyeosssa,” *Hankyoreh* 21, 28 November 2011, 56-57.
- 16 See Uh-young Ha, “Hangug namseongui seong,” *Hankyoreh* 21, 5 December 2011, 40-41.
- 17 Ibid., 40.
- 18 Hyo-sik Lee, “Korea, No.1 in turnover of porn industry,” *THE KOREA TIMES*, 7 February 2011.
- 19 On the proliferation of pornographic live shows in Korea, see “Oeseolmudae daemyeongsa majimag sido pyemag,” *Dong-A Ilbo*, 18 September 1996, 35.
- 20 Woo-young Lee, “Poleunogeulapiui sahoejeog uimi,” *Hyeonsanggwainsig*, no. 75 (1998): 26.
- 21 Sang Yi, “Precipice,” in *The Columbia Anthology of Modern Korean Poetry*, ed. David R. McCann, trans. Edward Mack (New York; Chichester [England]: Columbia University Press, 2004): 69-70.
- 22 For more on this issue see “Jeolmeumui banlan ‘munhwa chegye jeonbog’,” *Sisa Journal*, 30 May 1996, 50-57.
- 23 Richard Kearney, “Paul Ricoeur and the hermeneutic imagination,” in *The Narrative Path: the Later Work of Paul Ricoeur*, ed. T. Peter Kemp and David Rasmussen (Cambridge, Mass.: MIT Press, 1989): 5.

About the authors

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That Dark Cabinet: Building the Morbid Anatomy Museum

Robert Kirkbride

Parsons School of Design + studio 'patafisico

Abstract

This brief essay retraces several circuitous yet interlacing story lines that culminated in the construction of the Morbid Anatomy Museum, in 2014. I consider how uncertainty and methods of inquiry, such as the close reading of artifacts, buildings, texts and contexts, have fueled my work and informed such new habits of mind as *upstreaming*. Throughout, my desire to understand how artifacts and buildings are used has centered on the physicality of thought and the roles of multisensorial perception in shaping our constructed environment.

Museum Board: "Can you design this to open in late April?"

Me: "Yes. I believe we can."

It was January 2.

Some projects are conceived over a long duration by a patient labyrinth of lines, enabling their physical execution to be comparably swift.² The Morbid Anatomy Museum exemplifies such a project (Figures 1, 2). When the Museum Board approached me to design a new home for their library and collection of an-

atomical curiosities in Brooklyn, NY, it was an ideal collaboration. The invitation to transform an industrial building in the Gowanus neighborhood was prompted by the Board's familiarity with my multimedia online book, *Architecture and Memory*,³ where I reconstructed the educational and rhetorical uses of two Renaissance memory chambers whose masterful *trompe l'oeil* ornament played on ancient metaphors of recondite knowledge and common sense wisdom.

The Morbid Anatomy Museum project plumbed an intellectual history of creating, collecting and categorizing knowledge that had fascinated me for years. In striking alignment with the new non-profit museum's mission to explore "the intersections of death, beauty, and that which falls between the cracks,"⁴ my work has investigated forms of knowledge and know-how that don't quite fit; things that have been lost or overlooked, including everyday habits and their impressions on the constructed environment. We proved an even better fit than the Museum Board perhaps had at first imagined.

Twenty-four years earlier, I had designed a Curiosity Shop for my Master's Thesis in Architecture,⁵ which proposed a building-as-cabinet for knowledge fabrication and display (Figure 3). Sited directly opposite the Eastern State Penitentiary, in Philadelphia, *The Curiosity Shop* offered a vehicle to examine relationships between habits and habitats, and deliberately inverted the penitentiary's panoptical mechanisms of control and sublimation of the body.⁶ That speculative project led to a full-scale collaborative installation of the Curiosity Shop at the Philadelphia Art Alliance several years later (Figure 4),⁷ and fueled my subsequent doctoral research at McGill University.⁸ Immersion in medieval reliquaries, Renaissance anatomical theatres and memory theatres, and Enlightenment *wunderkammern*, coalesced in a focus on the *studioli* of Federico da Montefeltro. The resulting dissertation precipitated further investigations at the Canadian Centre for Architecture and an opportunity to publish *Architecture and Memory* in an interactive digital format with Columbia University Press, with support from the American Historical Association's Gutenberg-e Prize.⁹

Nearly a quarter of a century after its conception, then, *The Curiosity Shop* had met its ideal clients in Director Joanna Ebenstein and kindred spirits at the Morbid Anatomy Museum. For me and my collaborators,¹⁰ the goal was to create in the Gowanus neighborhood a building-as-cabinet where knowledge that typically "slips through the cracks" is produced and exhibited (Figures 5-15). Consistent with this approach, there were marvelous opportunities to exhibit the anatomical innards of a building that are typically obscured. In fact, the spirit of the museum emerges from these *between* spaces, including resuscitated coal chutes and obscure niches, materializing the museum's aim to survey "the interstices of art and medicine, death and culture." With constraints of time and funding it was simultaneously poetic and pragmatic to preserve (and even highlight) choice infrastructural elements from the former (remarkably homely) nightclub, juxtaposing them with older building features that were revealed during a surgical renovation of the building's façade and viscera. This anatomical dissection of the building coupled well with the museum's mission to study, fabricate and exhibit hybrid forms of knowledge, and was in close keeping with the arc of my own scholarly interests and methods of close reading.

Given the cluttered irregularity of the Gowanus streetscape, a dark exterior with simple bold signage created a provocative profile that anchored its corner site. It was critical, though, to contrast the mysterious and brooding envelope with a welcoming, well-lighted interior that would inspire visitors to linger and explore every corner. To achieve this we opened the façade on the ground floor and installed generous steel windows, fabricated locally by a third generation family business in a remarkably streamlined process. For the interior we created domestic-scaled settings – parlors and a cozy library for the director – encased by the exposed brick walls and steel frame structure of the industrial shell. What emerged was a 4200 square foot museum, with a research library and permanent collection of anatomical curiosities, an exhibition gallery, café and retail, a lecture space, and a workshop – a program bearing an uncanny resemblance to the original program of *The Curiosity Shop*.

These similarities in compositional arrangement evolved not by force of architectural will, but rather by an ineluctable logic that was at times eldritch. For example, although the Museum Board initially desired a ground floor lecture room, it was ultimately most reasonable to combine the lecture hall and workshop in the basement. In my earlier hypothetical project, architectural experiments and hybrid fragments would be composed below grade and then incorporated throughout the building as part of its fabric and intellectual commerce. In the current museum, workshops on anatomy and taxidermy are conducted in the cellar, producing jackalopes and other chimeras for display and retail. The compressed timeline, and budget, inspired design strategies and tactics that brought ideas dreamt of in *The Curiosity Shop* to realization in the *Morbid Anatomy Museum*. In less than two weeks from the project start, we'd progressed from schematic design to a full bid set. By late April the building was freshly wrapped in steel windows and a thick coat of charcoal grey, and the ground floor was inaugurated with the book launch of *The Morbid Anatomy Anthology*, complete with an anatomical cake (Figure 16). In late June, merely five months after renovations began, the ceremonial umbilical ribbon was cut and a new museum was born.¹¹

Close Readings and Uncertainty

Was it for that or was it that my Soul
Had been possessed in that dark Cabinet
-- A. S. Byatt, "Jan Swammerdam"¹²

In the *Morbid Anatomy Museum*, the complementary pursuits of architecture and anatomy converge in a site of inquiry to explore the edges of certainty and uncertainty, and they expose the *terra incognita* between internal revelation and shared witness, as well as persuasive logic and empirical evidence. The inspiring and unsettling tensions of certainty and uncertainty are exquisitely expressed in the work of Jan

Swammerdam (1637-80), a pioneering entomologist whose inquiries into empiricism and spiritualism I studied closely during my doctoral residence at McGill University, in the History and Theory of Architecture Program.¹³

Swammerdam's all-encompassing and single-minded pursuits offered a model for performing *close readings*: not only did he conduct scientific experiments, but he also devised the methods and fabricated the tools both for their execution and for two- and three-dimensional documentation. As evidence of his theory that humans emerge from eggs, like other species, in 1672 Jan shipped to the Royal Academy of Science a crate containing a human uterus he'd preserved with waxes that were colored to distinguish specific features and injected by delicate glass straws he'd devised. Reflecting on his study of the eyes and reproductive organs of bees, he noted: "When I carried out my research on the bees, on which I worked without interruption from half past five in the morning until twelve in the afternoon, countless times I had to neglect my religious exercises (...) which sometimes caused such an inner conflict that I shed tears of distress. For it was as if a warring host were there within my spirit, the one party compelling me to cling to God, the other, with infinite arguments, to go on in my pursuit of curiosities."¹⁴

Gazing into the optical structures of a bee offered Swammerdam a close reading of God: "Everywhere and in the humblest of creatures the traces of divine wisdom and supreme skill are made known."¹⁵ As evidenced in Swammerdam's writings – *Ephemeris Vita* is a 400 page poem inspired by the biology and fleeting existence of the mayfly – his was a milieu where science and faith were experienced in dramatic and palpable tension, though not yet perceived as polar opposites. Such tensions were to imbue Enlightenment inquiry in general, and the genetic constitution of the United States in particular (i.e. separation of church and state) and its early social infrastructures, including the hospital and penitentiary typologies of its health care and penal systems. Such tensions continue to color our everyday experience, public imagination, and institutions.

Inspired by Swammerdam's tenacity, I retooled and applied several research methods in tandem during my study of the Montefeltro studioli (Figures 17, 18), to raise the grain of history and reconstruct from visual and verbal clues how a community of politicians and popes, military captains, poets, artists and architects distilled their world through architecture and ornament. My surveys of the studioli and Renaissance architecture, pedagogy and rhetoric expanded on existing research, deciphering clues that pointed toward *how they worked* and were used in an average day by their patron and his cohorts. I scrutinized details that revealed how the rooms were composed to assist in composing one's thoughts by nourishing the memory. Such practices, I found, were commonplace in the late fifteenth century, yet any reference to memory or the memory arts had been neglected in previous scholarship on the studioli. My research addressed this lacuna.

One facet of my work sharpened critique of the iconographic method by expanding Michael Baxandall's notion of "the Period Eye" to what I term "the Period Body," i.e., by carefully reconstructing how a particular artifact or building was experienced multisensorially by its original creators, as distinct from

hindsight rationalization by categories of appearance, or via style.¹⁶ The thoughtful scrutiny of paintings, clothing, furniture, interiors, buildings, sites and cities offers access to others who lived five hundred years in the past, whose habits are distinctly different yet hauntingly familiar.

I discovered that the studioli worked on many levels – in debate, meditation, civil governance, education, political negotiation, and leisure. At times these roles were distinct and at others overlapping, their multivalent character energized by pedagogical practices inlaid in a room’s multisensual architecture and ornament, reflecting cognitive habits that are akin to, yet strikingly different from, our own today. As vehicles for contemplation, the studioli could be read by quattrocento inhabitants according to ancient traditions of rhetorical composition (top to bottom, left to right); spiritual meditation, and also in a non-linear manner – as provoked by phenomenological details (*trompe l’oeil* and linguistic figures). Produced within a predominantly oral culture, the rooms were replete with literary and poetic references and were ripe with visual and verbal puns and onomatopoeia hiding in plain sight among the scientific, military and musical instruments. Cross-checking my conjectures with the contents of the ducal library, one of the largest in its time, surfaced a legacy of thinking and making that had shaped the studioli and their ornament, demonstrating an interplay of personal and communal identity-building. In this milieu, ornament was not mere styling—it interfaced personal and cultural character. Ornament and decorum equipped citizens for the public forum and civic action (Figure 19).

