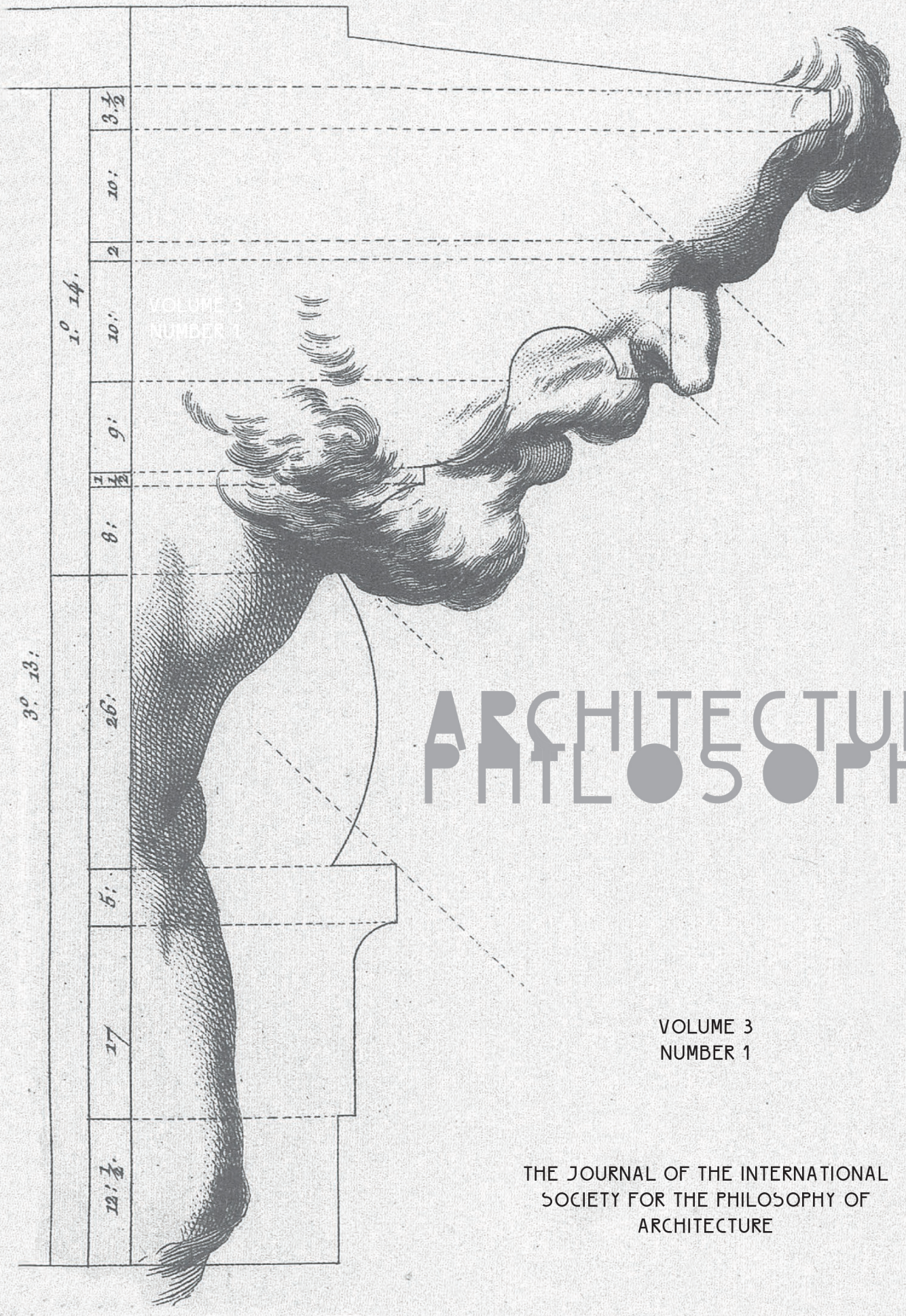

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ARCHITECTURE PHILOSOPHY

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THE JOURNAL OF THE INTERNATIONAL SOCIETY FOR THE PHILOSOPHY OF ARCHITECTURE

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THE HUMAN IN ARCHITECTURE AND PHILOSOPHY: STEPS TOWARDS AN "ARCHITECTURAL ANTHROPOLOGY"

MARTIN DÜCHS & CHRISTIAN ILLIES

We build for humans—for the most part. Temples, zoological gardens, and multi-story car-parks seem to be exceptions. They are built for gods, animals, or cars. But then, even they are indirectly for humans. They are meant to be used by humans who worship there, gaze at giraffes, or park their cars. So in the end, architecture will always have to consider human beings as its recipient, observer, and user. Architects simply cannot avoid thinking about the human being. After all, it makes a big difference, what characteristics and needs, necessary life circumstances and life forms, what expectations of privacy or ideal social life, and even what emotions, hopes, fears, and visions we take as central for human beings. Our understanding of human beings will be the focus for entirely different architectural forms and ways of building. But to reflect upon ourselves and who we are is, essentially, a philosophical question. According to Kant, "What is man?" is even the central question of philosophy. Therefore, to think about the human being is an ineliminable concern for architecture and philosophy of architecture alike. But it is also a concern which has not been addressed very often in the last decades. That is why it has been the topic of the 3rd International Conference of the International Society for the Philosophy of Architecture. From July 19th to 23rd 2016 we invited some 100 scholars from all over the world to Bamberg University, Germany, to think about and discuss "The Human in Architecture and Philosophy."

> "IN THE END, ARCHITECTURE WILL ALWAYS HAVE TO CONSIDER HUMAN BEINGS"

Architecture has raised the question about the concept and the place of the human being in its

efforts in many ways. Contemporary architecture is very often based upon the explicit claim to have put the human being at the centre of designing and building. And this is by no means new as architectural history and theory show. To take just a few examples: Le Corbusier and the CIAM wrote within their Athens Charter that, "architecture must once again be placed in the service of man,"[1] and even the sharpest critics of CIAM-inspired modern architecture seemed to search for the human being in architecture. The Austrian artist Friedensreich Hundertwasser, for example, wrote a manifesto "Give the houses back to the human beings."[2] Many houses or even the works of some architects are marked as especially "humane." Alvar Aalto is praised for being on his way "toward a human modernism."[3] The British-Swedish architect Ralph Erskine is widely recognized as someone who designed humane buildings and is even called "the humane architect."[4] But although a lot of people would agree with this judgement, we can hardly tell exactly why his or Aalto's architecture are regarded as more humane than other members of Team X--such as Peter and Alison Smithson. They too tried to make a more humane architecture but somehow are widely perceived as having come up short.[5] Last but not least, one could point to the fierce discussions concerning the rightful interpretations of Rudolph Wittkower's *Architectural Principles in the Age of Humanism*.[6] The claim that architecture is made for human beings seems simultaneously obvious and in need of justification.

What is the relevance and what is the content of architects' claims about building for human beings? For whom do and did we build if not for human beings? In the service of which concept or idea of human beings should architecture be placed (e.g., for sober rational beings, for creatures with emotional needs, for more atomistic or social beings)? And rather generally: What does it mean to build for humans? Is judging a work of architecture to be humane expressing anything more than a personal preference? There are so many questions and no easy answers.

