FORMALIZING THE ALTERED LANDSCAPE: EXPLORING A NASCENT TYPOLOGY OF THE ANTHROPOCENE.

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ARCH 501 – Critical Topics in Architecture

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13 December 2022

Content

Abstract

This paper endorses the addition of an emerging class or typology of architectural space – termed *the altered landscape* – into architectural discourse. The paper considers the historical patterns of architectural theory and the regular addition of architectural categories into academic and professional practice and theory. Coalescing together historical trends, current discourse around environmental issues, and the emerging presence of the *altered landscape* in architecture-adjacent practice, this paper contends that architects should – and are already beginning to – consider the *altered landscape* as a form of architecture and a rich area of academic and professional study. The paper further proposes a framework for describing and understanding the *altered landscape*, both in and of itself and in relation to the practice of adaptive reuse.

1.0 Introduction

The evolution of the architectural profession is marked by the increasing absorption and integration of ever broadening topics and material into practice. Over time, architects have endeavored to include an ever-larger range of architectural material into practice. This osmotic process can be primarily understood as the conversion of supposed "non-architecture" into architecture, and more specifically, that which is informally termed *Capital A Architecture*, referring to professional and academic discourse in the profession. In a descriptive sense, it is both the addition of material previously untouched by the profession into professional and academic practice, as well as the subsequent formalization of said architectural material into established frameworks of architectural discourse. As we shall see, this process is a perpetual feature of the architectural profession, and critically, is tied closely to the transformation and adaptation of architectural material, of preeminent importance to the field of adaptive reuse. With that in mind, at the crux of this paper's contention is the understanding that in this moment in time, with increasing awareness of the impact of human activity on the Earth and a critical reevaluation of the profession, architects are due to include a new class of *"non-architecture" architecture* into practice: the *Altered Landscape.*

2.0 Historical threads of architectural formalization

2.1 The process of architectural formalization

In order to understand the assimilation of *non-architecture* into the profession, it is necessary to understand the process of formalization that underpins it. This process of formalization can, as whole, be understood as a three part process[1].

The first part of this process exists, for the most part, independent of the architectural profession. It is what may be informally referred to as *non-architecture*. This is the portion of the built environment conventionally not under the purview of architects, and even less so the world of academic discourse. Counterintuitively, this is presently, and even more so historically, the vast majority of the built environment. Although objectively a form of architectural material, it only becomes part of professional discourse through the process of formalization. *Non-architecture* architectures come about naturally as a result of human activity as a matter of necessity, and are guided by economic, social and political forces, rather than the machinations of designers.

Figure 2.1

Most of the built environment is not designed by architects, and indeed, not designed in any formal sense.

[1] The formalization process described here is long-term, and may take decades or centuries.

The second part of the process is the initial inquiry into *non-architectures* which opens them up to formalization. In professional jargon, it is common to hear the phrase *architecture without architects*[2] in relation to this portion of the formalization process. *Architecture without architects* is, materially speaking, no different from either *non-architecture* or *informal architecture*, but by framing in this way, the architectural profession begins to assess its relationship to the formal "*Capital A" Architecture*. By describing architectural material in this way, the architect attempts to integrate the *non-architecture* into their internal framework and explore its potential in the professional sphere.

The final element of the process is the engagement of the relevant architectural material at the professional level. It is the conversion of *architecture without architects* into *architecture*, which comes about, of course, with the explicit involvement of the architect. The result is the integration of architectural material into professional practice, and the perpetual presence of such material in professional discourse.

The results of the formalization of material once considered *"non-architecture"* can have two-fold positive results. On the one hand, it encourages the engagement of architects with social elements usually outside of their sphere, and on the other, it gives architects more opportunities for professional explorations, especially in under-served areas of engagement.

[2] More specifically, the phrase architecture without architects entered architectural discourse with Bernard Rudofsky's 1964 publication of the same name, which is a clear example of this second step of formalization, though applied by Rudofsky to the profession as a whole (Rudofsky 1964)

This formalization process is of particular importance within the framework of adaptive reuse[3]. On the one hand, the ever-increasing amounts of informal architecture and its subsequent decay compels architects to address this architectural material and transform it towards newly useful ends; this means that the practice of adaptive reuse is often at the forefront of addressing and reconsidering *non-architectures* within a professional framework. On the other hand, the formalization process itself pushes for the adoption and subsequent transformation of architectural material as a result of opportunities that arise from the exploration of overlooked topics.