Empathy and Upstreaming

Historical research methods have translated seamlessly into my design practice. On the heels of completing my research on the studioli, an examination of the flora and fauna of a thirty-one acre steep-sloped forested site, for example, guided my design of low-impact erosion controls and infrastructures for a land planning project that received approvals from all local, state and federal agencies. As I’ve noted elsewhere,¹⁷ the slowness of my site surveys actually *accelerated* the approvals of an otherwise excruciatingly slow and expensive process, reducing overall project costs (Figure 20). My experiences over the past decade in land planning, watershed hydrodynamics and problematic public infrastructures have led me to consider the extended impacts of design proposals more systemically. Close readings of site and context, physical and social, continue to inform my investigation of relationships between habits and habitats, whether for a private residence, a museum, or to repurpose abandoned psychiatric hospitals.¹⁸

In “Upstream/Downstream” (2014)¹⁹ and “Veils and Velocities” (2013),²⁰ a pair of articles that reflect on convergences in my design scholarship, practice and teaching, I advocate *upstreaming* as an intellectual reflex that retraces the sources of downstream conditions. While we are often encouraged to reduce our

downstream impacts, looking upstream is an empathic and extremely pragmatic design research method that equips multiple scales and angles of investigation, from the tectonics of a watershed and construction site management to the reconceptualization of a product by the flows of its supply chain and lifecycle, and a broader awareness of history and one's own position in it (Figure 21).²¹

Upstreaming cultivates the mental habit to imagine the future outcomes of present circumstances by examining the forces at play in any product and in any context, targeting systemic thinking to change the poetics of material production and intangible human behaviors. Upstreaming enhances conviviality by translating self-interest into mutual benefit, enabling us to identify and articulate *where we fit in and how we stand out* with respect to global issues and local conditions. Historical, contextual, and systemic research connects individual action with material and social resources and practices. Upstreaming clarifies one's own position in legacies of human endeavor – *who has tackled this problem before and how? with what beneficial or problematic results and byproducts? whose voices have not yet been heard?* Upstreaming is ethically charged, revealing multiple points of entry for short- and long-term improvements in social equity and justice.

Upstreaming highlights *where we stand*, and others *with whom we stand*. Such mental fuel is critical across disciplines, and especially for designers. Relationships between waste and resourcefulness, embodied knowledge and energy, global and local production, digital and manual fabrication, are dynamic. A mindful and nimble calibration of these forces and factors is essential to conceive a more equitable, enduring and enjoyable coexistence on our planet.

Why does this matter? It's pivotal to recognize how and where our work connects to the work of others. This is especially true for students in creative and design fields, who often fear that awareness of historic precedents might contaminate their individual voices and thereby hinder creativity. Awareness of precedents cultivates a sensibility tuned not only to the *what* of our efforts, but also to the *why*. Knowing whose shoulders one stands on provides orientation and also evokes humility, since others will use and interpret one's own work in ways unforeseeable. It also underscores that an artifact – baguette, bag or building – cannot be exhausted of its past and potential significance. Designers and scholars are detectives, rediscovering everyday habits and world-views that may have been forgotten or deliberately suppressed and may be hiding right under our noses.

Ornament, for example, transports our eyes and minds across space and time.²² Plentiful or spare, such tell-tale details²³ as fasteners, reveals, and moldings embody how designers reconcile the disparate and often conflicting influences of clients, fabricators, universal factors, and contextual constraints. From this angle, history is not merely a quarry for styling; it is a powerful vehicle for the imagination. Historical *upstreaming* fuels a more incisive and inclusive design process by training the mind's eye to consider knowledge and know-how that may not fit into familiar narratives.

By asking how artifacts and buildings are *used*, we more closely imagine how original users experienced an artifact or building, multisensorially. Occupying another's shoes across time and place augments

empathy and shifts the perspective on our decisions in the present to envision the implications of our actions. How a designer investigates seams and patterns in the surrounding world and translates them through the work at hand manifests a personal “vision,” or *poetics of design*.²⁴

The ancient tradition of composing architecture and its ornament as cues and conduits for social performance and private reflection imbued Renaissance pedagogy and the material fabric of everyday experience, from cathedrals, canals, and the marketplace, to facades, gardens, frescoes and birthing trays.²⁵ In the Urbino studiolo, the *trompe l’oeil* bench legs are equipped with axles and chariot wheels, details that reveal the role of the studiolo ornament in moving observers – physically, emotionally and neoplatonically – to stimulate the memory and rhetorical invention.²⁶

Like the Montefeltro studioli (Figure 22), the Morbid Anatomy Museum (Figure 23) is part of a lineage of architectural vehicles for narrative construction. Whether an ark, a memory theatre, studiolo, museum, time machine, transporter room, holodeck, or insubmersible sieve,²⁷ such devices transport us from here to there, below to above, private to public, across time and space and in and out of the mind, from birth to death and beyond. To what end? To catapult us from or into the everyday, *ex deus machina*?

Among their practical and propagandistic uses the studioli offered rhetorical lift machinery to transport their patrons from mortal coil to native star and from everyday life to communal memory. The Morbid Anatomy Museum, meanwhile, invites us to consider truths that lie at the margins, in the reveals, in the in-betweens where uncertainties blossom. Wherever our labyrinthine searches lead, remaining open to the charms of uncertainty is a source of illumination and even sublime joy.

Images



Figure 1. The Morbid Anatomy Museum (Brooklyn, NY), 2014. (Photo by author)



Figure 2. The Morbid Anatomy Museum. (Photo by author)

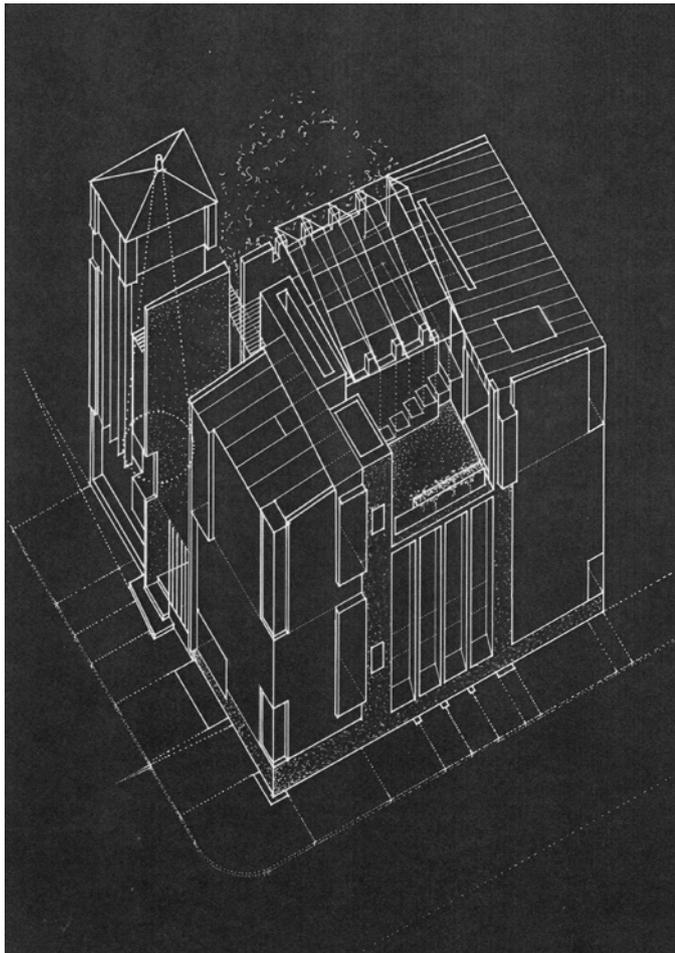


Figure 3. The Curiosity Shop, 1990. (Drawing by author)

The Philadelphia Art Alliance Presents
 JULY 14 - SEPTEMBER 10, 1995
 Opening Reception: July 14, 5:30 - 7:30 p.m.
 an
EXHIBITION
 of

architectural CURIOSITIES

Featuring
 full-scale architectural installations, and a tuesday
 evening series of performances, films,
 demonstrations, and other curious goings-on.

LECTURE SERIES:
 tuesday evenings 7:30 - 9 p.m.

25
 OCTOBER 1994
robert e. kirkbride
 "architectural curiosity:
 a 'pataphysical study'"
 "In a profession increasingly preoccupied with insouciant fortuity,
 curiosity is a way by which an architect may play with the hardness
 of 'fact' and reclaim the grounds to invest their work with care and
 wonder."

29
 NOVEMBER 1994
marco frascari
 "curiosity kills cats, not
 architects"
 "Curiosity is the origin of the care and elegance architects placed in
 contrasting and constructing their buildings."

7
 FEBRUARY 1995
frank fantauzzi
 "ironic habits"
 "A critical practice postured outside contracted aspects of
 architecture mandated by systems of law. A practice situated in the
 waltz of the building body and its cultural, political, and economic
 control."

7
 MARCH 1995
martha b. finney
 "precarious balance: perpetuum
 mobile"
 "What is striking about all definitions of risible is potential. It is as if
 something were needed to come along in five acts and balance
 becomes not only a question of gravity but of direction: of
 horizontal reach and vertical length. So too in architecture."

11
 APRIL 1995
alex t. anderson
 "sense and nonsense of curiosity"
 "Searching for what is just beyond what we know or can know, our
 curiosity discovers the wonders of the sublimation world."

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Figure 4. Architectural Curiosities, 1995.



Figure 5.



Figure 6.



Figure 7.

Figures 5-11. Before-, during- and after-photos, site surveys and renderings capture the transformation of a no-nonsense industrial shell and lurid nightclub into a museum in just over five months, start to finish. From early in my architectural experience, site surveys have been a favorite part of the design process, directly analogous to a “survey of the literature” for any research project, or the close reading of a given text or context. (All photos and field notes by author)



Figure 8.



Figure 9.

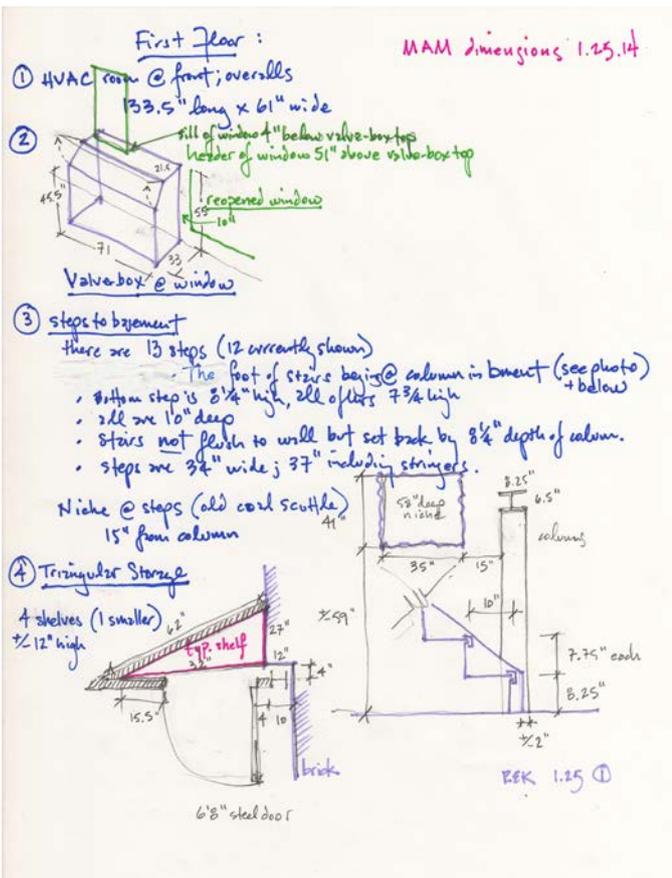


Figure 10.