It might seem surprising that all these questions have no obvious philosophical answer because it has long been central to philosophy to answer exactly Kant's question "What is man?"[7] Many subsequent philosophers have tried to take up the challenge and to give answers. In the mid-twentieth century, even a veritable branch of philosophy called "Philosophical Anthropology" emerged in Germany that has been entirely dedicated to the study of the Kantian question. Philosophers such as Max Scheler, Arnold Gehlen, and Helmut Plessner (partly also Ernst Cassirer and Hans Jonas) wrote their most important works about us humans and our characteristics. They tried to combine the results not only of modern evolutionary biology, ethology, and sociology but also

of history, cultural anthropology, psychology, and ethnology with the classical conceptions of humans as free and rational beings.[8]

But the heyday of philosophical anthropology seems to have gone. The latter half of the twentieth century was dominated by philosophical thought that dismissed such attempts at elucidating the essence of mankind as hopeless. Such thinking denies the existence of a fixed human identity that we can grasp, understand, or even talk about. There is no human essence; only history. Instead, we should look at what sociology, cultural anthropology, or evolutionary biology could tell us about the human condition.[9]

This thinking takes several forms. Some anti-mentalists suspect an outdated essentialism or idealism that is based upon an entirely wrong metaphysics. Radical naturalists agree, though with other arguments—for them there is no independent entity, like humans, and natural science has the last word (as Quine claimed at some point). Others take a dualistic stance according to which the realm of nature and of our cultural (socio-political) sphere have nothing in common and are to be looked at separately. For them, the only interesting questions about humans are attempts to locate them in (and explain them from) political or sociological conditions. All philosophical anthropology has to become sociology, as Habermas famously claimed.[10]

> “IT HAS LONG BEEN CENTRAL TO PHILOSOPHY TO ANSWER EXACTLY THIS QUESTION: WHAT IS MAN?”

Others, like Wittgenstein, look for linguistic questions or forms of life as the basis for philosophical refection on humans. And some, following Heidegger, would even argue that it is dangerous to ask about “the” human being because he or she is essentially open and un-definable. Everyone is simply what he or she makes out of himself or herself. Any attempt to encapsulate the human being (or human nature) would only serve to limit him or her and to miss what we really are.[11] The radical openness of humans as self-constructing beings does not allow for any characterisation of human beings as such, they claim.[12] These are

just some philosophical positions of the twentieth century—but they all agree that we cannot ask what we are and expect meaningful answers.

The absence of anthropology from most contemporary philosophy creates a rather tricky situation. On the one side, contemporary philosophy tells us that all attempts to define what is characteristically human will fall short. But on the other side, we deal with humans every day and should know what that means (and actually do have some idea of it). Furthermore, architects have to create buildings for beings of some description—a task which comes to seem altogether paradoxical if humans are, for us, a kind of black hole or invisible phantom that no one can possibly catch. Building for a phantom is an otherworldly challenge.

Philosophy, it seems, cannot get off the hook of the Kantian question. It is, after all, the paradigm human practice of reflecting on fundamental questions and challenges and thus of giving orientation to people. Who else should do it? Simply to run away ("Catch me if you can!") and to argue that humans are no possible object of reflection cannot suffice. The pertinence of the challenge demands better, even if we never get a final answer to the big question. That is probably also why some philosophers like Noam Chomsky in very recent years dare to ask again: "*What kind of creatures are we?*"[13]

That is why the 3rd International Conference of the International Society for the Philosophy of Architecture (see the call for papers at http://isparchitecture.com/events/3rd-international-conference/) has turned to human beings in architecture. It is, as we might say, an approach to the big question by the side entrance. Our philosophical focus is not human beings as such, or human nature, but humans at home: Human beings as those for whom we design and build houses which they use and where they stay. At the conference, this side entrance has turned out to be a rather successful door. Even if the conference did not answer the big question—unsurprisingly—the papers and discussions showed us a wide range of fascinating facets of the human being in Architecture and Philosophy. On the one side, it helps us to formulate more clearly what architecture is meant to do. On the other side, it contributes to an important aspect of philosophical anthropology, namely that humans are beings that build houses. We need some kind of shelter, but houses are almost always more than a merely functional hut. They are deep expressions of our being and of our aspirations, what we belong to and how we conceive individual life and the life of a community. Although it has always been generally acknowledged that human beings built dwelling places, more careful analysis of this need is revealing a lot about us.

Issues 3.1. and 3.2 of *Architecture Philosophy* contain a selection of papers developed out of the conference that did most to reveal its many facets.

FIGURE 1: BAMBERG UNIVERSITY

We have selected them on the basis of their originality and quality, but we have also aimed at illustrating the variety of methodological approaches. "Architectural anthropology," as we might call it, is a field very much in the making and it seems too inappropriate to determine one kind of approach as the only possible one. That is also the reason why we are grateful to be able to include a dialogue at the outset between Karsten Harries and Sir Roger Scruton about this fundamental question; namely on how to conceive of a philosophy of architecture and architectural anthropology. The two founding fathers, or at least great inspirers of two different schools of architectural philosophy (a more analytical orientation from Scruton and a more phenomenological tradition from Harries) rightly deserve to have the first word in this debate. True to form, we find that Scruton approaches architecture as a demand on its justification, while Harries begins with questions of home and of place. Yet, should we be surprised to find that, starting from oblique angles to one another they find much convergence?

This dialogue leads naturally to a paper that takes its starting point from another encounter of two great philosophers. Pau Pedragosa scrutinizes the discussion between Ernst Cassirer and Martin Heidegger about philosophy and the human being that took place in Davos (Switzerland) in 1929.

His paper's title, "Presence or Meaning in Architecture," encapsulates the fundamental oppositions in that debate that can be drawn from Heidegger's and Cassirer's ideas about the human being. Drawing on the two philosophical giants' different philosophical anthropologies, Pedragosa argues for cultivating two different ways of understanding culture and, hence, architecture. Cassirer's and Heidegger's antithetical conceptions of the human being can be described as the human activity for world-construction against the human receptivity for world-interpretation. Finding merit in both conceptions, Pedragosa follows Cassirer to propose an understanding of architecture as a symbolic form that constructs new meanings; that buildings are the bearers of meaning. But he also finds much to recommend in Heidegger's approach; that architecture is less concerned with construction and more with the origin and the questioning of building; that the building is an irreducible presence of itself that opens up the environment. Pedragosa argues that, while at the time of the debate it was widely perceived that Heidegger had won, in the hard-won wisdom of the ensuing century, a more balanced appraisal is warranted. The exchange between two established philosophers and Pedragosa's paper examining established philosophic controversy surrounding the human in architecture are followed by selections that seek to expand the possible approaches to our topic.

How important to our sense of home is the simple expectation that our architecture outlive us? Mari Hvattum's paper "On Durability" looks at how time is inscribed in human artefacts. Starting with the sensible observation that architecture, in most cases, lasts longer than the people building it she makes a case for considering that in an age when the extremes of the ephemeral and the eternal are cultivated in equal measure, there may be reason to look again at the particular kind of durability pertaining to the human-made. This involves studying, not so much works, as work: how human making, as both Gottfried Semper and Hannah Arendt have reminded us, transforms ephemeral acts into (relatively) durable worlds, and how the past, whether we know it or not, inhabits the present. She does this by drawing on the specific example of the destruction and reconstruction of the famous bridge of Mostar, Bosnia; employing it as something of a case study for discussing how architecture provides essential touchstones for temporal beings.