2.2 Historical patterns of formalization

2.2.1 Housing

Counterintuitively, housing has only become formalized quite recently in architectural discourse. Historic literature suggests that housing was not a major part of practice for most of its history. The seminal work of ancient architectural theory, *Vitruvius's De Architectura,* barely touches on domestic architecture[4], much less multifamily housing (Vitruvius); ironically, Vitruvius says of domestic architecture:

> *But when I see that this grand art is boldly professed by the uneducated and the unskilful, and by men who, far from being acquainted with architecture, have no knowledge even of the car-penter's trade, I can find nothing but praise for those householders who, in the confidence of learning, are emboldened to build for themselves.*

[3] And more generally, all restoration, transformation and adaptation of architecture.
[4] Vitruvius and Alberti both dedicate more writing to machinery and warfare than the design of houses.

Indeed, Vitruvius' views on residential architecture seem very in line with the notion of *architecture without architects*, that is, he understands housing as architecture, but not yet of the kind to be built by architects (Vitruvius). Subsequent theorists go only a little further: Alberti dedicates a portion of his treatise to the design of private palazzi, but only insofar as it integrates classicism and the monumentality of such constructions (Alberti).

The proper formalization of housing into architectural discourse begins with Palladio's Four Books[5] (Palladio). With Palladio's framework private residences began to be reinterpreted as worthy of architectural inquiry. It was only with the advent of industrialization and massive population growth in the following decades that multifamily housing also increasingly became a major topic of architectural discourse.

2.2.2 Ruins

Of leading relevance to the topic of adaptive reuse is the adoption of ruins and abandoned structures in practice. Ruins, though often borne of great works of architecture, being the result of natural entropic processes, were outside of the purview of architects; Their transformation and reuse, both as spaces and as sources of material, would remain, again, primarily a form of *architecture without architects* until the 19th century. One of the first major works to address the condition of ruins was John Ruskin's *The Seven Lamps of Architecture*. Ruskin saw ruins as architecture in and of themselves, conveying meaning and character through their evolution and history, and through their image; yet he rejects the idea of restoration. Ruskin thus places ruins

[5] The Four Books primarily address the design and construction of rural villas and urban palazzi. They also reflect a shift of architecture towards the individual and the domestic, as opposed to the religious and monumental.

materially as *architecture without architects* and conceptually as formal Architecture (Ruskin 1849, Reinares Fernandez 1999). Counter to that, Viollet-Le-Duc, proposed the transformation of ruins into architecture by restoration (Reinares Fernandez 1999). This is the beginning of the formalization process for ruins. By the turn of the century, a synthesis began to form, headed, in part by figures such as Camillo Boito (Reinares Fernandez 1999), with the common view that honest restoration must be accompanied by adaptive reuse to retain both the aesthetic-historic-cultural and functional value of historic architecture. Subsequent efforts in adaptive reuse led to the complete formalization of ruins in contemporary discourse; for those of high cultural value, it was primarily through the Athens and Venice charters of 1931 and 1964 respectively (Reinares Fernandez 1999), which established the architectural value of historic ruins in a legal sense.

2.2.3 Industrial Architecture

In terms of the formalization of industrial architecture, in a broad sense, architects have always been involved in the design of functional and industry-centered structures (Vitruvius, Alberti). However, in a more specific sense, the involvement of architectural discourse with industrial architecture began during the second industrial revolution, when large scale industrial activity increased the presence and impact of such architecture. Thus, architects and engineers increasingly became involved in the design of industrial spaces. Still, the functional nature of industrial architecture kept it from becoming fully formalized within conservative architectural academia, producing the Hegelian dialectic that marked the evolution from Arts and Crafts through to Modernism (Pevsner 1936). At the onset of the industrial revolution, industrial architecture may still be considered an *architecture without architects,* mostly under the purview of engineers, but not without architects onlooking. Through early modernism, industrial architecture would finally

be formalized fully in architectural discourse, becoming both a typological study in and of itself and a source of architectural language for other architectural typologies. The newfound appreciation for industrial architecture is clearly marked in the architecture mythos by Behrens' AEG Turbine Hall.

Figure 2.2

Behrens' AEG Turbine hall is representative of a shift in the profession towards embracing industrial architecture.