Figure 11.



Figure 12.

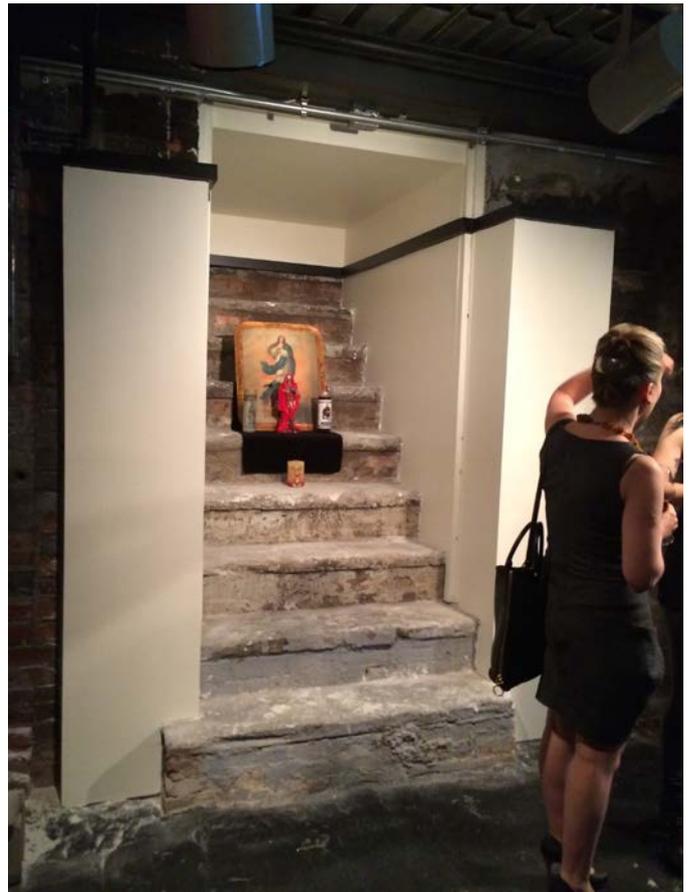


Figure 13.



Figure 14.



Figure 15.

Figures 12-15. Evoking intimacy through a salon-scaled exhibit space, and transforming a former access stair and bulkhead into a shrine. Although everyone agreed immediately on the appropriateness of the steel windows, they typically require 12-14 weeks to complete and were the most tenuous link in the timeline for a late April launch. Consistent with my experience that the slowness of personal interaction is the most expedient path to success, it proved a successful strategy to bring the client directly to the A&S Window Associates fabrication space in Queens, NYC in order to cement the commitment of all parties. The windows were completed in ten weeks. (All photos by author)

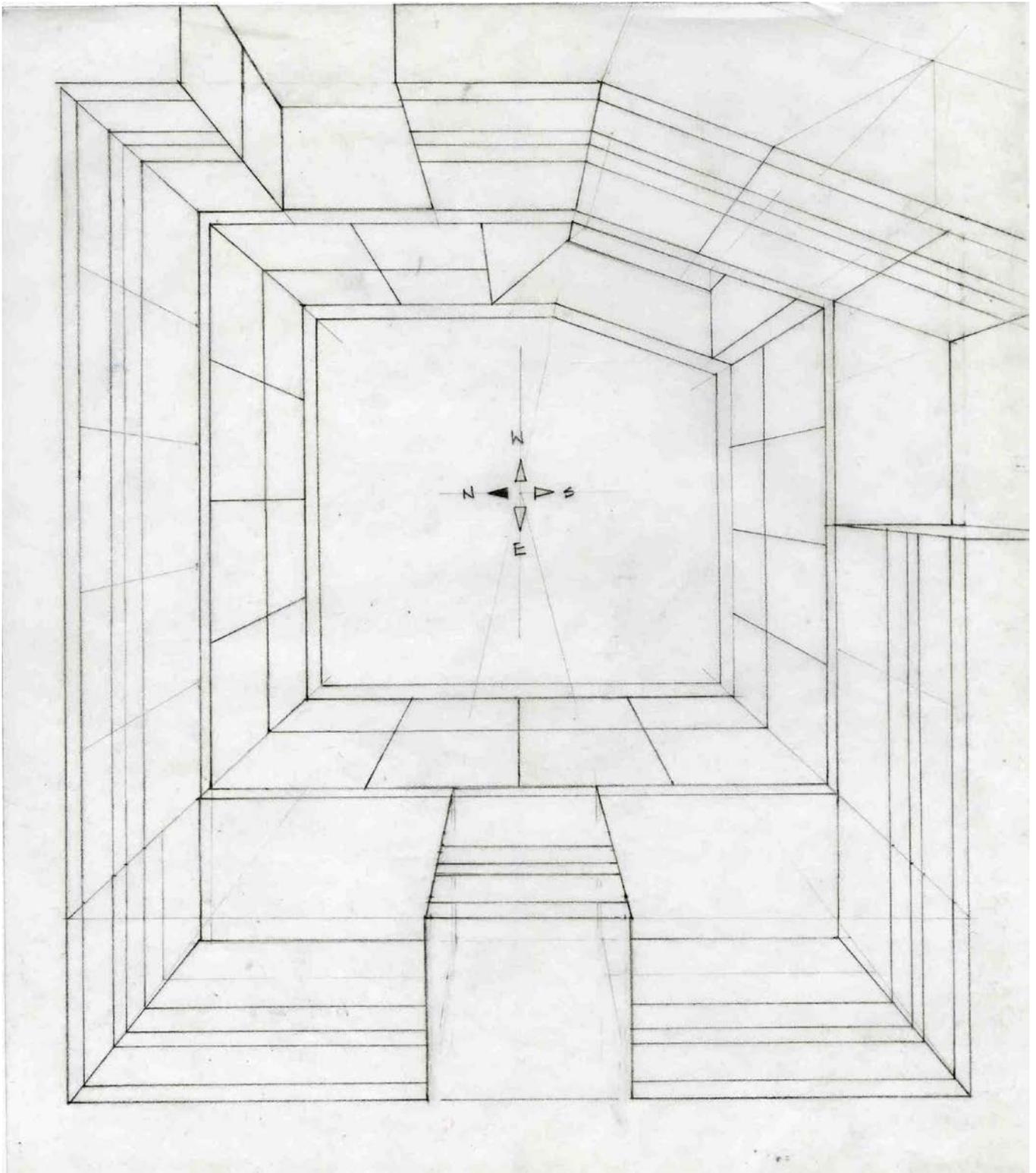


Figure 18.

Figures 17 & 18. Survey plan of Urbino studiolo and worm's eye view. (Drawings by author)



Figure 19. Detail, Urbino studiolo. (Photo by author)



Figure 20. Perk tests, conducted along the East Branch of Brandywine Creek by the author, provided a close reading of the site, integrating the proposed dwelling units with erosion and sediment controls and accelerating the approvals process. Moreover, the deep memory remained of the scent of freshly cut sassafras roots, several feet below the cool soil on a hot summer day. (Photo by author)



Figure 21. Careful research performed upstream in a manufacturing sequence can enhance the poetics of a product by promoting the well-being of fabricators and distributors, as well as of users downstream. (Photo by author)



Figure 22. Urbino studiolo ceiling. (Photo by author)

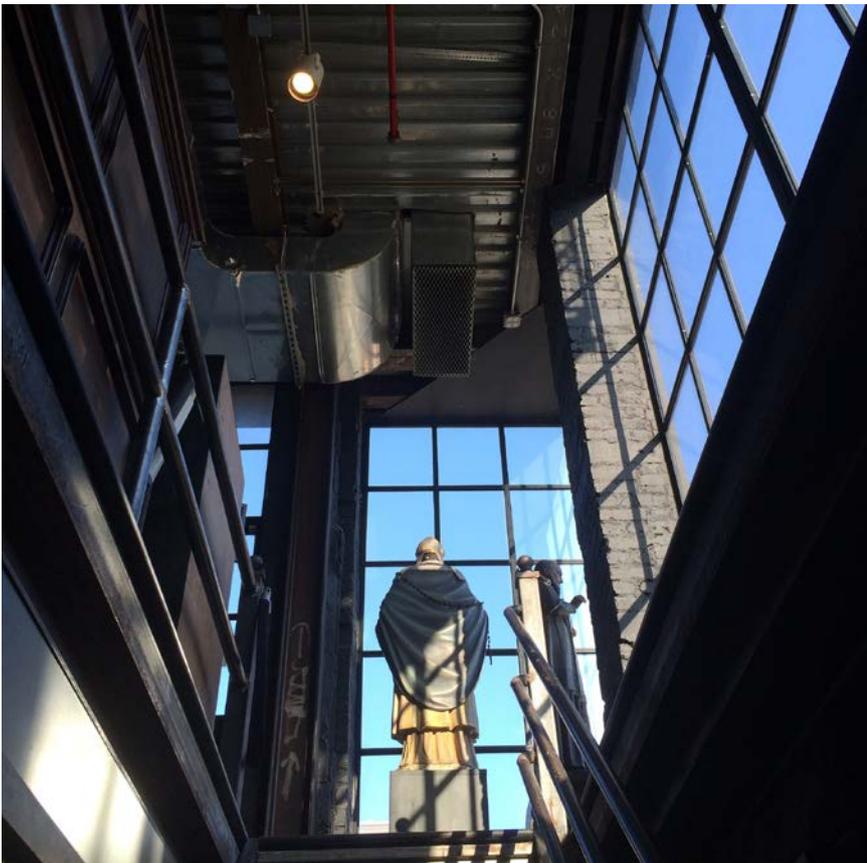


Figure 23. Morbid Anatomy Museum. (Photo by author)

Notes

- 1 <http://robertkirkbride.com> (retrieved 11/6/2016).
- 2 Portions of this monograph, for example, originate from a talk presented at McGill University in April 2012, "Sites of Inquiry," as the inaugural lecture for the *History and Theory of Architecture Lecture Series*.
- 3 Robert Kirkbride, *Architecture and Memory: The Renaissance Studioli of Federico da Montefeltro*. Multimedia online book: <http://www.gutenberg-e.org/kirkbride/> Columbia University Press (June 2008). Hardcover version without images (New York: CUP, 2008): ISBN 023114248X. In 2013, digitally "reprinted" by the American Council of Learned Societies in XML for launch in its Humanities E-Book Series, XML Title List.
- 4 <http://morbidanatomymuseum.org> (retrieved 10/31/2016).
- 5 Robert Kirkbride, *A Curiosity Shoppe/Museum* (1990). University of Pennsylvania, Van Pelt Library. Graduate Course Thesis Program in Architecture. Giuseppe Zambonini, thesis advisor. OCLC: 244973812
- 6 Over the years, it has been challenging to decouple the benefits of adaptive reuse for this massive structure from the negative histories and associations that accumulated around it and the panopticon model, which was replicated worldwide. As such, E.S.P. shares a problematic history with other Quaker Enlightenment social infrastructures, including Kirkbride Plan Hospitals for the Insane.
- 7 University of Pennsylvania, Van Pelt Library, Special Collections. "Time capsule: packed by Robert Kirkbride, curator, on Monday 11 September 1995...under the guise (or pseudonym) of 'Architectural Curiosities'." From an exhibition held at the Philadelphia Art Alliance, July 14-September 10, 1995. OCLC: 155862534
- 8 McGill University, Ph.D. Program in the History and Theory of Architecture, 2003. My committee included Dr. Alberto Perez-Gomez (advisor), Dr. Mary Carruthers (external reader), Dr. Annmarie Adams and Ricardo Castro.
- 9 Seaman and Graham, "Sustainability and the Scholarly Enterprise," p. 275, *Journal of Scholarly Publishing*. Vol. 43, No. 3 (Toronto: University of Toronto Press, 2012), 257-293.
- 10 Anthony Cohn, AIA, and my research assistant Andrew Broddle.
- 11 The Morbid Anatomy Museum was recently included in a list of the top museums in New York City, in very fine company: Leah Finnegan, "New York City Museums, Ranked," *The Awl* (August 19, 2015): <https://theawl.com/new-york-city-museums-ranked-8542be521eb5#.2j73f8ile> (retrieved 11/16/16).
- 12 A. S. Byatt, "Jan Swammerdam," *Possession* (New York: Vintage International Edition, 1991), 225. Although I conceived *The Curiosity Shop* contemporaneously to the release of this remarkable book, I was unaware of its existence until the week following the ribbon-cutting at the Morbid Anatomy Museum a quarter century later. Re-encountering the themes in the book I'd pursued in my own research – the scholar-as-detective, creativity at the heart of tension between empirical science and spiritualism – parallel to the completion of an architectural project centered on those very subjects (designer-as-detective for a museum that explores

the tensions of the empirical and spiritual) amounted to two intertwining circuits closing simultaneously—a most uncanny and satisfying sensation.