Even though humans may not have a static nature, our relation to nature itself—that is to say, the world that goes on without us—is too important a topic to go unaddressed. Henry Dicks, in his paper "From Anthropomimetic to Biomimetic Cities: The Place of Humans in

Cities like Forests," observes that even though in recent years biomimicry has emerged as a powerful response to the problem of sustainability and today exerts an important influence on both architecture and urbanism, its implications for the humanities have been largely overlooked. Taking a historical approach, the first key argument of this article is that throughout Western history the dominant model for the polis, qua both city and state, has been the human being and that it was also this basic model that underlay traditional understandings of the place of humans in cities and states. With the transition to biomimetic cities and states, the key model of which is the forest ecosystem, the question of the place of humans arises once again. In response to this question, Dicks proposes a speculative philosophical anthropology based on a combination of Heidegger's thinking of the clearing and recent insights from the study of human evolution and pre-history with a view to grounding a new model of the polis not simply on the forest, but rather on the forest and the clearing. His invocation of the Heideggerian forest and clearing in this regard is likely to spark future debate.

We then conclude the first volume with Marion Roussel's "Towards a Post-Human Era? Digital Architects and the Future of Mankind," which looks at possible futures. Roussel believes that in this age of unprecedented technological progress, we can no longer ask "what is man?" without examining what we think man will become. In the field of architecture such an examination necessitates considering both what and for whom we will be building in the decades to come. Looking at the future world visions from the commentary of digital architects from the 1990s to the present day, this paper aims to show how these architects have already been imagining the future of mankind. It attempts to shed light upon our present state of evolution and the expected outcome of that evolution.

Taken together, we believe these papers illustrate that addressing the question of what we mean now by the human in architecture can and must run the full gamut of humans' time on the planet; from the prehistory of the clearing in the forest to the strange possible futures made possible by modern technology. It is a question as relevant ever.

ENDNOTES

[1] Le Corbusier, *The Athens Charter* (1943), §87. Based on studies undertaken at the Congrès Internationaux d'Architecture Moderne (CIAM) in Athens, 1933. Accessed on Moderist Architecture, https://modernistarchitecture.wordpress.com/2010/11/03/ciam%E2%80%99s-%E2%80%9Cthe-athens-charter%E2%80%9D-1933/.

[2] Our translation. For the original, see Friedensreich Hundertwasser, *Gebt den Menschen die Häuser zurück* (München: Pattloch, 2003).

[3] Alvar Aalto, *Toward a Human Modernism*, ed. Winfried Nerdinger (New York: Prestel, 1999).

[4] Mats Egelius, "Ralph Erskine: the humane architect," *Architectural Design Profile* vol. 9 (London: Architectural Design, 1977).

[5] *Team 10 Meetings: 1953-1984*, ed. Alison Margaret Smithson (New York: Rizzoli, 1991) and Alison Margaret Smithson and Peter Smithson, *The Charged Void: Architecture* (New York: Monacelli Press, 2001).

[6] Rudolf Wittkower, *Architectural Principles in the Age of Humanism* (New York: Norton, 1971); Geoffrey Scott, *The Architecture of Humanism. A Study in the History of Taste* (London: Architectural Press, 1980); and Alina Alexandra Payne, "Rudolf Wittkower and Architectural Principles in the Age of Modernism," *Journal of the Society of Architectural Historians* 53, no. 3 (1994): 322–342, doi: 10.2307/990940.

[7] Immanuel Kant, "Logik," *Akademieausgabe Band IX* (Berlin: 1900ff.), AA IX S.25.

[8] For an extensive view on the tradition of Philosophische Anthropologie see Joachim Fischer, *Philosophische Anthropologie: Eine Denkrichtung des 20. Jahrhunderts* (Freiburg im Breisgau: Alber, 2009). Some of the most important books include Max Scheler, *Die Stellung des Menschen im Kosmos* (Bonn: Bouvier, 1991); Arnold Gehlen, *Der Mensch. Seine Natur und seine Stellung in der Welt* (Bonn: Athenäum, 1962); Helmuth Plessner, *Die Stufen des Organischen und der Mensch. Einleitung in die philosophische Anthropologie* (Berlin: de Gruyter, 1965); and Ernst Cassirer, *An Essay on Man: An Introduction to a Philosophy of Human Culture* (New Haven: Yale University Press, 1992).

[9] Michael Tomasello, *A Natural History of Human Thinking* (Cambridge: Harvard University Press, 2014).

[10] Cf. Jürgen Habermas, "Anthropologie, philosophische," in *Das Fischer Lexikon: Philosophie,* ed. Alwin Diemer and Ivo Frenzel (Frankfurt am Main: Fischer, 1958), 18–35.

[11] Martin Heidegger, *Über den Humanismus* (Frankfurt am Main: Klostermann, 2000).

[12] Ibid.

[13] Noam Chomsky, *What Kind of Creatures Are We?* (New York: Columbia University Press, 2015).

BUILDING THINKING ASKING: WHAT IS THE RIGHT WAY TO DO PHILOSOPHY OF ARCHITECTURE?

A PANEL DISCUSSION BETWEEN KARSTEN HARRIES AND SIR ROGER SCRUTON MODERATED BY CHRISTIAN ILLIES

MARTIN DÜCHS (L.) INTRODUCED AND CHRISTIAN ILLIES (R.) MODERATED THE PANEL DISCUSSION BETWEEN KARSTEN HARRIES (CL.) AND ROGER SCRUTON (CR.)

KARSTEN HARRIES: When I was asked to participate in this session, I was told our conversation had to do with "Building Thinking Asking: what is the right way to do Philosophy of Architecture?" What does the title mean to the philosophy of architecture? The question of course presupposes that there is the right way—I am not at all sure that there is.

Philosophers have concerned themselves with all sorts of things. They can write about sports, about the philosophy of cooking, just about anything is suitable fodder for philosophers of different types. Now philosophers have concerned themselves especially with the different arts. This is what aesthetics stands for. And it has long

been recognized that architecture is one of the arts. But it had also been recognized that architecture is the art that poorly fits with the other arts in many ways because it is so dependent on the demands that the world puts on architects. So it is essentially an impure art. At least if you measure purity by a concern for beauty. So it is the one art that, perhaps more than any other, has to be sent into the world. That is to say, architecture has to recognize not only the physical neediness of man that's obvious, but the spiritual neediness of man. That is more definitive.

So given an understanding of beauty as ideally a self-sufficient presence, the sort of understanding that we can trace back, for instance, to Baumgarten, architecture's descent into the world must be considered as something like an unfortunate concession. The architect has to almost contaminate his concern for beauty, so understood. I think architecture invites us to question this understanding of beauty, not just for architecture, but to question in general the understanding of the work of art as an ideally self-sufficient aesthetic object. Architecture's descent into the world raises this question: must the understanding of beauty not be questioned that has played such a powerful role in the evolution of aesthetics; must it not be challenged? Should beauty have a different function? In this connection I have argued that beauty should be understood as re-presenting the beautiful object—here I appeal to Ernesto Grassi for support—that the beautiful object forces us to look again. The object re-presents itself. It refuses to go away. And I think that when we go to Vierzehnheiligen and Banz Abbey we will have a chance to experience that effect of beauty on these buildings. Their beauty forces us to look again. They won't leave us alone. So I want to say that the philosophy of architecture more than any other philosophy of art invites us to rethink the nature of beauty in general, also the essence of aesthetics.