2.2.5 Urban Landscape and Streets

Although architects have always been involved in the design of urban spaces, such interventions were mostly limited to major civic and monumental spaces. Indeed, the idea of designing streets was not entertained until the 19th century. Historically, streets were merely the leftover space, the bare minimum required to move goods in and out of buildings (De Sola Morales 2009). At best, the layout of the streets would be planned in line with practical considerations. In the west, interest in holistic urban design began towards the turn of the 19th century, with instances such as l'Enfant's plan for the District of Columbia. The formalization of street design is then driven by European practice in the search for improvements in sanitation, circulation, military

operation and crowding. Hausmann's plan for Paris is the most influential of these, but within a short time many followed suit: Cerda's in Barcelona and Hobrecht's in Berlin at the Urban scale, and Regent's Street in London and Carrer de Ferran in Barcelona at the architectural scale (De Sola Morales 2009). In the United States, the City Beautiful Movement led the formalization of urban design, joining street and urban design with architecture and landscape architecture (Yalzadeh 2019, Jacobs 1961). Increasing concerns over issues of urbanization in the 20th and 21st centuries have further cemented urban design in architectural practice, with reinterpretations of the design of streets within both modernist – exemplified by the Ville Radieuse –, and postmodern – exemplified by New Urbanism – frameworks.

2.2.3 Vernacular Architecture

Vernacular architecture is the prototypical example of *architecture without architects*. By definition, vernacular architecture was outside the purview of the architecture profession for most of its history, and its associations with formal architecture were primarily a result of historical and material happenstance rather than intentional inquiry by architects. Initial consideration of vernacular architecture began with the Arts and Crafts movement in the late 19th century (Pevsner 1936). The proper formalization of vernacular architecture in architectural discourse could be argued to come about with Kenneth Frampton's commentary on Critical Regionalism, which formally contextualized vernacular influences within the dominant Modernist framework of architectural discourse. Further efforts towards decolonization and multicultural inclusion in the latter half of the twentieth century helped establish the vernacular as an important and ever-present element of practice. The efforts to formalize vernacular architecture are the origin of the notion of

architecture without architects, with Bernard Rudosfky arguing for the integration of that perceived as vernacular "non-architecture" into discourse (Rudofsky 1964).