- 13 I cannot overstate the importance of the McGill Libraries as a critical link in this unfolding story: I spent hours in the Osler Library of the History of Medicine, Blacker-Wood Library of Zoology and Ornithology, and the Blackader-Lauterman Library of Architecture and Art, and am deeply grateful to all of the librarians and staff who endured my curiosity and queries with patience. In addition to Swammerdam's texts, I highly recommend viewing the illustration of *Metachirus nudicaudatus* (opossum w/ babies in pouch) in Volume 1, p. 38 of Albertus Seba's *Locupletissimi rerum naturalium thesauri*, Blacker-Wood Rare Books: elf QH41 S43 1734 v.1
- 14 Jan Swammerdam, *Ephemeris Vita* (1681), p. 249. Cited by Eric Jorink, "Outside God, There is Nothing," *Early Enlightenment in the Dutch Republic, 1650-1750*, ed. Wiep Van Bunge (Leiden: Brill, 2003), 99. For McGill's copy of *Ephemeris Vita* see Blacker-Wood Rare Books: QL513 E7 S9313
- 15 Excerpt from a letter to Oldenburg, 14 January 1673, *CHO*, IX, 413. Cited by Jorink, *ibid.*, 99.
- 16 Robert Kirkbride, "Veils and Velocities," *Cuaderno 48: Centro de Estudios en Diseño y Comunicación*, eds. M. Cuervo, M. Veneziani and S. Faerm (Buenos Aires: University of Palermo UP, 2013), 182.
- 17 Kirkbride, "Veils and Velocities," *ibid.*, 183.
- 18 *PreservationWorks* (<http://thepreservationworks.org>) is an advocacy network committed to the preservation and adaptive reuse of the remaining Kirkbride Plan buildings across the USA. Restoration of these irreplaceable buildings is commonsense and achievable, supporting economic and cultural growth in the communities they have proudly served. PreservationWorks offers a hub for data and resource sharing among groups committed to preserving their local Kirkbride.
- 19 Robert Kirkbride, "Upstream/Downstream," *Cuaderno 53: Centro de Estudios en Diseño y Comunicación*, eds. M. Cuervo, M. Veneziani and S. Faerm (Buenos Aires: University of Palermo UP, 2014), 215-29.
- 20 Kirkbride, "Veils and Velocities," *ibid.*, 177-90.
- 21 Kirkbride, "Upstream/Downstream," *ibid.*, 216.
- 22 Robert Kirkbride, "On Ornament and the Mind," *Work 9*, ed. Johanne Woodcock. <http://parsonsinteriorwork.org/ornament-and-the-mind/> (retrieved 11/6/2016).
- 23 Marco Frascari, "The Tell the Tale Detail," *Via 7* (Philadelphia: University of Pennsylvania, 1984), 23-37.
- 24 This an underlying premise of *Poetics of Design*, a studio-seminar I've taught for the past decade at Parsons School of Design, which emphasizes the interdependence of design and research through a series of writing and making exercises that culminate in a manifesto defining a personal poetics of design, and a physical Ark that embodies its principles.
- 25 Robert Kirkbride, "Rhetoric and Architecture in the Renaissance", *The Oxford Handbook of Rhetorical Studies*, eds. M. MacDonald, A. McMurry (Oxford: Oxford University Press). Digital version launched 1/15/15; print version 2017.

- 26 See more about these wheels: <http://www.gutenberg-e.org/kirkbride/extended-captions.html#ec29>
- 27 Alfred Jarry, *Exploits & Opinions of Doctor Faustroll*, 'Pataphysician: A Neo-scientific Novel', trans. Simon Watson Taylor (Exact Change, 1996).

About the Author

Robert Kirkbride, Dean of Parsons School of Constructed Environments and Associate Professor of Architecture and Product Design, received his Ph.D. in the History and Theory of Architecture from McGill University, and a Master of Architecture and Bachelor of Arts in Design of the Environment from the University of Pennsylvania. Robert is a scholar-practitioner who has directed *studio 'patafisico* for 25 years and is also Spokesperson and a founding Trustee for *PreservationWorks*, a non-profit organization for the adaptive reuse of Kirkbride Plan Hospitals. Robert designed the *Morbid Anatomy Museum*, in Brooklyn, NY, with collaborator Anthony Cohn, AIA, and authored the multimedia online book, *Architecture and Memory*, which reconstructs the pedagogical and rhetorical uses of two Renaissance memory chambers. *Architecture and Memory* was awarded the Gutenberg-e Prize, and a second version has been launched online by the American Council of Learned Societies (ACLS) as part of its Humanities E-Book series. Robert has continued to explore the interplay of architecture and memory in a chapter on architecture and rhetoric in the Renaissance for *The Oxford Handbook of Rhetorical Studies*, and the volume, *Geometries of Rhetoric*, which he guest-edited for the *Nexus Network Journal*. Dr. Kirkbride has been a visiting scholar at the Canadian Centre for Architecture, and architect-in-residence at the Bogliasco Foundation in Genoa, Italy. At Parsons/The New School, where he recently received the University Distinguished Teaching Award, Robert established the Giuseppe Zambonini Archive at the Kellen Design Archives and Special Collections, and is an ongoing contributor to the Memory Studies Group.

Dasein in a Space Station: The Conquest of Space and the Potentiality of Architecture

Gabriela Świtek

University of Warsaw

Abstract

The paper explores some aspects of astronautics' influence on late-modernist architecture and its existential consequences. The astronautics' technologies and many 1960s designs of futuristic cities shared a false sense that in the near future man would be able to live anywhere on Earth (underwater, in the desert) as well as in outer space. When Ron Herron envisages the *Walking City* as a group of lunar rovers, with no foundations, freely roaming the surface, a GIAP member, Paul Maymont designs an air-conditioned city on the Moon. Less known are similar concepts by the architects from the Central-Eastern Europe, such as the "spacesuit-isation" of public buildings presented by Polish architect Andrzej Frydecki at the Terra-1 International Exhibition of Intentional Architecture (Wrocław Museum of Architecture, 1975). The hermetic spacesuit, which was to control and maintain fixed vital parameters of the body during space flight, has provided a solution for the modernist tendency to hermetically seal the spaces of architecture. The house of the future was to resemble the spacecraft cabin, as if the modernist "machine for living" paradigm had been replaced by the idea of a survival capsule for interplanetary flight. A similar tendency can be found in the 1960s urban utopias; the cities of the future are often disconnected from the ground, as if the new

civilization could not be rooted on Earth. The 1960s architectural question of “dwelling on the Moon” is confronted with Hannah Arendt’s and Martin Heidegger’s reflection that it is the earth, and not the universe, which is “the centre and the home of mortal men.”

Introduction

“In 1957 an earth-born object made by man was launched into the universe, where for some weeks it circled the earth according to the same laws of gravitation that swing and keep in motion the celestial bodies — the sun, the moon, and the stars.”¹ The opening phrase of *The Human Condition* by Hannah Arendt, often quoted in essays discussing the 1950s’ obsessions with the space sciences, is as celebrated as it is puzzling. Why does the German-Jewish philosopher of public/political space, famous for her analysis of Nazism and Stalinism (*The Origins of Totalitarianism*, 1951), begin her reflection on the human condition with an image of the first Sputnik?

The first answer to this question requires a historical explanation. *The Human Condition* was originally published by the University of Chicago Press in 1958, the same year when the United States — terrified by the successful launch of the first Soviet artificial satellite — established the National Aeronautics and Space Administration (NASA).² In the view of Arendt — and of some of her contemporaries, aware of the fact that the post-war conquest of cosmic space was a part of the Cold-War arms race — this event was “second in importance to no other, not even to the splitting of the atom.”³ In the late 1950s it could not be doubted that the first satellites were launched thanks to the technology of intercontinental ballistic missiles. While criticizing the instrumentalization of human action in modern times, which ends in a “veritable art of ‘making’ nature,” Arendt recalls an interview with a scientist, published in the *New York Times* in 1957. This scientist is Wernher von Braun, co-creator of the V-2 missile, after the war one of the leading figures in the US space program and one of the celebrities to appear in Walt Disney’s TV production *Man in Space* (1955).⁴

The second answer requires a philosophical explanation. Arendt, a student of Karl Jaspers (*nota bene*, his *Die Atombombe und die Zukunft des Menschen* was also published in 1958) and Martin Heidegger, understands well the existential consequences of the post-war conquest of space. That is why she looks in perplexity at late 1950s reports claiming that the first Sputnik was the first “step toward escape from men’s imprisonment to the earth.”⁵ Arendt’s thinking on earth alienation as a phenomenon of modernity is undoubtedly influenced by Heidegger’s existential/topological ontology, which is characterized by an “attachment” to the earth.⁶ As Heidegger argues in his 1951 lecture “Building Dwelling Thinking,” delivered to architects, engineers and philosophers at the *Man and Space* conference in Darmstadt, “Dwelling is the

manner in which mortals are on the earth.”⁷ Dwelling on the earth is the fundamental experience which gives rise to the realm of architecture: “we build and have built because we dwell.”⁸ Earlier, in *Being and Time* the philosopher explains:

[T]he sun, whose light and warmth are in everyday use, has its own places — sunrise, midday, sunset, midnight; ... The house has its sunny side and its shady side; the way it is divided up into ‘rooms’ ... is oriented towards these, and so is the ‘arrangement’ ... within them, according to their character as equipment. Churches and graves, for instance, are laid out according to the rising and the setting of the sun — the regions of life and death, which are determinative for Dasein itself with regard to its ownmost possibilities of Being in the world.⁹

In this light, every act of building depends on our orientation towards the earth, or, in other words, on our dwelling (as earth-bound and mortal creatures) between the ground and the horizon. Arendt’s image of the Sputnik, both a symbol of the post-war conquest of space and a symptom of modern homelessness, has brought us to a point where we have to ask about the potentiality of architecture in the era of spaceflight. In this essay, I discuss some existential/topological conditions of architecture against the backdrop of modern beliefs in space colonization.