I also want to raise some questions about the relationship of architecture and philosophy. For a long time architecture and philosophy have gotten along quite well without worrying too much about each other. And many architects today still do not worry about philosophy at all. Does that say something important? To be sure, there is something like a 'philosophy envy' among a certain small group of architects, or a theory envy, so that this group is open to philosophy in a way that invites questions. That deserves discussion. But that's a little bit different from my first point, so I think we probably should stop there.

CHRISTIAN ILLIES: Thank you Karsten. I think, after having raised the issue of beauty, we cannot possibly stop Roger from commenting on that.

ROGER SCRUTON: Everything that Karsten said was really interesting, I

don't think I disagree with him in any way. But perhaps I should say a little bit about how I came about my interest in this topic, because it is unusual for an analytical philosopher to address aesthetics. Karsten is much more used to the phenomenological and art historical way of approaching things, where the meaning of architectural objects is clearly part of how we experience them. Analytic philosophy, which was my training at Cambridge, or at least when I was growing up, largely ignored questions of aesthetics. And certainly the idea that you should be interested in the objects around you was disapproved of. But I've always been interested in the objects around me. When I was sixteen and first became aware of the world, it was architecture that principally impacted upon me. I was living in a little town, Marlow, on the River Thames near High Wycombe—in a scruffy little working class house for the working poor. And around me was the beautiful old English gingerbread town of Marlow. However, the developers were at work pulling it all down and putting up their glass and steel facades and concrete girders. That awoke me to the idea that the world is perhaps not as permanent as I had hoped, and that all kinds of evil forces were at work pulling it apart. That thought was deep in me throughout my career as an undergraduate. And when I started doing research in philosophy I decided, yes, I will do aesthetics because maybe that would will help me to understand what I felt when I had seen the uglification, as Kundera calls it, of the world in which I was living. Eventually that led to my book on architecture.

> "TO BE SURE, THERE IS SOMETHING LIKE A 'PHILOSOPHY ENVY' AMONG A CERTAIN SMALL GROUP OF ARCHITECTS"

But I was hampered by my training, I have to say. Karsten was lucky, he wasn't hampered by having a training in analytic philosophy. He looked

at the 'things themselves' as Heidegger would say, or Husserl at least, and extracted from them his philosophical ideas. I had to come down from the scaffolding that analytic philosophy erects above everything and bring my logical distinctions to earth. I had to apply them to what I read about what architects say and what architectural critics say. But I was rescued by one particular architectural critic and that is Ruskin. I am sure you've all come across him—a slightly crazy but incredibly cultivated Victorian writer for whom architecture really was an expression of the moral life. He had problems with women. But in architecture he saw the fruit of what we are as human beings. He tried to express it in *The Seven Lamps of Architecture* and in the wonderful book *The Stones of Venice*. Those are books that everyone should read. I had the sense that this is what philosophy should be like. How could I bring my analytical training to bear on the kinds of questions Ruskin was raising: questions about the spiritual, historical meaning, the social significance of buildings, and the way in which for him the holy spirit enhances what we build? For Ruskin, buildings were not made of stone; they were made of some spiritual substance which happened to have borrowed stone temporarily in order to manifest itself to us. That's a Hegelian thought, of course. I am sorry to hear that Hegel fled from Bamberg. But his writings on architecture show that he wasn't that sensitive to this particular art-form. In the end I came around to see that Heidegger's wonderful essay on "Building Dwelling Thinking" contains deep truths that we analytic philosophers have to rediscover. It is very hard though, and we have a discipline that we have to fight against to rediscover those truths. So, I've been wrestling downwards from that great analytical skeleton to the place where Karsten has been "wallowing" successfully for some years.

HARRIES: For me, my interest in architecture is way older than my interest in philosophy, and it has continued to be a very intense interest. It began very early. It began—I recall the exact moment—it began when I was 7 years old—we had left burning Berlin and found a home in Bad Königshofen. There's a church outside Bad Königshofen, the pilgrimage church Mariä Geburt in Ipthausen, and that church overwhelmed me. We were not religious. It was not a religious experience, and it wasn't an aesthetic experience. It seemed as if I had stepped into another world. As if something touched me that I had not experienced. Nowhere in Berlin had there been anything like that.

Later, when I went to Munich to the Max-Gymnasium and saw churches like the abbey church of Kloster Andechs, these churches repeated the experience to some extent. That intense experience of 18th

century churches in southern Germany antedates my interest in philosophy. I could imagine myself working today in art history—indeed in any number of history studies. My interest in philosophy emerged partly because I was also very interested in mathematics. I tended towards philosophy because I thought it less confining. After I had come to America with my parents, had studied at Yale, and begun to teach there, my colleagues in philosophy were more interested in painting as the purer art, but the architects felt the need for something like a philosophical core in our Architecture School's undergraduate program. So I was approached by the Director of Undergraduate Studies Kent Bloomer—I had just published *The Meaning of Modern Art* and grown a little tired of teaching this material. I was asked whether I would teach a beginning course in the philosophy of architecture in the architecture school. So that's how it all began. *The Ethical Function of Architecture* was, basically, the result of my course notes. It was written very much in connection with the development of that course. But it was not identical with it. Since the book was reasonably successful, it led to requests for lectures and essays that kept me going. In recent years I've done a lot of other things, but have always drifted back to this topic.

"IT WASN'T FROM GREAT WORKS OF ART THAT I LEARNED TO CARE ABOUT BUILDING, BUT FROM ORDINARY NATURAL STREETS"

SCRUTON: That's very interesting because, I suppose, I was awakened to the problems of architecture by my experience of seeing the town demolished. It wasn't from great works of art that I learned to care about building, but from ordinary natural streets. But they nevertheless were home, and there was something 'unheimlich' about their destruction. That really awoke me to the ethical significance of architecture. Obviously Ruskin was writing about great works of architecture, just as you write. I spent some time in Rome after leaving

university, and was overwhelmed by the fabric of the city, and especially the Roman baroque and Borromini as its greatest exponent. But I came back with the thought that if you can't defend the ordinary, vernacular, uninteresting architecture which we all appreciate without noticing it, then you haven't done architecture justice. The Americans see beautiful buildings from the past as landmarks and say to themselves, "This has got to be preserved." So you'll see a rather beautiful courthouse surrounded by horrible towers of mirror glass which completely destroy its character, and I want to say: "That wasn't the point." This courthouse only made sense because of all the things that surrounded it. If we can only treat architecture as a collection of great works of art then we have missed what really matters.

HARRIES: On that we completely agree. I do want to invite us to think a little bit more about how works of architecture relate to the vernacular. For instance, my wife and I explored the area around Bamberg a bit and we noticed how the churches related to the red roofs of the houses around them. What moved us was the way architecture related to the vernacular—the way the roof of some church related to these other red roofs. There's this important dialogue going on between the vernacular and works of architecture. But sometimes the latter get in the way of more modest buildings. These get blocked by these works of architecture, by works which refuse, really, to engage with the vernacular. There is a problem when you get a building that just sits in the city, doesn't move, and doesn't engage its surroundings in an important way. It just sits there and wants to be appreciated as a self-sufficient aesthetic object. What we are talking about, what I want to talk about, is that architecture should answer to, should speak to the vernacular. Buildings should recognize they are not just sitting alone.