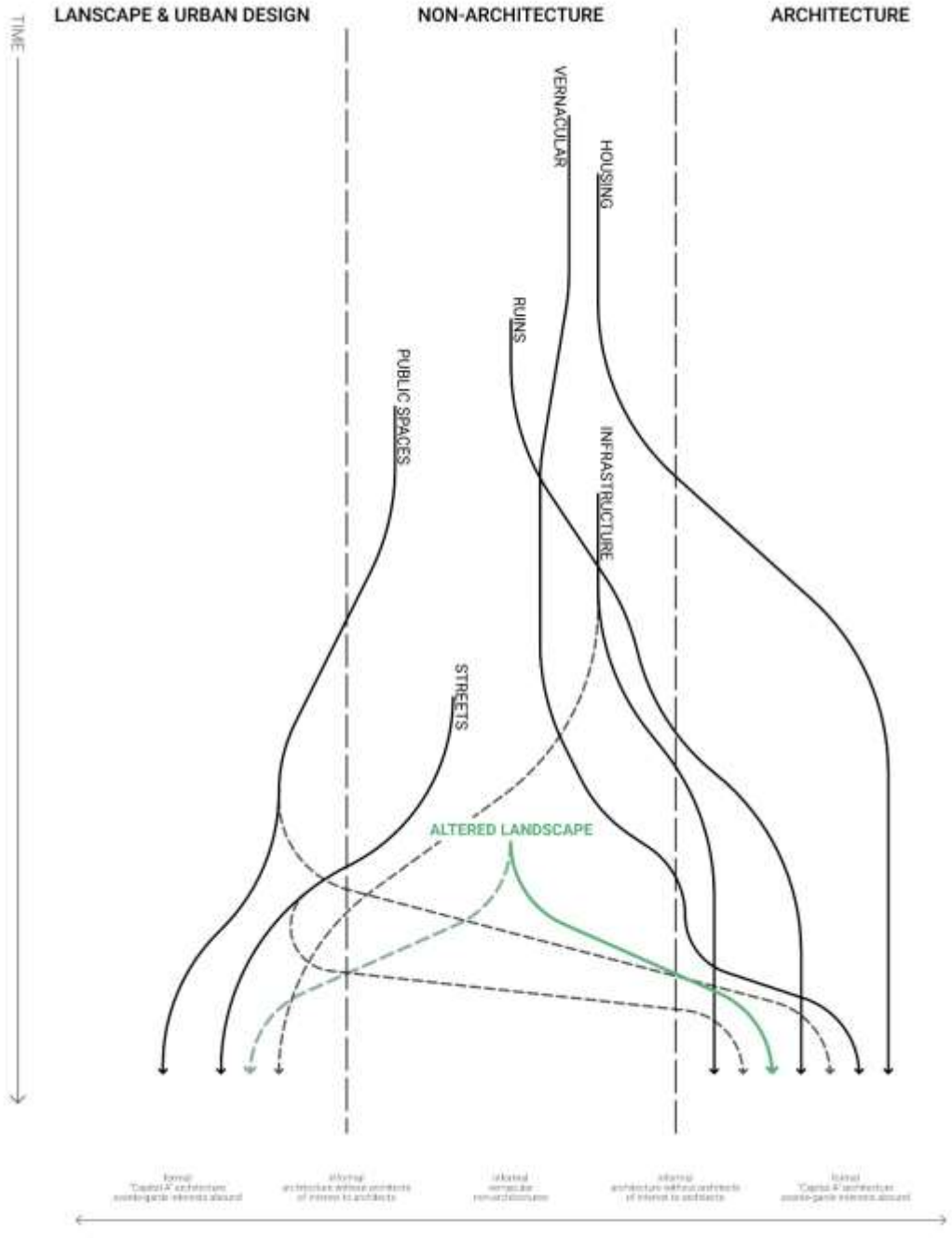

Figure 2.3

Diagram of historical patterns of architectural formalization.

3.0 Setting the Stage: Context of the Altered Landscape

3.1 Human Impact in the Anthropocene

As we have seen, the architectural profession has, over time, expanded in proportion to the increasing scale and range of human activities. However, in the past couple of centuries, and particularly in the past few decades of increasing globalization, the magnitude of human activity has become so immense as to be marked in the geological record, with a geologic epoch proposed for our presence on Earth: *the Anthropocene* (Ellis 2018). What is important to understand, as it concerns architects, is that this impact is spatial and architectural, not merely contained in subtle measures of mineral concentrations, but physically, spatially and architecturally laid out and marked upon the mass of the planet. The impact of human activity in the Anthropocene can be more acutely and widely understood by its poetics than scientific figures, and that is where architecture may play a role.

3.1.1 Visualizing the scale of human impact

In his book *The Human Planet: Earth at the Dawn of the Anthropocene*, photographer George Steinmetz presents a visual catalog of our impact on the planet (Steinmetz and Revkin 2020). On the one hand, it serves as a clear visual demonstration of the scale of human activity in the Anthropocene. But beyond that, by framing these activities through aerial photography, we begin to understand the visual and spatial qualities and scale of our impact on the planet. It begins to speak, in a sense, of the tectonics of an architecture – More specifically, an *architecture without architects* – that operates at the planetary scale[6].

[6] With the advent of satellite imagery and improved aerial photography, mesmerizing views of an Earth dramatically affected by human activities at incomprehensible scales have become a photographic genre onto themselves.