Designing a Space Station

Neither “Building Dwelling Thinking” nor *The Human Condition* provides us with a precise answer to the question of what astronautics has in common with architecture. The curators of the Slovenian Pavilion at the 14th International Architecture Exhibition — La Biennale di Venezia (2014), however, are among those who have recently emphasized the importance of this connection. Their presentation, entitled *The Problem of Space Travel — Supre: Architecture*, was based on a book by the Slovene engineer Herman Potočnik (alias Hermann Noordung, 1892–1929).¹⁰

Whereas in *Being and Time* Heidegger reveals the aspects of Dasein’s spatiality with a reference to the celestial regions experienced from the earth, as early as in 1928, Potočnik offers some technological solutions for human survival in space stations. Why should we be interested in living in space stations? The engineer gives us a philosophical answer:

Since the beginning of time, mankind has considered it as an expression of its Earthly weakness and inadequacy to be bound to the Earth, to be unable to free itself from the mysterious shackles of gravity. ... And most people even today still take it as a dogma that it is indeed unthinkable for Earthly beings ever to be able to escape the Earth. Is this point of view really justified?¹

This introductory remark leaves no doubt that the question of earth alienation – as recognized by Arendt – has accompanied the earliest ambitions of designing space stations. In his book, *The Problem of Space Travel: The Rocket Motor*, Potočnik not only discusses the system for maintaining life support functions but also describes some aspects of everyday life in a space of zero gravity, such as movements inside a space station:

[...] human movement can now no longer occur by “walking.” The legs have lost their usual function. ... To move, we must either pull ourselves along an area with our hands ... , for which purpose the walls of the space station would have to be furnished with appropriate handles (for instance, straps similar to those of street cars) ... , or push ourselves off in the direction of the destination and float towards it.¹²

Thanks to NASA TV live broadcasting, a similar system of handrails can be observed today in the interiors of the International Space Station. In order to perform experiments or everyday activities with their hands, the members of the expeditions stabilize their bodies by putting their feet under the railings attached to the walls – as if they were acrobats training on parallel bars.¹³

Two photographs of the NASA space laboratory, of the dining area and docking adaptor, serve as illustrations of Dalibor Vesely’s notion of natural primary orientation, presented in his *Architecture in the Age of Divided Representation: The Question of Creativity in the Shadow of Production*.¹⁴ Vesely refers to a description of the Sky Laboratory (launched in 1973), which consisted of two sections: a command module connected by the tunnel of docking adaptor to a cylindrical workshop. The workshop was divided into two parts, an upper and lower deck: “The lower deck was designed as if it were a room on earth, and included a dining table and seats.”¹⁵

Even in a situation of zero gravity – when it would seem that the dining table has no sense (during the first missions food was supplied in tubes) – astronauts have insisted on having it on board; tables are now installed in space stations.¹⁶ Let us also note that “sense” is a key notion in Maurice Merleau-Ponty’s remarks on space and spatiality (the French *le sens* has a double meaning – “significance” and “direction”). Our perception of an object is linked to its orientation: “to invert an object is to deprive it of its significance.”¹⁷ A dining table has a meaning (sense) as a table when it is oriented in relation to our body in such a way that we can sit at it and have a meal. But in the situation of zero gravity, even if a meaningful relationship is established between the table and the body, other spatial references are disturbed. As Potočnik imagined regarding the positions of the body in a space station: “‘up’ and ‘down’ lose their usual meaning (related to the environment); floor, ceiling and walls of a room are no longer different from one another.”¹⁸

When Heidegger explains the phenomenon of the spatiality of the ready-to-hand, he gives an example of an earthly and, at the same time, architectural situation:

The “above” is what is “on the ceiling”; the “below” is what is “on the floor”; the “behind” is what is “at the door”; all “wheres” are discovered and circumspectively interpreted as we go our ways in everyday dealings; they are not ascertained and catalogued by the observational measurement of space.¹⁹

Following Heidegger’s thinking, Vesely claims that the earth is a “primarily reference (*archē*),” which constitutes our coherent spatial experiences.²⁰ But to demonstrate the hidden structures of our spatial experience he leads us into the space of zero gravity, that is, into the situation in which the unity of “topology, orientation and physiognomy of space” manifests itself in the most obvious way, even when a disturbed orientation occurs. As he notes:

The topology, orientation, and physiognomy of space constitute a unity: the visible aspects of space, its physiognomy, depend on orientation; and orientation in turn depends on the topological character of the surrounding world. This sequence of relationships and dependencies brings us closer to understanding the phenomenon of continuity in its identifiable manifestations.²¹

In this context, Vesely recalls an astronaut’s remark: “You like things to be orderly like they always are on Earth.”²² In 1928 Potočnik was dreaming of escaping our planet, but he was not able to imagine his space station without a writing table (Figure 1).²³

Imprisoned in an Architectural Capsule

The Slovenian Pavilion at the 14th International Architecture Exhibition was a presentation recalling an episode of the conquest of space in the late 1920s, but the assumption that a space station is architecture deserves more attention. In the exhibition catalogue one finds four extracts from Potočnik’s publication, grouped under the titles “stairs,” “walls,” “doors” and “window,” which evoke the situation of building a house rather than designing a space station.²⁴

In the late 1920s, astronautics existed as a project important to the development of rocket technology, but not yet as a discipline which could provide architecture with ergonomic, spatial solutions. What is interesting, however, is that modern dreams of interplanetary travels coincide with the new paradigms of modern architecture. Architecture, whose original role — as the myth of Adam’s first hut proclaims — was to provide man with a safe and comfortable shelter, from the 1920s on was supposed to be a functional machine for living, like “liners, airplanes and automobiles.”²⁵ It was only in the late 1950s that architecture approached the discipline of astronautics, as if the new travelling machines, spacecraft, were to be added

to Le Corbusier's celebrated list. I define this as a moment when the "machine for living in" was challenged by the concept of a survival capsule for interplanetary flight.²⁶ As we read in the 1966 essay "Fantastic Architecture or Architecture of the Future," published in the Polish journal *Architektura* (Figure 2):

Le Corbusier, Gropius, Mies van der Rohe, commonly regarded the pioneers of contemporary architecture, are men of the past. These architectural geniuses formulated their theories in the 1920s, when all those things that are part of the daily life for us — jet aircraft, artificial satellites, nuclear energy — did not exist yet.²⁷

Let us elaborate on the concept of a survival capsule for interplanetary flight as a late-modern architectural paradigm. In "Building Dwelling Thinking" Heidegger recalls the figure of the truck driver: he is "at home on the highway, but he does not have his shelter there."²⁸ A shelter appears at the end of the essay, as the two-hundred-year-old wooden farm in the Black Forest.²⁹ The truck and the farm cannot be seen as the best examples of the 1950s technological innovations; Heidegger himself emphasizes that his reference to the farm "in no way means that we should go back to building such houses."³⁰ But, paradoxically, these two images — the first recalling the situation of travelling and the second envisaging a settled shelter — seem to merge into one ambition in early space-age engineering. The ambition was to design a safe and habitable module carried by a ballistic missile, that is, a mobile, hermetically sealed and automated shelter.

In her essay *The Conquest of Space and the Stature of Man*, further developing some ideas of *The Human Condition*, Hannah Arendt introduces a figure more representative for the space age than the truck driver — the astronaut who is "shot into outer space and imprisoned in his instrument-ridden capsule where each actual physical encounter with his surroundings would spell immediate death."³¹ There can be no doubt that the hermetically sealed capsule is a kind of *Existenzminimum* prison.³² In many accounts of contemporary space travel, we find not only descriptions of the sublime vastness of the universe as seen through spacecraft portholes or of the uncanny experience of zero gravity, but also of the aura of imprisonment. It is not by chance that the Polish cosmonaut Mirosław Hermaszewski entitles a chapter of his book "Imprisoned in the cabin."³³ In *Packing for Mars* Mary Roach, a journalist who has interviewed many astronauts about their everyday life in spacecraft, notes that the habitation area inside the Mir core module, in which two Soviet cosmonauts spent six months together, is the size of a "Greyhound bus" and that their sleep cabins resemble "phone booths."³⁴

In trying to understand the conditions in a cosmic habitation module, we do not even have to imagine how our bodies react to the situation of zero gravity. As the cosmonaut Yuri Romanenko suggests, it is enough to imagine that you are "locked in a car" for about a week.³⁵ Unlike a truck driver on the earth, you can open neither the windows nor the doors of your cabin. There are no earthly smells, only the smell of metal, rubber and paint. Keeping this roughly sketched image in mind, one should be surprised with the fact that the architecture of the space age is sometimes thought of as identical with the technological goals and achievements of astronautics. A participant in a Polish discussion accompanying the Terra-1

Exhibition of Intentional Architecture (Museum of Architecture, Wrocław, 1975, Figure 3) was convinced that “the Apollo spacecraft are architecture, even though they haven’t been designed by architects.”³⁶

Indeed, spacecraft, automated capsules and lunar rovers were an important source of inspiration to architects, artists and designers in the late 1950s and 1960s, as the exhibitions *Cold War Modern: Design 1945–1970* (Victoria & Albert Museum, 2008) or *Star City: The Future Under Communism* (Nottingham Contemporary, 2011) have recently demonstrated. We may share this fascination with space-age technologies, but we should not forget the political context of the conquest of space. As Svetlana Boym aptly notes, Soviet and American understandings of space exploration were not the same. In the Soviet Union, as well as in its satellite countries (I would add), “we were taught that we would travel into the cosmos before we travelled abroad. We were encouraged to aim upwards instead of Westwards.”³⁷

While the Soviets were preoccupied with launching the first Sputniks and sending the first man into orbit, the Americans were obsessed with fully automated kitchens which resembled the interiors of spacecraft cabins with their multiple control panels; the famous RCA Whirlpool “Miracle Kitchen” at the 1959 American Exhibition in Moscow clearly illustrates the connection between satellites and household appliances. We can understand why astronauts as earth-bound creatures have a dining table in a spacecraft. But why — on the earth — do we want to have a fully automated home resembling the interiors of hermetical space cabins? Every activity seems easier and faster in the automated kitchen than in a traditional household, but the more appliances, the more operation skills are required.

In 1961–1969 — during the time between Gagarin’s orbiting the earth, and Armstrong’s and Aldrin’s walking on the Moon — Paul Maymont (GIAP — Groupe International d’Architecture Prospective) designed an air-conditioned city on the Moon, while the Japanese Metabolist group worked on the idea of living capsules, resulting in 1972 in the completion of Kisho Kurokawa’s Nagakin Capsule Highrise. Intoxicated by this cosmic atmosphere, we could multiply the examples of architectural designs (Figure 4), which look as if they were made by space scientists (disparagingly called “plumbers” by “pure” physicists — as Hannah Arendt notes³⁸). But what is more important is the question of to what extent the technological solutions developed for travelling in the universe are necessary for dwelling on the earth. This problem has already been addressed by Kenneth Frampton, in his critique of Archigram:

[I]n their obsession with suspended space-age capsules, Dennis Crompton, Michael Webb, Warren Chalk and David Greene felt under no obligation to explain why one might choose to live in such expensive and sophisticated hardware and yet at the same time in brutally cramped conditions. ... they all proposed space standards that were well below the *Existenzminimum* established by those pre-war functionalists they supposedly despised.³⁹

Perhaps, the only sensible explanation is that post-war architects and urban planners expected enormous growth in global population; due to overpopulation men will have to live in cramped places. In the space

age, this argument was combined with futurologists' expectations; new places have to be found, such as underwater cities, cities in the desert, cities on the Moon, etc. But what interests me the most in revealing the meaning of architecture of the space age is not the sensible explanation but the paradox of the situation. While space scientists were making first steps "toward escape from men's imprisonment to the earth," architects were preoccupied with imprisoning us in spacecraft-like, excessively automated homes.