They should also respond to the weather. This can be seen with the strongest architecture in Central Europe—consider, e.g., Fischer von Erlach's Italianate villas. It is interesting to look at the way his southern work was appropriated by Viennese architects. They realized that the weather made it impossible to create Italian forms in the north. The weather just wouldn't allow certain domes or made their upkeep very expensive. The ice would tear them apart. For the same reason, the fabric of the French Cathedrals is not very suitable to the kind of climate we have here. The baroque architecture in Southern Germany and especially the Austrian baroque is a beautiful answer to those who tried to build Italian architecture and failed to consider how the weather would tear it apart. And the result is the typical or what we think of as the typical

South German and Austrian baroque. The weather comes into the picture, and that is to say, also, the vernacular. This means that the architect should be sensitive to the climate, consider the way the vernacular relates to the climate. The weather helps give works of architecture their special voice.

ILLIES: You've both approached architecture from a very personal experience. But what role does philosophy play in this experience? Part of what you say could have been said without philosophy. Is was simply about how educated people should approach architecture. That seems to raise no specific question for philosophy, rather, more generally, the problem of aesthetic education. Or is there a specific role for philosophy in it? And what would that exactly be?

"YOU'VE BOTH APPROACHED ARCHITECTURE FROM A VERY PERSONAL EXPERIENCE. BUT WHAT ROLE DOES PHILOSOPHY PLAY IN THIS EXPERIENCE?"

HARRIES: We can see the issue with our architecture students. There is the idea of the work as something that we ought to discuss in isolation, as a beautiful object. They want to create a beautiful object by bounding space in certain ways. That seems to be the task for many of these students. And there is a presupposition here, namely the aesthetic understanding of the successful work of art as ideally a self-sufficient object. It is here upheld, even if there are concessions to functions and so on. But I would challenge this. Here I think a philosopher's task is a little bit like yeast. He should raise questions that make architects more mindful. Some of these questions involve philosophical assumptions. This is a self-critical function of philosophy.

SCRUTON: I was going to say that there is an aspect of philosophy which is neglected by architects and which should not be neglected because architecture is an application of practical reason,

about which philosophy has something to say. Consider the questions: "why do this?" "why add that detail?" "why go on in this way?" Philosophers have had a lot to say about those questions. For example, they have distinguished reasons about means from reasons about ends. Architecture was invaded by the functionalist heresy at a certain stage, which made all practical reasons into reasons about means. Functionalism was part of the utilitarian disease, which had a long gestation period in the nineteenth century. Ruskin was battling against that disease. Of course there are important means to our ends, but there are also the ends themselves. We have to understand them. We have to reason about them. When you lay a table, for example, or when you put your clothes on in the morning, you are not reasoning about means, you are reasoning about ends. You are saying: "How should this be, in itself?" "How should it be and therefore how should it look?" And you are always, as Kant says, looking for agreement in judgment. You try to imagine the others into the arena with you. Of course Karsten is right, weather is always important. Function is always important. But function is not the end of the architect.

HARRIES: This relates to something we said before. We spoke of the vernacular and how it makes you feel at home. And you need to feel metaphysically at home. And when you spoke of laying out a table for a nice meal, somehow this makes us also feel more at home in that room. That's an accomplishment. And it is an accomplishment if we build and from the very beginning keep in mind that function; if we build not just to provide shelter, but bound space in such a way that we feel somehow more at home.

SCRUTON: Yes.

HARRIES: It is crucial to bound space in such a way that we feel somehow more at home, not that we necessarily will feel more spiritually at home. But that remains an important function of architecture.

ILLIES: You criticized the idea of the self-sufficient aesthetic object, which removes architecture from exactly that function. But is that not also a problem of all aesthetic decisions? When I say, "The window has to be exactly there, because there it is right. It cannot be an inch further to the left. This is its place," am I already moving too much towards the self-sufficiency of the object and away from the homeliness? It must be like this because it has exactly the right light, or something like that. Is there some sort of tension between these two forms of thinking?

SCRUTON: Yes. Now you see, when you are doing philosophy, or philosophy about architecture, you are asking the question: "How do you

reason about the intrinsic rightness of something? What are the constraints? Is it just that you are trying to create a home, or is it about something else?" To me, that is what aesthetics is about. And I think analytical philosophy is probably in need of correction here. However, I may be the only one who thinks that. [Laughs] The question you raised puzzles me. Interestingly enough, Wittgenstein in his few remarks about aesthetics, fixes on that very example. He thinks of a door. What guides me in designing and making a door? And he says, you don't ask whether it is beautiful or not. You ask: "is it right? does it look right to you?" "does it fit in?" The functionalists think they can settle such questions by procedures and that's what's wrong with them. When there is no procedure for answering a question, there may be a real question nevertheless.

FIGURE 1: VIERZEHNHEILIGEN, BANZ, GERMANY

HARRIES: Here we must recognize how conditioned the question of what is right or wrong is by historic circumstances.Take the example of Vierzehnheiligen. Balthasar Neumann had planned a cruciform basilica with the altar to the Fourteen Saints to be placed in the crossing, as one might

expect. But the architect in charge of executing Neumann's plans, Gottfried Heinrich Krohne, whose own earlier design had been rejected, missed the sacred place by quite a few yards by moving the church to the east, which caused the sacred spot to fall into the nave. Apparently, this Protestant architect did not take it to be all that important: what did a few feet matter. But they did matter. What was to be done? The executed plan hints at the ingenious solution at which Neumann arrived. He made things right. Here you have an understanding of what is right that is very different from the sense of right that would be part of a society that doesn't bring the religious into the story. Neumann could not say, "Oh it doesn't matter, a few yards to the east or the west"—because here the architecture had to respond to precisely this very specific sacred place.

We no longer reckon with place in that way. Take the example of a house. The place has significance for any number of reasons. And then you ask, "What's right?" There is no simple answer. It depends on the context in which the question gets raised and then different answers will be given in a different context.

SCRUTON: What animated me when I wrote *The Aesthetics of Architecture* was in part the sense that people give phony answers to the question, "What is right?" They invent something like Corbusier's Modulor, in order to justify the nonsensical things that they do. I think we should recognize that people take refuge in systems, when it is precisely the systems that are wrong. Alberti wrote beautifully about this when he said that what matters in architecture is the appropriate. He hardly ever uses the word "beautiful" or any equivalent of it. But the appropriate object in the appropriate place matters and that should guide architecture. For that it is very hard to find rules. Maybe you are saying that the rules have to be constructed post facto. We generalize from what has been successful. That's what the rococo style in this room exhibits. No architect, I hope, had anything to do with this—a local builder did it.

HARRIES: It's not rococo.

SCRUTON: Late baroque, then.

ILLIES: The problem I have with "feeling at home" is that some people feel at home in buildings I think they shouldn't feel at home in. Especially in the standard architecture of today—with its appalling inappropriateness.

HARRIES: Since you mentioned it, I think this is a good place to pursue this question, a question that Heidegger has discussed in "Building Dwelling Thinking". First of all, he gives us a very broad definition of

'building.' And he points out that philosophy and architecture, both in a sense, have built—one in a conceptual space, the other one in a real space. From the very beginning people have tried to orient themselves in space by bounding it in various ways to make themselves feel at home. And they have not just done that by building in the literal sense by raising structures, but they have also done so conceptually, mainly through language, by slowly controlling their environment. They are both ways of grappling with the task of making this world into a home. This need has been a fact from the very beginning and it remains a need architecture must meet to prove itself.