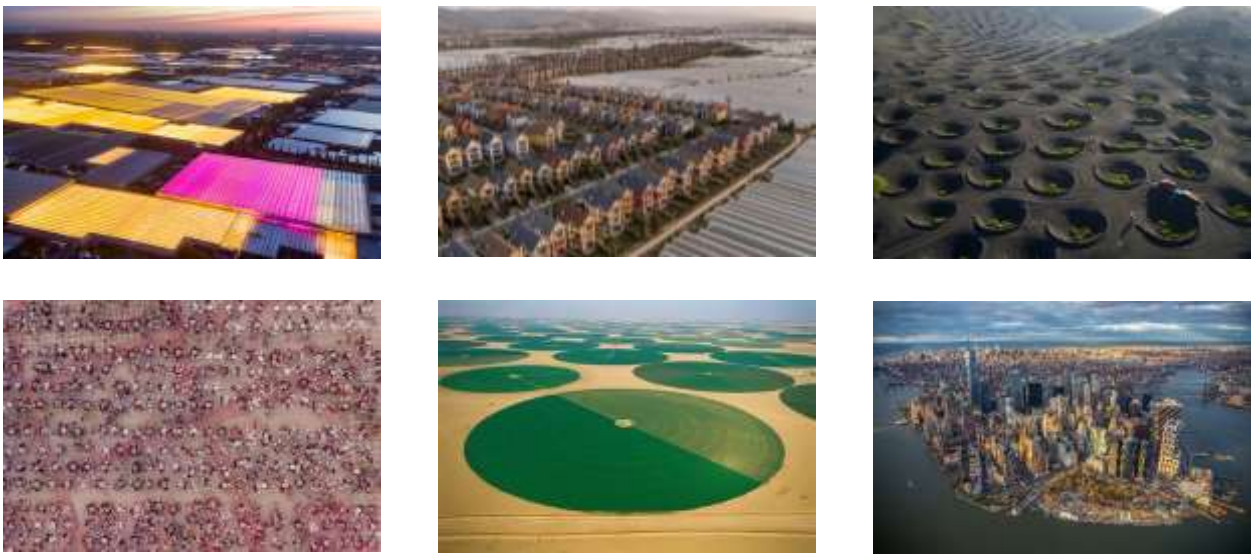

Figure 3.1

Steinmetz's photos showcase the kinds of textures, patterns and spectacle that may be familiar to architects, but which are at the scale of the Earth.

3.1.2 Risks in the Anthropocene

The impact of human activity on the biosphere in the Anthropocene is not universally nor necessarily negative. However, the unfortunate fact is that human activity has now exceeded the natural carrying capacity of the Earth (Meadows 1972). Furthermore, a general carelessness towards our relationship with the Biosphere has led to many (if not most) of our activities having a negative impact on it. From climate change to deforestation and habitat degradation, to declining biodiversity and mass extinction, to diminishing non-renewable resource pools, the issues of excess consumption are now ingrained into common consciousness and need not be repeated. However, the architectural profession has a degree of responsibility in addressing these issues, for better or worse. In light of that, we are presented both with the challenge and opportunity of correcting course when it comes to environmental issues, and in this context, it becomes essential that architects understand and appreciate the scale of human impact on the planet.

3.2 Defining the *Altered Landscape*

In light of these considerations, this paper endorses the inclusion and formalization of the *Altered Landscape* in architectural discourse[7]. The *Altered Landscape,* as a visual and spatial object – That is, I argue, as architecture – may be intuitively clear, yet can be difficult to describe in concrete terms. Yet still, we can define it with some critical qualities:

1. The altered landscape is a direct product of human activity. Though it may possess qualities associated with natural phenomena, the features of the altered landscape come about from human impact. The altered landscape is ostensibly created in the service of man, distinct from the accidents of nature. Its primary motive is utility for mankind. The altered landscape does not, in itself, invite habitation. Though inevitably many settle near altered landscapes to exploit the opportunities therein, the altered landscape itself is not intended towards such ends and is often at odds with habitation. This distinguishes it from the city, whose primary purpose is not utility, but habitation.
2. The altered landscape has no intended permanence. It exists to extract a resource or fulfill a need. Once the resource is fully extracted, the need met, or utilization made untenable, whatever program created the altered landscape ceases to perform its intended function. Yet, the altered landscape always remains after its intended program is withdrawn. Its permanence is inevitable and yet unintended. In a sense, it behaves like a scar: the injury may be short lived, but it leaves behind a permanent mark. It is a product of short-term actions and long-term impacts. The city and the ecosystem, both objects of permanence

[7] What is here referred to as the “altered landscape” is mostly the architecturally-oriented term for a phenomenon already being discussed in the sciences and landscape architecture as “anthropogenic geomorphologies” (Szabó 2010)

and perpetual transformation, are at odds with the altered landscape. It is a great challenge to transform an altered landscape back to useful ends, or even to restore it to any preceding condition, for it was only intended for a particular short-term use, and yet makes an impact greater in magnitude than itself[8].

3. The altered landscape is of immense scale, both in size and impact. It is the product of generational efforts and extensive resource investment. Importantly, its environmental impacts are correspondingly immense, regardless of whether the outcomes are positive or negative.
4. The altered landscape is a spatial construction. It creates a space and defines it. It is never merely layered on another space nor is it inherited from an existing landscape – Indeed, it cannot be layered, for it is nigh impossible to sculpt a space towards divergent productions of raw utility –. Unlike human activities that merely layer upon existing landscapes[9], the altered landscape is the space *in and of itself*, its presence and absence entail completely different spatial conditions.
5. The altered landscape integrates the natural landscape with the manmade landscape. Since it is not layered upon an existing construction, it must lie within the pre-existing natural landscape, though it must itself be manmade. This is unlike the city, which layers upon itself and creates an ecosystem of its own.

[8] Consistent with the idea of the layered landscape as an architecture without architects, Rudosfky argues that “Vernacular architecture does not go through fashion cycles. It is nearly immutable, indeed, unimprovable, since it serves its purpose to perfection.” (Rudofsky 1964).
[9] For example, fields are layered on the surface of soil, or harbors over bodies of water. These are not generators of space themselves, that is, not geomorphologies, but rather imprints on an existing landscape.