In *The Problem of Space Travel: The Rocket Motor*, Potočnik describes in detail the rooms of the space station (such as the Habitat Wheel), within which "the same atmospheric condition will be maintained artificially as on the Earth's surface," and predicts the situation when it would be necessary to remain outside of the enclosed capsules: "airtight suits would have to be used, whose interior is also supplied automatically with air by attached devices. Such suits would be quite similar to the familiar underwater diving suits."⁴⁰ Not only the spacecraft-like home, but also the spacesuits technology is an example of the affinities between astronautics and architecture. As we have already discussed, Heidegger's and Arendt's existential philosophy is based on a fundamental presumption that "the earth, and not the universe, is the center and the home of mortal men."⁴¹ The technologies of astronautics and some 1960s' designs of futuristic cities seem to question this "geocentrism." They rather share a belief that in the near future man would be able to live anywhere, whether be it on Earth or in outer space. This message was clearly conveyed by the 1964 New York World's Fair featuring Futurama 2. Before the viewers' eyes passed images of desert cities and jungles or Antarctic landscapes studied with mobile laboratories, but also of a (fake) Moon surface examined with lunar rovers or a (fake) Hotel Atlantis for undersea vacationing.⁴² These staged images of lunar and underwater explorations deserve our attention; they both feature men (or, to be more precise, miniaturized dolls) dressed in special suits, which maintain vital parameters in a harsh environment.

In 1975, a Polish architect Andrzej Frydecki (1903–1989) argued that the spacesuit has become one of the paradigms of contemporary architecture: "shielding the user from direct and harmful, or actually lethal ... environmental conditions, it allows for expanded capabilities in the evergrowing domain of human exploration."⁴³ In order to illustrate his argument the architect presented a small drawing – a sequence of representative clothing for different historical epochs, such as a Greek chlamys, a Roman toga, a monk's frock, a knight's armor, a gentleman's dress coat and, finally, an astronaut's spacesuit (Figure 5). Frydecki is not the first and certainly not the last architect to see a cultural affinity between clothing and architecture; it is enough to recall Adolf Loos' essay *Architektur* (1910), in which he compares the elevations of a house to a men's dress coat [*Frack*]⁴⁴, Vito Acconci's remark that "clothing is the first architecture of the body,"⁴⁵ or Hans Hollein's jet helmet, spacesuit and scape capsule as a "minimum dwelling."⁴⁶ Nevertheless, let us follow the space-age concept that the body's first architecture is a spacesuit. According to Frydecki, the spacesuit is an "indicator of contemporary technological solutions for new fragments of the environment, organized on the basis of ... spacesuit-isation, that is, equipped with devices providing for collective inhabitation, without any direct contact with the external environment."⁴⁷ Frydecki does not provide a specific architectural design which could illustrate his concept of "spacesuit-isation," but describes it as a universal

principle of architecture: “not only such specific creations of contemporary technology as submarines, airplanes and spacecraft but also large over- and underground objects — cars, metro trains, some types of public buildings — are designed as collective spacesuits”.⁴⁸ At this point we have to return to the paradox of astronautics’ merging with architecture. Whereas space scientists were preoccupied with designing spacesuits for maintaining vital parameters outside a space station, architects were challenged to technologically optimize the environmental conditions occurring on Earth.

“Mortals Dwell on the Earth”

Let us summarize the arguments of Heidegger, Arendt and Vesely: “the earth is the home of mortal men,” “the earth is a primary reference.” In the light of this existential condition, it is a paradox that the architecture of the space age sometimes tries to free itself from the earth. The cities of the future are often disconnected from the ground (in a more extreme way than Le Corbusier’s structures on *pilotis*) as if the new civilization could not be rooted on Earth. Yona Friedman’s *Spatial City* (1958) comprised of a load bearing structure suspended some twenty meters above the ground and living modules, or cells that can be arranged anywhere, in any configuration. Ron Herron’s *Walking City* (1964), as a group of lunar rovers, with no foundations, freely roamed the desert. These cities (or superstructures) of the future sever themselves from the past of Earthly civilizations, that is, from the layers of the ground in which the foundations of the remnants of the past — such as Heideggerian churches and graves⁴⁹ — are hidden.

Man can neither “conquer space” nor “dwell on the Moon” (despite the fact that Armstrong and Aldrin made their first lunar walk as early as in 1969, humankind has not colonized the Moon). He can at best — as Arendt argues in “The Conquest of Space and the Stature of Man” — make “a few discoveries in our solar system.”⁵⁰ Arendt’s objection to the very notion of the conquest of space results from its 1950s Cold-War arms race rhetoric. But we may also argue that the idea of this conquest does not begin with the launch of the first Sputnik, but with the 19th-century philosophical prophecies of Russian cosmism. In *The Philosophy of the Common Task* written between the 1870s and the 1890s (published posthumously in two volumes, the first in 1906 and the second in 1913), Nikolai Fedorovich Fedorov (1828–1903), considered today the father of Russian cosmism and the mentor of the young scientist-visionary Konstantin Tsiolkovskii, claimed that it is not enough to visit all the planets of the universe — the human race has to colonize them.⁵¹ Unlike the engineer Potočnik, the librarian Fedorov does not provide posterity with precise, technical drawings of a rocket motor, or a space station. But his claim, that the ultimate goal of space exploration is to prepare habitable settlements for our “resurrected fathers,”⁵² should become a point of interest for the philosophers and historians of architecture.

According to Fedorov's religious utopianism reinterpreting the Christian dogma of the resurrection of the dead, the "common task" of mankind is the physical resurrection of our ancestors through scientific means: "Resurrection is an act not only of God's grace but also of human activity."⁵³ As Boris Groys rightly notes, "for Fedorov, immortality is not a paradise for human souls, but a museum for living human bodies."⁵⁴ That is why Fedorov's "common task" includes the project of colonizing the entire cosmos. When this task is fulfilled and men overcome death, Earth will not be able to harbor the masses of the resurrected bodies.

At first glance, Fedorov's connections with architecture are not evident. Contemporary scholars, however, tend to search for indirect affinities between Fedorov's writings and Vladimir Tatlin's *Model for a Monument to the Third International*, or Kazimir Malevich's Suprematist paintings and architectural projects.⁵⁵ The purpose of my concluding remark is neither to confirm nor to question the aforementioned interpretations, but to emphasize the difference between Fedorov's utopian concept of immortality and Heidegger's existential philosophy of death (Dasein's possibility of "Being-towards-death"⁵⁶). While the former encourages colonization of the cosmos, the latter says: "mortals dwell on the earth". These two, mutually exclusive, philosophical traditions have an impact on our contemporary thinking on the potentiality of architecture in the age of space explorations. But it seems that most of space-age architectural projects have been founded upon an existential utopia – similar to Fedorov's vision of immortality and space colonization – that sooner or later we will be able to dwell on distant planets.

Images

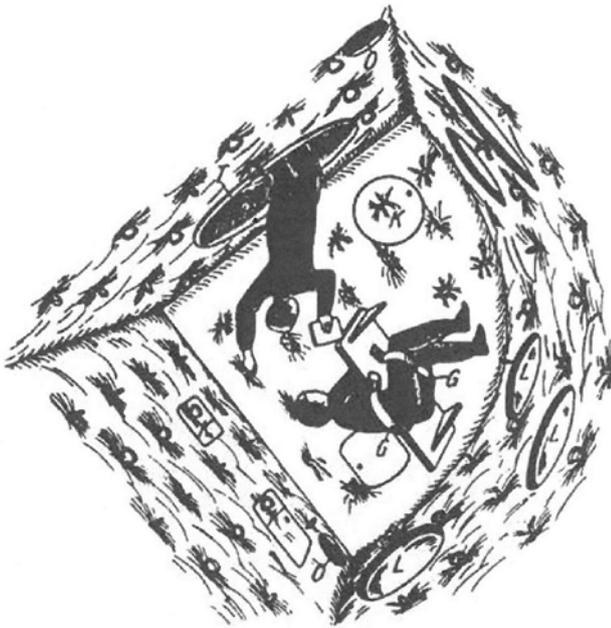


Figure 61. Writing in the weightless state: for this purpose, we have to be secured to the tabletop, for example, by means of leather straps (G) in order to remain at the table at all (without having to hold on). A man floats in from the next room through the (in this case, round) door opening, bringing something with him.

Figure 1. Hermann Noordung (Herman Potočnik), *The Problem of Space Travel: The Rocket Motor*, ed. Ernst Stuhlinger and J. D. Hunley with Jennifer Garland (Washington, D. C.: National Aeronautics and Space Administration, NASA History Office, 1995), 81. (Photo: courtesy of NASA History Office)

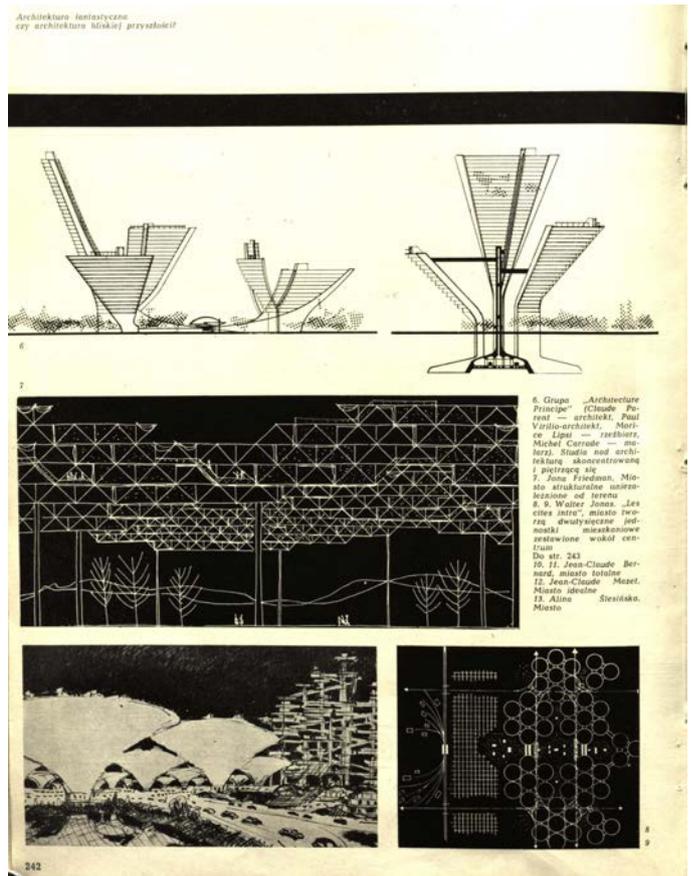


Figure 2. Krystyna Styrna, “Architektura fantastyczna czy architektura przyszłości” [Fantastic Architecture of Architecture of the Future], *Architektura 6* (1966), 242.