SCRUTON: I think that the word '*wohnen*,' which is in the title of Heidegger's essay, could also be translated as "settlement." I think that's really what he had in mind, and that's something that all human beings need. We are, naturally, settled beings. We can be launched into nomadic existence in desperate situations. But our natural condition, and that is especially true of European civilization, is settling in one place. And maybe the story of Romulus and Remus, of how the settler took advantage over the wanderer, tells us something. Settling means having boundaries, and recognizing within those boundaries that we are sharing things. We don't share everything. We don't share our wives and children and the rest of our domestic assets. Nevertheless of the things we do share the most important is often the temple—which is the mark of our settlement. That is why with Heidegger we can say that it's important to get the sacred place to be in the right place.

"WE ARE, NATURALLY, SETTLED BEINGS"

HARRIES: I am surprised to hear you quoting Heidegger!

SCRUTON: I am an educated man! [Laughs]

HARRIES: Today it seems to me that we face, thinking of architecture, two challenges: One is the increasing scarcity of space. I think that architects are still profligate in their use of space because they don't realize that space is becoming a scarce resource. I think that this is something that architects can learn from history: to reckon with space as a scarce resource. We aren't just talking about cars and air pollution, but space itself. And the other challenge is in a way an opposite challenge. We are liberated, as never before, by the digital revolution. It opens up an entirely new space. So there is a tension here between, on the one hand, the increasing scarcity of space and, on the other hand, that opening up of space which promises a new freedom. There is the call of freedom that speaks on the one side. And there is the opposite call to be settled in one place. I think the successful architecture of today should not try to find a solution in the middle, but has to recognize that that tension is part of a successful life. That we cannot have it one way or the other, that that thought shortchanges us. So we have to give space to freedom, and also to the need to have a home. We need both. Without that we impoverish ourselves.

SCRUTON: I think that one of the things that troubled me when I first started thinking about this is an incident that occurred in 1979, I think, when I published *The Aesthetics of Architecture*. I was reading Gideon's book *Space, Time and Architecture*. I thought here was somebody who didn't really understand physics and who is playing around with concepts beyond his grasp. He made it look as if architecture is simply about space and not about that much more important thing, which is the boundary that encloses space. Gideon gave the sense of conquering the world, of opening up and of making it our own, when in fact all the great architecture we know from the past history was putting boundaries around space, making it smaller. People had to make it smaller in the Middle Ages. Those little hilltop towns in Italy, which everybody loves, contained an awful lot of people—a thousand or two thousand people in that tiny little area. They had to be in that area because it was the only thing they could defend. But by being crowded in that space, they made their piled-up homes beautiful, and I think all were at home there. Italians now may go to America and make a fortune, coming back to build some absolutely appalling bungalow in the valley underneath. But still their heart is in that little village on the top. I think that idea that we enclose space, that we make it smaller, so as to adapt it to ourselves, is a really important part of the architectural motive.

HARRIES: Yes, I agree with what you said, but I think we shouldn't forget that other metaphor, which finds its expression in an understanding of the church in the image of Jacob's ladder, a ladder that escapes the earth and that opens it up [Gestures to the sky]. You will see in the church of Vierzehnheiligen how self-consciously the architect opens up the architecture to the infinite.

ILLIES: That sounds as if Karsten becomes a Hegelian and Roger turns into a Heideggerian. We should close the conversation before the transformations get out of hand, and open it to the audience.

AUDIENCE QUESTIONS

QUESTION: What about Heidegger's "terror of time." Where do you think it belongs? Does it belong to architecture or philosophy?

HARRIES: Where does it belong? It belongs to both. I think it is part of the human situation.

QUESTION: That means it belongs to space as well?

HARRIES: I think the two are related. As a matter of fact, the separation of time and space is itself very problematic. I talk a lot about that. How space and time are one. In other words, I am not satisfied by separating the arts of space and the arts of time. I think space enters into music, and time enters into architecture. And so the "terror" comes to both.

QUESTION: You both mentioned vernacular architecture. I want to ask, what do you think about the role of tradition and style? It imposes rules: rules which allow us to understand and still to create homely architecture.

SCRUTON: I think it's a fundamental question. When rules are a priori rules, worked out without consulting the object, and preceding the practical problem, you might justify them perhaps in functional terms. But there are also certain rules

in architecture that define tradition rather than reasoned solutions. They are not a priori maxims, but the collective wisdom over the many years—people worked them out by trial and error. Architects see (for example) that when you make a room like this you should have a molding that goes along just below the ceiling, which has got three or four parallel lines in it, so as to bring the wall to an end. That's something discovered over many centuries. And until modernism came along it was accepted. Those are the sort of things that are, I would say, legitimate rules in architecture. They are not a priori rules, they are the résumés of experience—that's what a tradition is. Why do human beings need traditions, and when is it right to depart from them and when is it wrong to follow them? These are the big questions of the twentieth century.

QUESTION: You spoke of the spiritual in architecture. Can there be such a thing as exclusively secular architecture?

SCRUTON: Jolly good question. [To Harries] Shall I just say something?

HARRIES: You start.

SCRUTON: I have in recent years been quite intrigued by that question because I am very much impressed by what the classical tradition achieved. In all its forms. In particular, in vernacular architecture. You are familiar with the vernacular Georgian house. It uses details which are mimicked in the next house. There's something similar with the German baroque cities. But the origin of the repeated details is not secular. It is holy. The details come from the Greek and Roman temples in the neoclassical case or from the baroque churches in the German case. So it looks as though the deeper ground of vernacular architecture does not come from the secular world. It comes from something holy—whether you say it was handed down by God, or just say it comes from the religious instinct. Funnily enough, if you look back at the book of *Exodus,* at the moment when God hands down the tablets of the law to Moses, he hands down at the same time the design for a temple. He says "I don't just want you to stop committing adultery and am not only speaking of the other things you've been doing. I want you to build a home for me, and here's how you do it with columns, architraves, and capitals." It's very much a metaphor, but we do think ultimately that the origin of architectural grammar has to be divine. Today we live in a secular society that doesn't believe there is a divine origin of things. So somebody could say that this leaves us in the wilderness

HARRIES: I would give a somewhat different answer with less emphasis on the classical tradition. But I would also say that it is a mistake to divorce the sacred from the beautiful. And that the vernacular buildings

that Roger speaks of, in some measure, all recognize the beautiful. In unpacking this, I don't consider myself particularly religious. I would emphasize the re-presentational function of the beautiful; that is where we should begin. When I deck out a table for a festive meal, that is what I do: I invite people, as it were, to feel good in that room at that table. I think that's what vernacular architecture does too. That's what a good, well-placed door does.

SCRUTON: A festive meal, though, traditionally, allows you to see a state of grace.

HARRIES: Yes, and I would welcome that. I think that we recognize the importance of the distinction between the sacred festal and less festal times. And the same thing goes for spaces. This is part of a successful life.

ILLIES: Would you say that a similar thing happens even in modernist architecture, where you don't start with divine points of reference? But architects still need, do they not, some normative points of reference? You look for certain qualities to replace the divine points of orientation, for example the ideal of 'equality.' They can give a kind of orientation for an entire building. So you still have an orientation in normative ideals—functionless ideals which are then incarnated in the entire building.

HARRIES: I would like to then turn to particular examples. I would agree with you here, but what I would not overlook is the offering of the site. It's not just the materials, it's not just the setting, it's the recognition of the site and its constraints. The building then re-presents the landscape; it lets us look more happily at it. A good building is not like a scar on the land, it lets you look more happily at that land—at the same land. I think quite a few modern architects succeeded very well at that. So I would not restrict it to a certain style. I mean I happen to like the eighteenth century, but if I

were to build myself a house today, it would be modern.