Although the altered landscape is associated primarily with the modern era, it has been present, albeit at smaller scales, throughout human history. The most notable historic altered landscapes come from Roman and Chinese civilizations[10]. Some, such as Roman waterworks and roadways, or the Grand Canal and Great Wall of China, are well known in social consciousness. A particularly striking example of a historic altered landscape is Las Medulas, a Roman gold mine in Leon, Spain, of such magnitude that it is easily mistaken for a natural geologic feature.

Figure 3.2

Las Medulas in Spain appear as a natural feature, yet are entirely artificial, a product of intense water-powered gold mining in the Roman period.

[10] It should be noted that, of course, many other civilizations produced significant altered landscapes, though often less well preserved. As an example, Mesoamerican civilizations were able to modify their environment dramatically: many of them built ceremonial centers out of natural features, the Mexica built levees to separate fresh and brackish bodies of water, artificial islands for agriculture and complex aqueducts, and the Mayans are thought to have deforested their lands to the point of ecosystem collapse.

Contemporary examples of the altered landscape are naturally much more abundant and of a greater magnitude. Indeed, they cover such a diversity of conditions that they are best represented by example. Some of the more dramatic altered landscapes include open pit mines (Figure 3.3), quarries (Figure 3.4), reservoirs (Figure 3.5), material piles (Figure 3.6), and in some cases may include, for example, agricultural (Figure 3.8) and industrial facilities (Figure 3.7).

Figure 3.3

Figure 3.4

Figure 3.5

Figure 3.6

Figure 3.7

Figure 3.8

Under this framework, altered landscapes possess as many ambiguities as common qualities. The ambiguities beg the questions of what fits into the altered landscape. There are many areas which may or may not fit neatly into the *altered* landscape categorization: Agricultural landscapes; Transport infrastructures, or military and scientific installations; Industrial urban landscapes; Unintended landscapes: those damaged by erosion, desertification and forest fires; or results of disasters: bombed landscapes[11], landslides, and flooded landscapes[12]. Yet, I believe that in these ambiguities one may yet find fruitful opportunities to explore the meaning of the *altered landscape* and the boundaries and role of the profession and its potential relation to these conditions.

3.3 Emerging recognition of the altered landscape in the arts

The *altered landscape* has increasingly become the subject of interest in the arts[13]. Of particular note is the work of Robert Smithson. In his photographic essay *A Tour of the Monuments of Passaic, New Jersey*¸ he documents the unremarkable industrial landscapes of New Jersey as *monuments*, that is, he begins to explore these spatial conditions as a form of architecture – An architecture without architects – (Smithson 1967). In his career, he explores, on the one hand, the intentional production of altered landscapes for artistic ends: *land art*, and on the other, the use of existing altered landscapes in *land art* projects. The latter explorations produced two significant works in concerted engagement with the *altered landscape*: *The Broken Circle / Spiral Hill* in Emmen, Netherlands, from 1971, engages with a flooded quarry as scene for the artwork; and more dramatically, the unbuilt *Bingham Canyon Reclamation Project* engages with the Bingham

[11] Such as, for example, that of Verdun.
[12] Such as, for example, the Salton Sea.
[13] This the start of the process of formalization for the altered landscape.

Canyon Mine in Utah[14], creating an land art intervention that makes use of the dramatic artificial landscape created by the mine rather than attempt to erase it, and which hoped to invite visitors to witness the slow return of the mine back to nature (Smithson 1973; 1971).

Figure 3.9

Collage mockup of the Bingham Canyon Reclamation Project as proposed, with a art piece at the base of the mine pit.

Figure 3.10

The Broken Circle / Spiral Hill built within the altered landscape of a quarry in Emmen.

3.4 Emergence in landscape architecture and restoration ecology

Landscape architecture oftentimes serves as the mediator between an *altered landscape*'s original program and a more permanent and sustainable condition. The landscape that is left behind is transformed by landscape architects to a prosperous public space, usually involving significant environmental remediation and restoration. Projects of this character are quite abundant, especially in the post-industrial areas of developed countries. Examples of these efforts include the Baldwin Hills State Park in Los Angeles, built in place of a depleting oil field,

[14] The Bingham Canyon Mine is the world's deepest open pit mine.

or Moerenuma Park in Sapporo, Japan, built atop the sloping landscapes of a large landfill. Unfortunately, efforts to restore and transform landscapes oftentimes lead to solutions that do not engage with the architectural qualities of the *altered landscapes*.