Figure 3. Terra-1 Exhibition of Intentional Architecture, Museum of Architecture, Wrocław, 1975. (Photo: Museum of Architecture, Wrocław)

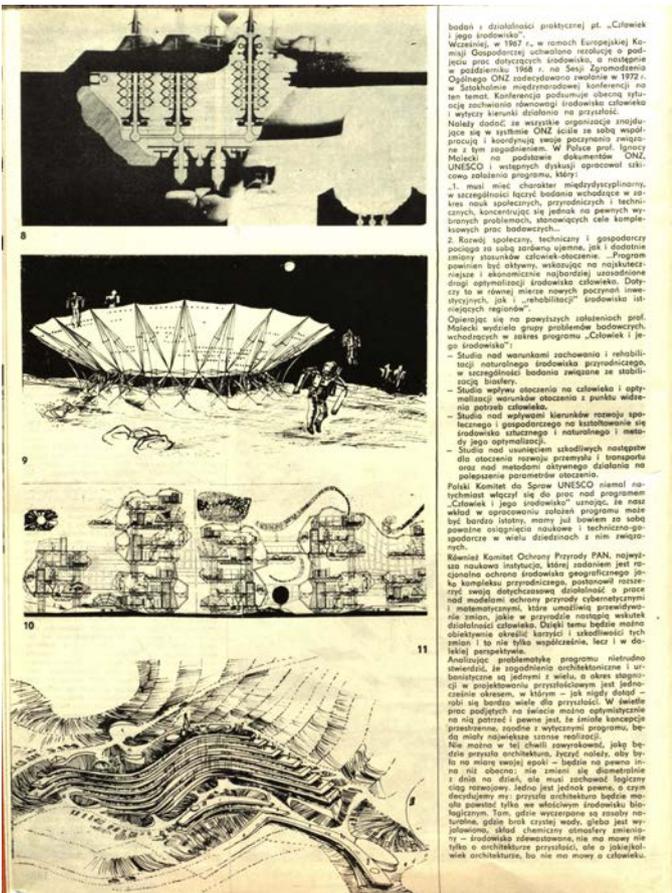


Figure 4. Krystyna Styra, "Nowy etap w projektowaniu przyszłości" [A New Stage in Projecting the Future], Architektura 4/5 (1970), 146.

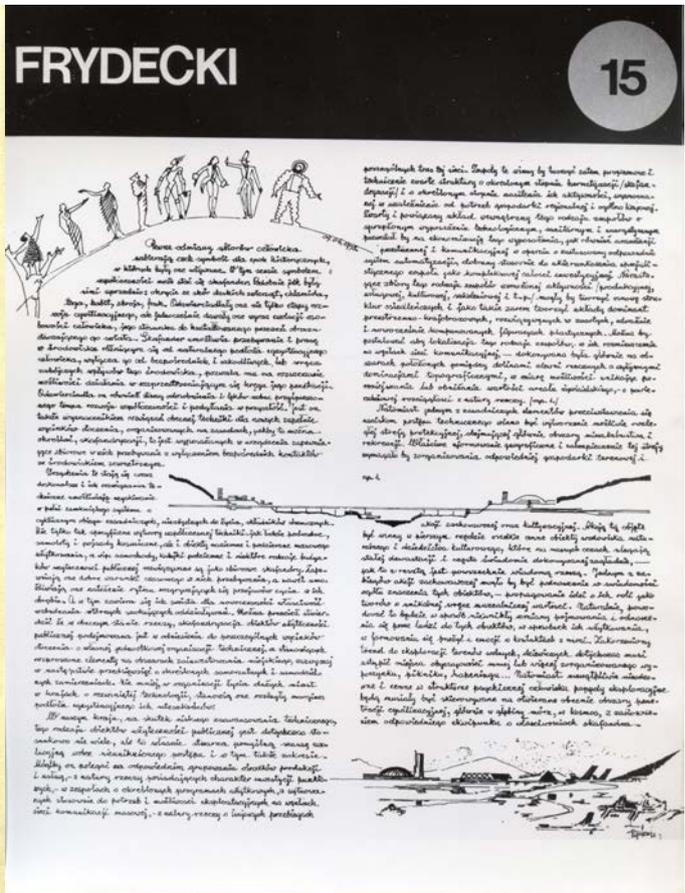


Figure 5. Andrzej Frydecki's concept of "spacesuitisation" presented at the Terra-1 Exhibition of Intentional Architecture, Museum of Architecture, Wrocław, 1975. (Photo: Museum of Architecture, Wrocław)

Notes

- 1 Hannah Arendt, *The Human Condition: A Study of the Central Dilemmas Facing Modern Man* (New York: Doubleday Anchor Books, 1959), 1.
- 2 On the history of the launch of Sputnik 1, its political propaganda significance during the Cold War, and the birth of NASA, see, for example, Walter A. McDougall, ... *The Heavens and the Earth: A Political History of the Space Age* (New York: Basic Books, 1985); Matthew Brzezinski, *Red Moon: Sputnik and the Hidden Rivalries that Ignited the Space Age* (New York: Holt Paperbacks, 2008).
- 3 Arendt, *The Human Condition*, 1.
- 4 Ibid., 206. See also Arendt, *The Human Condition*, 360 (endnote no. 72): “Quoted from an interview with Wernher von Braun, as reported in the *New York Times*, December 16, 1957”. On von Braun’s biography see Michael J. Neufeld, *Von Braun: Dreamer of Space, Engineer of War* (New York: Vintage, 2008).
- 5 Arendt, *The Human Condition*, 1.
- 6 For a detailed analysis of Arendt’s account of earth alienation in *The Human Condition*, see David Macauley, “Hannah Arendt and the Politics of Place: From Earth Alienation to Oikos,” in *Minding Nature: The Philosophers of Ecology*, ed. David Macauley (New York: Guilford Publications, 1996), 102–133. On Heidegger’s complex and interrelated terms of “earth” and “world”, see Jeff Malpas, *Heidegger and the Thinking of Place: Explorations in the Topology of Being* (Cambridge MA; London, England: The MIT Press, 2012), 29–31, 243–245.
- 7 Martin Heidegger, “Building Dwelling Thinking”, in *Poetry, Language, Thought*, trans. Albert Hofstadter (New York: Harper & Row, 1971), 148. On an architectural audience of Heidegger’s lecture see, for example, Adam Sharr, *Heidegger for Architects* (Abingdon: Routledge, 2007), 36.
- 8 Heidegger, “Building Dwelling Thinking”, 148.
- 9 Martin Heidegger, *Being and Time*, trans. John Macquarrie and Edward Robinson (Oxford UK, Cambridge MA: Blackwell, 1993), 137 [104].
- 10 *First Space Architect: Herman Potočnik Noordung. The Problem of Space Travel – Supre: Architecture* (exhibition catalogue), ed. Miha Turšič et al., 7.06–23.11.2014, Pavilion of Slovenia at the 14th International Architecture Exhibition – La Biennale di Venezia 2014.
- 11 Hermann Noordung (Herman Potočnik), *The Problem of Space Travel: The Rocket Motor*, ed. Ernst Stuhlinger and J. D. Hunley with Jennifer Garland (Washington, D.C.: National Aeronautics and Space Administration, NASA History Office, 1995), 1.
- 12 Ibid., 81.
- 13 “NASA Public Affairs interviews Expedition 48 Crew About Upcoming Activities”, accessed September 24, 2016, http://www.nasa.gov/mission_pages/station/videos/index.html
- 14 Dalibor Vesely, *Architecture in the Age of Divided Representation: The Question of Creativity in the Shadow of Production* (Cambridge MA; London: The MIT Press, 2004), 53.

- 15 Ibid., 395 (endnote no. 14).
- 16 Mary Roach, *Packing for Mars: The Curious Science of Life in the Void* (London: Oneworld Publications, 2010), 257–258.
- 17 Maurice Merleau-Ponty, *Phenomenology of Perception*, trans. Colin Smith (London: Routledge, 1994), 253.
- 18 Noordung (Potočnik), *The Problem of Space Travel*, 79.
- 19 Heidegger, *Being and Time*, 136–137 [103].
- 20 Vesely, *Architecture in the Age of Divided Representation*, 51–52.
- 21 Ibid., 52.
- 22 Ibid.
- 23 Noordung (Potočnik), *The Problem of Space Travel*, 81–82.
- 24 *First Space Architect: Herman Potočnik Noordung. The Problem of Space Travel – Supre: Architecture*, unnumbered pages [2–5].
- 25 See Le Corbusier, “Eyes Which Do Not See”, in *Towards a New Architecture*, trans. F. Etchells, (New York: Dover Publications, 1986), 85–148.
- 26 See Gabriela Świtek, *Gry sztuki z architekturą. Nowoczesne powinowactwa i współczesne integracje* (Toruń: Wydawnictwo Naukowe Uniwersytetu Mikołaja Kopernika, 2013), 442.
- 27 Krystyna Styrna, “Architektura fantastyczna czy architektura przyszłości”, *Architektura 6* (1966): 243. This argument is a development of my essay published under the title “Spacesuits, Space Kitchens, Space Cities ...”, trans. M. Wawrzyńczak, in *Kosmos wzywa! Sztuka i nauka w długich latach sześćdziesiątych / Cosmos Calling! Art and Science in the Long Sixties*, eds. Joanna Kordjak-Piotrowska, Stanisław Welbel (Warszawa: Zachęta – Narodowa Galeria Sztuki, 2014), 145–153.
- 28 Heidegger, “Building Dwelling Thinking”, 145.
- 29 Ibid., 160.
- 30 Ibid.
- 31 Hannah Arendt, “The Conquest of Space and the Stature of Man”, in *Between Past and Future: Eight Exercises in Political Thought* (New York: Penguin Books, 1968), 277.
- 32 On a blending of a modernist *Existenzminimum*, a paradigm of a prison cell, and the cosmic design of Superstudio (1971), see Gabriela Świtek, “A Simple Idea in Architecture: On the Principle of Projecting Prisons”, in *Architecture and Justice: Judicial Meanings in the Public Realm*, eds. Jonathan Simon, Nicolas Temple, Renée Tobe (Farnham: Ashgate, 2013), 46–47.
- 33 See Mirosław Hermaszewski, *Ciężar nieważkości. Opowieści pilota-kosmonauty* (Kraków: Universitas, 2009), 147–155.
- 34 Roach, *Packing for Mars*, 42.

- 35 Ibid., 50.
- 36 See Aleksander Paszyński, comment in a discussion about the Terra-1 International Exhibition of Intentional Architecture, “Dyskusja”, *Architektura* 12 (1975): 389. The Terra-1 exhibition (Wrocław’s Museum of Architecture, 1975) was initiated and curated by the Wrocław-based architect Stefan Müller. It presented some fifty projects of architects and artists, including Yona Friedmann, Oskar Hansen, Arata Isozaki, Rem Koolhaas, Elia Zenghelis, Madelon Vriesendorp and Zoe Zenghelis (*Exodus*, a project for London), Renzo Piano and Richard Rogers (Centre Pompidou), Aldo Rossi and Donatella Mazzoleni (*A Vertical Ground: Habitable Material for a City Structure*, 1967–1970), Superstudio (*Life, Education, Ceremony, Love, Death*).
- 37 Svetlana Boym, “Kosmos: Remembrances of the Future”, in *Star City: The Future Under Communism*, eds. Łukasz Ronduda, Alex Farquharson, Barbara Piwowarska (Nottingham: MAMMAL Foundation, Nottingham Contemporary, transit.at, 2011), 187.
- 38 “Even today, when billions of dollars are spent year in and year out for highly ‘useful’ projects ... , the physicist is still likely to look down upon all these space scientists as mere ‘plumbers’. The sad truth of the matter, however, is that the lost contact between the world of the senses and appearances and the physical world view has been re-established not by the pure scientist but by the ‘plumber’”. See Arendt, “The Conquest of Space and the Stature of Man”, 273.
- 39 Kenneth Frampton, *Modern Architecture: A Critical History* (London: Thames & Hudson, 2004), 282.
- 40 Noordung (Potočnik), *The Problem of Space Travel*, 89.
- 41 Arendt, “The Conquest of Space and the Stature of Man”, 279.
- 42 “‘64-65 NY World’s Fair FUTURAMA Ride Video”, accessed September 28, 2016, <http://www.youtube.com/watch?v=2-5aKOH5jk>. See also Beatriz Colomina, *Domesticity at War* (Barcelona: Actar, 2006), 286–287, 292.
- 43 Andrzej Frydecki’s unpublished letter to Stefan Müller (20 May 1975, Wrocław), with commentary on the project, Wrocław Museum of Architecture (library catalogue no. 11613). Frydecki’s concept of “spacesuit-isation” was presented at the Terra-1 Exhibition of Intentional Architecture in 1975. See Świtek, “Spacesuits, Space Kitchens, Space Cities ...”, 148–149.
- 44 Adolf Loos, “Architektur” (1910), in *Warum Architektur keine Kunst ist*, Hrgs. P. Stüber (Wien: Metroverlag, 2009), 72.
- 45 *Art Becomes Architecture Becomes Art: A Conversation Between Vito Acconci and Kenny Schachter, Moderated by Lilian Pfaff* (a series: *Kunst und Architektur im Gespräch / Art and Architecture in Discussion*), ed. Cristina Bechtler (Wien, New York: Springer, 2006), 91.
- 46 Hans Hollein, “Alles ist Architektur” (1968), quoted in Jane Pavitt and David Crowley, “The Hi-Tech Cold War”, in *Cold War Modern: Design 1945–1970*, eds. David Crowley, Jane Pavitt (London: V&A Publishing, 2008), 172–173.
- 47 Andrzej Frydecki’s letter to Stefan Müller.
- 48 Andrzej Frydecki’s letter to Stefan Müller.
- 49 Heidegger, *Being and Time*, 137 [104].