SCRUTON: Well, yes, I would disagree with that bit! [General laughter]

QUESTION: If we were to look at architecture today, it is on the one hand characterized by different approaches with different priorities. On the other hand, we have to try to integrate architecture. What shall we do? Should we try to correlate the different approaches in a more substantive way, or should we remain constant on this different approach?

SCRUTON: Hegel says in the introduction to the "Elements of the Philosophy of Right," when philosophy paints its gray in gray, then has a form of life grown old—meaning that philosophy comes after life. It's a reflection upon it, and it is not the premise upon which life begins. I think this is also true about the philosophy of architecture. You don't want architects to begin from a philosophy of architecture. You want them to be architects. Philosophers meditate on what they are doing, and perhaps make sense of it. But there is always a danger in trying to start from a philosophy of something and then arriving at the thing. One of my writings consists of a book on the philosophy of wine. I've never thought that someone could start making wine by learning the philosophy of it. But of course wine is an incredibly pregnant object for a philosopher to think about, and also to drink. So the philosophy comes afterward. Of course you can come to the conclusion, through philosophy, that this architect is doing something really interesting and this one is perhaps doing something wrong or whatever, but those are not topics that architects themselves need to be very interested in.

HARRIES: I would just want to add that, yes, philosophy should come afterwards, but I think it should come afterwards with its questions. That is, it should make the architect a little bit less sure of himself. It should invite him to call into question certain assumptions. For example, the attitudes towards space of the students in our architecture schools. I think it needs to be challenged. It needs to be questioned. So I see the function of philosophy in architecture schools to be a little like yeast that makes the dough rise, as it were.

ILLIES: Thank you very much. We've had fascinating conversions between Karsten and Sir Roger and Heidegger and Hegel. But it is time to come to an end. Let us do what Roger warned us not to do; we inverse the order. We've had philosophy, and now we turn to wine.

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PRESENCE OR MEANING IN ARCHITECTURE

PAU PEDRAGOSA

1. THE DAVOS DEBATE

Ernst Cassirer and Martin Heidegger met in 1929 for a public debate in the town of Davos in the Swiss Alps.[1] Over time the debate took on a legendary character and has become a key episode in the European history of ideas. Cassirer and Heidegger defended two antithetical images of the human being, which are also two antithetical images of culture and hence of architecture.

The Davos debate was a great cultural antagonism of the Weimar Republic. On the one side Cassirer, heir of Kant and Goethe, a humanist of the Enlightenment and a cosmopolitan Jew. On the other side the anti-humanist and provincial Heidegger. Four years later, Heidegger embraced the Nazi revolution and Cassirer was forced into exile.[2] It is tempting to draw political conclusions from both philosophies (and we will draw some conclusions at the end of this paper), but to contemporaries of the 1929 debate, the confrontation was philosophical, not political.[3] Heidegger's thinking implied a radical break with and destruction of the past, but this break had not yet received the political form he gave it in 1933.[4]

In general terms the Davos debate involved the clash of two different conceptions of philosophy: between humanist philosophy and the existentialist, non-humanistic philosophy of the new era. What Heidegger criticized during the 1920s were the

humanist ideas of progress and freedom. In a direct encounter with Cassirer, the most eminent representative of neo-Kantian "rationalism," Heidegger presented himself as the author of a fundamentally new kind of philosophy destined to replace the remaining "rationalist" tendencies in Husserlian phenomenology as well.[5]

Heidegger in fact "won" the debate against Cassirer and the young students at Davos agreed with his revolt against the "rationalism" of the neo-Kantian tradition.[6] Heidegger gave voice to the generation struck by the violence of the First World War, which was seen as a huge break with tradition.[7] This perspective of a new generation led some toward fascism and others toward communism, while others, like Cassirer, stood for the democratic parliamentarian politics of the Weimer Republic.

Cassirer was not only one of the most eminent representatives of the classical liberal intellectual tradition in Germany, he was also a representative of modern political republicanism. He owed his academic career to the Weimar Republic, because he was offered a professorship at the newly founded university in Hamburg in 1919. He defended Weimar in the university on the occasion of the tenth anniversary celebration of the Republic in August 1928. Against the popular view that the Weimar Republic was "un-German,"[8] he argued that the idea of a republican constitution had its origin in the German philosophical tradition.[9]

The confrontation in Davos turned on the interpretation of Kant's philosophy. Yet the debate was more enduring and broader than the technical matters of philosophical interpretation, and touched on the central issue of what it is to be human. Their essential disagreement was that, for Cassirer, the human being is essentially a being endowed with a capacity for creation. For Heidegger, the essence of the human being is a special kind of receptivity by virtue of which the human stands within the "openness of Being." Where Cassirer puts activity, creativity and freedom, Heidegger proposes passivity and receptivity.[10] The disagreement between them defines two opposing anthropological conceptions: the human capacity for world-construction against the human receptivity for world-interpretation.

2. ERNST CASSIRER

From 1919 until his exile in 1933 (the whole period of the Weimar Republic), Cassirer held a chair in philosophy at the newly founded University of Hamburg, located in one of the most liberal towns in Germany. It was during this period that he brought out the three volumes

of *The Philosophy of Symbolic Forms: Volume One: Language*, 1923; *Volume Two: Mythical Thought,* 1925; *Volume Three: The Phenomenology of Knowledge,* 1929.

With this mature work, Cassirer distances himself from the neo-Kantian Marburg school to which he belonged. This is not to deny the continuities between Cassirer and neo-Kantianism. The essential philosophical position of the entire neo-Kantian tradition, also shared by Cassirer, is transcendental idealism, which states that we only understand of the world what we put into it through our own reason, concretized by Kant as applying concepts spontaneously to what is passively received by the senses. It requires the dualism of intuitions and concepts. Kant's Copernican turn means that nature is not something we experience passively, but something to which we ascribe concepts in order to understand it. We understand what we put in nature, rather than what nature gives us. Cassirer points this out: what is true for us is only what we ourselves have created.[11]

> "THE DAVOS DEBATE INVOLVED THE CLASH OF TWO DIFFERENT CONCEPTIONS OF PHILOSOPHY"

Both the neo-Kantian Marburg school and Cassirer reclaim science as an essential transcendental creation of human reason. But Cassirer distances himself from Kant and neo-Kantianism by relaxing the scientism of the Marburg school in favour of a more pluralistic theory of cultural expression, including a historical variation to the fixed Kantian a priori. Cassirer takes a new and original step from the *Critique of Reason* to a critique of culture.

Cassirer defines the human being by his special capacity to create, in complete freedom, worlds of meaning. These worlds become the objective culture of myth, religion, art, language, and science. He terms these objective cultural worlds "symbolic forms."[12]

For Cassirer, to be human is to be an animal symbolicum, an animal distinguished by the spontaneous capacity for symbolic expression. This

capacity has developed historically: as the human being passes from the mythic to the modern-scientific understanding of the world, it undergoes a process of enlightenment, an emancipatory awakening to its role as creator of its own symbolic reality: the history of human culture is "the process of man's progressive self-liberation."[13] Even though Cassirer understood the sequence of symbolic forms as a historical narrative from myth to science, during the 1920s and by the time of the Davos debate he defended a pluralistic approach and tended to see mythical thinking and rational thinking as co-existing forms of reflection and of approaching reality. It was only after the Third Reich that he became much more critical about mythical approaches (mainly in his last book, *The Myth of the State*.) He then argued that the mythic symbolization of reality had to be overcome by scientific reason in order to prevent philosophical and, much more dangerous, political irrationalism. As we will see at the end of this paper, Cassirer interpreted Heidegger's philosophy and Nazism as such irrationality. Both were made possible the irruption of myth in modern times.