Many landscapes architects engage in the practice of restoration ecology, which seeks to return a damaged or altered site to an ecologically and economically sustainable condition, and to reintegrate it with its surrounding ecology (Penniman 2017). This practice is analogous to restoration and adaptive reuse in building-oriented architecture, reflecting a similar set of possibilities for transformation.

4.0 Proposing an architectural engagement with the Altered Landscape

Assessing the *altered landscape* in relation to the formalization of architectural material, I argue that the altered landscape, as an architectural object and material, is at this moment in time – Or at least ought to be –, undergoing a transformation from a *non-architecture* or *architecture without architects* towards a fully integrated formal architecture.

Understanding architecture as both an artistic and a pragmatic pursuit, the integration of the altered landscape in architectural discourse synthesizes Smithson's view of the *altered landscape* as a spatial construct and a frame for artistic and creative performance, and Restoration Ecology's pragmatic onus to restore *altered landscapes* to an ecologically and economically sustainable condition. The architect can engage with both prerogatives and explore the emergent possibilities that lie at their intersection.

4.1 Motivations for engaging the Altered Landscape

4.1.1 Awareness of human impact and the relationship between man and nature

One of the assets of engaging with the altered landscape lies in being able to demonstrate the impacts of the forces that created the altered landscape, and more broadly, the impacts of human activity on the natural environment. Furthermore, the altered landscape juxtaposes the natural and the man made, putting into focus the oftentimes antagonistic and yet always interdependent relationship between the two. It is a didactic architecture that invites a recognition of environmental issues and mankind's role in the preservation of the biosphere. One the one hand, the altered landscape, once appropriated by architects, places them in a more proactive position around environmental and social issues, and on the other, the architect can use the altered landscape as part of an architectural narrative.

4.1.2 Doing more with less

Another key opportunity that the altered landscape provides is that it, as with adaptive reuse, allows architects to do more with less[15]. Since the altered landscape is intrinsically useless past its initial programmed use, it is necessary for architects to transform it in order to once again be of use, environmentally, socially and economically. In this sense, architects can create value where otherwise none would exist. Furthermore, the architect is liberated to engage and experiment with the landscape in more ambitious ways, as the altered landscape has already done away with many of the aesthetic and environmental limitations that burden architectural interventions in more sensitive locations. Finally, the altered landscape serves as a spatial framework upon which the architect can set up their project, one which can substitute many of the performative and practical

[15] Famed futurist architect Buckminster Fuller called this concept "ephemeralization".

elements of the architecture, so as to reduce the use of resources and creative capital. That is, the altered landscape, as architecture, reduces the need to create "new" architecture. At the same time, the unique architectural qualities of the altered landscape elevate any architectural program beyond the ordinary and increases audience engagement.

4.2 Case Studies

The following case studies serve as examples of the possibilities afforded by the transformation of altered landscapes, as well as of their own unique qualities and explorations. They serve as models to consider in how to approach the altered landscape and what results can come about from such interventions.

4.2.1 The Sigirino Mound and the Negev Phosphate Works: Models in Landscape Architecture

The Sigirino Mound is a result of a material pile extracted from the construction for the Alp Transit tunnels in Lugano. In this case a preemptive rather than reactive intervention by landscape architects Atelier Girot allowed them to design the mound to integrate touristic, recreational and environmental priorities. The unavoidable slopes and steps of the mound were designed to provide hiking paths and water management. The design of the mound does not reject its own morphological artificiality; instead, it is embraced to provide additional utility. Nonetheless, the mound integrates with the surrounding landscape so as to diminish the visual and ecological impact of an unimproved mound and invite its use as a recreation space (Atelier Girot 2013).

Figure 4.1

The Sigirino Mound, Atelier Girot.

Shlomo Aronson's Phosphate Works project proposes an end-of-life strategy to open pit mines in the Negev Desert of Israel wherein the mines are filled in and the earthworks shaped and arranged in accordance with carefully planned landscape design. Although the proposed design differs greatly from the original altered landscape, and attempts to reflect the natural landscape around it, rather than attempt to hide the anthropogenic landscape entirely, the landscape architects instead make a landscape retaining an artificial character, but which echoes its surroundings through an organic form. The result is a careful architectural composition composed flat expanses with steep, organically-shaped edges, and which appears both natural and artificial (Shlomo Aronson Architects n.d.).