- 50 Arendt, “The Conquest of Space and the Stature of Man”, 278.
- 51 For a renewed interest in the work of Fedorov see, for example: Ludmila Koehler, *N. F. Fedorov: The Philosophy of Action* (Pittsburgh PA: Institute for the Human Sciences, 1979); George M. Young, *Nikolai F. Fedorov: An Introduction* (Belmont, Mass.: Nordland Publishing Co., 1979); Michael Hagemeister, *Nikolaj Fedorov: Studien zu Leben, Werk, und Wirkung* (Munich: Verlag Otto Sagner, 1989); George M. Young, *The Russian Cosmists: The Esoteric Futurism of Nikolai Fedorov and His Followers* (Oxford: Oxford University Press, 2012).
- 52 Nikolaï Fiodorow, *Filozofia wspólnego czynu*, trans. Cezary Wodziński and Michał Milczarek (Kęty: Wydawnictwo Marek Derewiecki, 2012), 407. See also an abridged English translation: Nikolai Fedorovich Fedorov, *What Was Man Created For? The Philosophy of the Common Task, Selected Works*, translated from the Russian and abridged by Elisabeth Koutaissoff and Marilyn Minto (Laussane: Honeyglen Publishing/L’Age d’Homme, 1990).
- 53 Nicholas Berdyaev, “N. F. Fedorov”, *The Russian Review* 9 (1950): 126.
- 54 Boris Groys, “Immortal Bodies” in *Going Public* (Berlin: Sternberg Press, 2010), 158. A version of this essay also appeared as “The Immortal Bodies,” *RES: Anthropology and Aesthetics* 53/54 (2008): 345–349.
- 55 For Fedorov’s cosmism and its influence on architecture, art and popular culture see, for example: Norbert Lynton, *Tatlin’s Tower: Monument to Revolution*, ed. John Milton (London and New Haven: Yale University Press, 2009); Igor A. Kazus, “The Idea of Cosmic Architecture and the Russian Avant-garde of the Early Twentieth-Century”, in *Cosmos. From Goya to de Chirico, from Friedrich to Kiefer: Art in Pursuit of the Infinite*, ed. Jean Clair (Milan: Bompiani, 2000), 111; Boym, “Kosmos: Remembrances of the Future”, 186–213; Asif A. Siddiqi “Imagining the Cosmos: Utopians, Mystics, and the Popular Culture of Spaceflight Revolutionary Russia”, *Osiris* 23 (2008): 265–268; Asif A. Siddiqi, “Competing Technologies, National(ist) Narratives, and Universal Claims: Toward a Global History of Space Exploration”, *Technology and Culture* 51 (2010): 432.
- 56 Heidegger, *Being and Time*, 279–311 [236–267].

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Book Review: Li Zehou. *The Chinese Aesthetic Tradition* Trans. Maija Bell Samei Honolulu: University of Hawaii Press, 2010

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Li Zehou's *Huaxia meixue* (华夏美学) (*The Chinese Aesthetic Tradition*) was published in 1989, ten years after his *Pipan zhexue de pipan* (批判哲学的批判) (Critique of Critical Philosophy) (1979) on Kant's philosophy. The decade between these two books marked the "free thinking movement" in modern China and witnessed the translations of Western philosophical works such as Heidegger's *Being and Time* and Sartre's *Being and Nothingness*. In Chinese scholarship, Li is noted for his pioneering works dealing with Kant's philosophy and Chinese traditional aesthetics. During the 1980s, the influence of Western existentialism was prevalent on Chinese campuses, where scholars and artists passionately sought a new understanding of humanity after the Cultural Revolution. It was during this period that there emerged the melancholic reflective movement including so-called scar literature, nostalgic paintings, and fictional architecture. The academic fresh air emanating from Western influence diverted the Chinese students' attention from Li's solitary journey for traditional aesthetics. Through the conflicts resulting from the technical world-view brought about by the Chinese modernization process, the significance of Li's reconstruction of aesthetic tradition is now being recognized. His books are, once again, among the most popular in Chinese book-

stores. His philosophy consistently intrigues its audience to contemplate what is fundamentally missing in contemporary China and what is most valuable within Chinese culture.

The chapters begin with the rites and music of the pre-Confucian age, then flow into Confucian humanism, the interaction between Daoist and Confucian thoughts, the southern theoretical line of Qu Yuan's deep emotion, and the metaphysical pursuits of the Buddhist Chan School, and they end with the theoretical trend in early modernity. Compared with other Chinese books that chronologically list individuals' aesthetic ideas, Li's book undertakes a philosophical investigation of fundamental issues in Chinese aesthetics, ones such as rites, humanity, freedom, emotion, contemplation, and desire. He concludes by regarding the aesthetic tradition as the ontology of Chinese philosophy, which latter he calls "anthropological ontology," to emphasize humankind itself as the noumenon of China's culture. Differing from Western transcendental subjectivity, ontological humankind retains rich emotion (*qing* 情) by living in a concrete historical process of an individual's life. Li's ontological aesthetics is well demonstrated by the title of his earlier book *Meide licheng* (美的历程) (*The Path of Beauty*) in 1981, which hints at his own life journey engaged in searching for aesthetics.

Li began this search with the term *mei* (美) (beautiful), which is etymologically related to delicious taste and totem dancers. The etymological meaning was interjected into Confucian rites and music, which pageantry cultivated an individual's emotion for the sake of a harmonic ordering of society. There continues to exist within the Confucian system an inherent conflict between the development of individual emotion and the restriction of collective ethics. The conflict has reinforced the aesthetic role of poetry and southern-style painting for expression of individual emotion. In contrast, Li emphasizes the Confucian tradition as the basis of Chinese aesthetics by arguing that the core concept of humaneness (*ren* 仁) in Confucian tradition should be aesthetically understood as compassionate humanism. Confucian ethics, although being closely related to state politics, is an aesthetic categorization about the beauty of humanity. Confucius' kindness was elevated by Mencius to the "strong beauty" of subjectivity, the vital force of ethics, which was further altered in the *Yizhuan* (易传) (Commentaries to the Book of Changes) into the consciousness of the harmony between heaven and earth.

It was through Daoism that the Confucian harmony between heaven and earth was truly developed into an aesthetic attitude that valued the ultimate joy of fusing with nature by means of withdrawing from society. The Daoist intuitive perception of nature, the transcendence of the human world, resulted in the popular eremitism among the literati and stimulated the birth of landscape aesthetics, centered on the concept of "free and easy wandering" (*xiaoyaoyou* 逍遥游). Li describes the Daoist aesthetic situation as a matter of "infinite beauty" which is beyond linguistic expression and is required to be carried out through an abnormal approach, such as regarding the odd-looking rocks in gardens. The aesthetic conflict within the Confucian tradition is thus resolved by the Daoist romantic strategy of living in nature where both emotional and natural beauty overlap. The Daoist aesthetic joy, as exemplified in skillful and divinely-inspired craftsmen, cultivates an ethical personality for Confucian society.

The mythological line of pre-Confucian aesthetics was best maintained in the southern culture with Qu Yuan's poetry as its representative. Li describes Qu's living towards death as the perfect integration of unrestricted romantic imagination and Confucian sincerity aimed at human truth. By selecting death, Qu unfolded his deep emotion for a truthful life, which Li equated with existentialist Being. In the literature and art of the Wei-Jin period (3rd-6th centuries), experience of deep emotion between life and death became ontologically aesthetic, and individual emotion was identified with a universal outlook towards the world. Beauty thus became a symbol of morality. The aesthetic development of this historical period is best presented by the concept of *yijing* (意境), which is translated in the book as "artistic conception," but it literally means "idea-projected environs" through which emotion and a beautiful scene are fused into "imaginary reality" via imagination.

Chan Buddhism integrates the Daoist love of nature and Qu Yuan's deep emotion into a subtle awakening of eternity, which can be encountered through sudden enlightenment in daily life. Li maintains that because Chan seeks timelessness through extraordinary means, the Chan approach must be poetical and philosophical. The aesthetic situation of Chan can be equated with the concept of "blandness" (*dandan*) in which Being presents itself in quietness. Li advances that it was through the metaphysics of Chan that aesthetics took over the role of religion in Chinese culture.

After the peak of rationality of Neo-Confucianism, the mind (i.e., human heart) rose as a central philosophical concept emphasizing a sensuous connection with the temporal world. In literature and paintings of the Ming and Qing dynasties (15th-18th centuries), individual desire and emotion were sought to satisfy specific aesthetic tastes. Artistic creation began to follow patterns abstracted from the past. Such mechanical patterns weakened the cosmic dimension of the aesthetic tradition and motivated the 19th-century theory of an "aesthetic realm" (*jingjie* 境界) influenced by Schopenhauer's pessimistic perception of "the world as will." In increasingly atheistic China the collapse of traditional aesthetics led to the national movement of aesthetic education, modeled on Kant's ethical theology.

Through the creative analysis of classic literature and poetry, Li builds up a theoretical framework of Chinese aesthetics that is based on the Confucian tradition but integrates the ideas of Daoism, Qu Yuan, and Chan Buddhism. His research emphasizes the historicity of Chinese aesthetics as the cultural "sedimentation" of idealist intellectuals' consistent longing for a beautifulness of life. Throughout the book, Li occasionally inserts some Western aesthetic theories for comparison with his argument. Although without carefully defining the comparability, his casual quotes of Western theories do not strengthen his claim for a historicity of Chinese aesthetics. Because his research on Kant's philosophy has been part of his life journey, one becomes convinced that his methodology of ontologically questing for Chinese aesthetics and defining it as the ontology of Chinese culture has indeed demonstrated the influence of Kant's critiques.

About the Author

Hui Zou is an associate professor of architectural history and theory at the School of Architecture, University of Florida. His research interests include architectural and garden histories, architectural philosophy, and comparative cultural studies in the art of building. His research searches for historical coincidences (*qiaohe* 巧合, literally, “crafty joint” in an architectural sense) and endeavors to reveal the horizon of their meanings.