Figure 4.2

The Negev Phosphate Works, Shlomo Aronson.

4.2.2 Three quarries: models for cultural and public space in the altered landscape.

The Junyun County Quarries are set of quarries that DnA_Design and Architecture was tasked with transforming. The number and spatial composition of the quarries allowed them to be adapted to multiple public uses – Performance Spaces, Didactic Spaces and a Restaurant –. The altered landscape of the quarry creates dramatic and beautiful spaces, with elements of the romantic and sublime. These spaces produce a monumental kind of architecture that elevates the activities within. The quarries appear as grand halls, with inspiring architectural qualities. The tall and narrow spaces provide excellent shading and acoustics, such that one of the quarries was converted into a performance space. In another quarry, the stepping internal topography was transformed into a multilevel library-esque space, where levels act as open-air rooms. The textures of carved stone are also exploited as an architectural feature (Koegel 2022).

Figure 4.3

Jinyun County Quarries, DnA_Design and Architecture.

The Quarry Gardens of Nanning, by Atelier DYJG[16] make use of an extensive landscape of abandoned quarries as a frame for public gardens and exhibition spaces. The carved hillsides and flooded depressions create intimate and picturesque spaces, enhanced by walkways designed in concert with the landscape. The result is a landscape in line with Chinese Garden design

[16] The Gardens were built for the 2018 China International Garden Expo.

traditions. The red-colored stone provides a material and color palette for the built areas of the gardens, used directly for retaining walls and reflected in weathered steel structures. Remnants of machinery are left in place as sculptural features anchoring the gardens (Shuangyu 2021).

Figure 4.4

Quarry Gardens of Nanning, Atelier DYJG.

At an ancient Roman quarry in Austria, AllesWirdGut Architektur intervened with a complex of open-air amphitheaters. The tubs and slopes of the quarry provide a convenient spatial frame for the amphitheaters[17]. The carved stone walls provide a visually interesting backdrop for the stages and allowed the architects to lay out different programmatic elements out of sight from each other, producing an engaging labyrinthine composition. As a sunken space, the quarry provides visual and auditory isolation from the surrounding areas. The pathways leading down the quarry are an experience in and of themselves. The project provides the experience of an outdoor performance within an entirely unique environment (AllesWirdGut Architektur n.d.).

Figure 4.5

Intervention in the Roman Quarry at St. Magarethen, AllesWirdGut Architecktur.

[17] Dalhalla, a similar, though less architecturally sophisticated project is found in a former limestone quarry in Sweden. The Braga Municipal Stadium by Eduardo Souto de Moura is another example of a venue built into a quarry.

4.2.3 The Wieliczka Salt Mine: a historic model of adaptive reuse of the altered landscape

Although underground spaces are often reused for unexpected purposes, the Wieliczka Salt Mine is notable in that many of the interventions have taken advantage of the unique qualities of the mine. The salt walls are often left as-is, creating a unique and engaging ambience. In the case of the churches and chapels within the mines, the sublime and naturalistic character of the space enhances the spiritual experience[18]. A healing center in the mine also takes advantage of the supposed healing properties of the salt walls. Reliefs carved into the walls throughout the mine add decorative flourishes (Stouhi 2021).

Figure 4.6

Intervention in the Roman Quarry at St. Magarethen, AllesWirdGut Architecktur.

[18] For a similar church-in-a-mine condition, one may refer to the Zipaquirá Salt Cathedral in Colombia.

4.0 Conclusion

These projects demonstrate the potential of the altered landscape, both as architecture itself, and as a frame and host to other architectures. As shown through these projects, the altered landscape can open up many new avenues of architectural exploration for architects. By embracing the altered landscape, the profession may find itself not only once again expanding the scope of their creativity and cultural presence, but also transforming the harm done to the Earth into possibility and prosperity. With the emergence of the altered landscape in practice and study, landscapes once considered lost, an irreconcilable harm to the natural environment, may now instead be seen as spaces of possibility and inspiration, worthy of being rescued and given a new life.

4.0 Figures

Figure 2.1	(Steinmetz and Revkin 2020)
Figure 2.2	(Doris Antony 2008)
Figure 2.3	Made by Paper Author
Figure 3.1	(Steinmetz and Revkin 2020)
Figure 3.2	(Ibáñez Fernández 2005)
Figure 3.3	(Steinmetz and Revkin 2020)
Figure 3.4	(Koegel 2022)
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Figure 4.6	(Stouhi 2021)

7.0 Bibliography

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