2.1 FROM SUBSTANCE TO FUNCTION

This narrative of human beings' historical emancipation was already in place in Cassirer's previous work of 1910, *Substance and Function*,[14] in which Cassirer explains two ways of concept formation: the traditional and the modern one.

Cassirer begins by discussing the problem of concept formation and by criticizing, in particular, the "abstractionist" theory on which concepts are arrived at by ascending inductively from sensory particulars. This is the traditional manner of concept formation, the Aristotelian logic of genus and species. Any science based on this theory of concept formation can only be descriptive and classificatory, and proceeds by abstraction, forming ever-higher generic concepts (ascending from the sensory particulars to ever higher species and genera). This theory is also an expression of realism, where reality is thought to exist in itself, and the concepts "mirror" or "copy" nature as the realm of things conceived as substances. The substance is the fixed and ultimate substratum of changeable qualities. From this results a metaphysical "copy" or mimetic theory of knowledge, according to which the truth of our sensory representations consists in a relation of pictorial similarity between them and the ultimate things or substances lying behind our representations.[15]

Cassirer is concerned to replace this mimetic theory with the

"constructivist" theory:

> *In opposition to the logic of the generic concept, which, as we saw, represents the point of view and influence of the concept of substance, there now appears the logic of the mathematical concept of function. However, the field of application of this form of logic is not confined to mathematics alone. On the contrary, it extends over into the field of the knowledge of nature; for the concept of function constitutes the general schema and model according to which the modern concept of nature has been moulded in its progressive historical development.*[16]

With the new concept of function, we achieve the truth of an object, not by picturing a realm of metaphysical substances constituting the enduring substrate of the empirical phenomena, but rather in virtue of an embedding of the empirical phenomena into an ideal formal structure of mathematical relations.[17]

This is the modern manner of concept formation, which is not descriptive and mirroring but constructive. This type of concept formation constructs concepts and thereby things. What are constructed in this method are relations of things. The relations are not in the world, but constructed by pure thinking. They are logical relations and nothing existing in nature. This concept-formation defines the logic of scientific knowledge in modernity: the new symbolic language of mathematics and physics, which is totally formal.[18]

Metaphysics of substance implies a mind-independent reality, which imposes its conditions on conceptualization. The theory of function, on the contrary, is totally a conceptual abstraction or symbolization to which reality adapts.

2.2 SYMBOLIC FORMS

Cassirer's theory of scientific development therefore

presupposes the gradual desubstantialization of reality and its replacement by a symbolized, purely conceptual theory of relations. Science gradually breaks free from a substantive conception of reality. Just as the functional theory replaces the "copy" theory of knowledge, so does the more general theory of meaningful representation developed in the philosophy of symbolic forms. We overcome the mimetic theory of knowledge by the insight that science must work up our sensory impressions into freely created theoretical structures. Similarly, all symbolic forms must subject the mere sensory given to the free creative activities of the transcendental subject.[19]

In the third volume of *The Philosophy of Symbolic Forms, The Phenomenology of Knowledge*, Cassirer explains the plurality and historically evolving symbolic forms according to three main symbolic capacities or functions of the transcendental subject: the expressive function[20] (Ausdrucksfunktion), the representative function[21] (Darstellungsfunktion) and the significative or meaning function[22] (Bedeutungsfunktion.). These functions give rise to three main world-presentations: the mythical world, the intuitive world, and the theoretical world. The more primitive ones give birth to the more sophisticated ones.The most basic and primitive type of symbolic meaning is expressive meaning, which is the product of the expressive function. The experience of events in the world around us is charged with affective and emotional significance, as desirable or hateful, comforting or threatening:

> *[T]he world of mythical experience is not grounded in either representative or significance-giving acts, but in pure experiences of expression. What is here present as 'reality' is not a complex of things provided with determinate 'marks' and 'characteristics', on the basis of which they can be recognized and distinguished from one another; rather, it is a manifold and profusion of originally 'physiognomic' characters.*[23]

The following symbolic meaning, the representative meaning, is the product of the representative function of thought that takes us out of the original mythical world and into the stable and enduring world of substances, identifiable and distinguishable as such. It is in natural language that this symbolic meaning of representation is most clearly visible.[24] Through natural language we construct the intuitive world of ordinary sense perception. We distinguish the enduring substance, on the one side, from its variable manifestations from a different point of view and on different occasions on the other, and we thereby arrive at the fundamental distinction between appearance and reality.[25]

The third and final meaning of the symbolic forms is the product of the significative or meaning function of thought and consists in the pure relational concepts characteristic of modern mathematics, logic, and mathematical physics that are finally freed from the bounds of sensible intuition.[26] The language of mathematical-physical theory transcends all expressive and representative meaning exhibited in the mythical and intuitive worlds, and we thereby finally attain the stage of pure signification of the theoretical world. The purely logical relations replacing all "picturing" of a substantial reality finds their most precise and exact fulfilment in modern mathematical logic.[27]

"FOR CASSIRER TO BE HUMAN IS TO BE AN ANIMAL SYMBOLICUM, AN ANIMAL DISTINGUISHED BY THE SPONTANEOUS CAPACITY FOR SYMBOLIC EXPRESSION."

3 MEANING OR PRESENCE IN ARCHITECTURE

3.1 FUNCTION OR SUBSTANCE: HANS BLUMENBERG'S INTERPRETATION OF THE DAVOS DEBATE

In order to draw some consequences from Cassirer's as well as Heidegger's philosophy for architecture we will follow the suggestive and, for our purposes, very fruitful interpretation of the Davos confrontation given by the great German historian of philosophy Hans Blumenberg. This philosopher interprets the debate using Cassirer's categories of "substance" and "function": "Against the distinction between the concepts of 'substance' and 'function' which had already been introduced by Cassirer in 1910, Heidegger decided, with Luther, in favour of substance as the first and the unique category, against the functional propagation of categories into 'symbolic forms' – and in favour of […] the conventions of the realists."[28]

According to Blumenberg, Cassirer sides in favour of "function," "meaning," and "idealism" whereas Heidegger favours "substance," "Being," and "realism." For Cassirer, modern science has transformed reality into a symbolic order, which is not the reality in itself, but only its signifier. Our

capacity to create symbols consists in creating meanings or signs that point to reality but they are not reality itself. Heidegger, by contrast, understood philosophy not as the study of our capacity to create meaning, but as the phenomenological description of that which "shows itself." What shows itself is reality,[29] not just a symbol or a sign of it. Cassirer's preference for the "functional propagation of categories into symbolic forms" presupposes the primacy of human agency, whereas Heidegger's decision "in favour of substance as the first and the unique category" and his study of what shows itself presupposes the primacy of human receptivity.

Following this thread of interpretation we can distinguish two types of architecture that, together with both images of the human being, underlie either creativity, meaning, function and abstraction or receptivity, reality, substance and presence. The first one, in Cassirer's guise, is internationalist and trusts in the human capacity for world-construction. Architecture is conceived as a materialization of new and creative meanings and the architect is a free agent for the construction of new worlds. The second, more Heideggerian, conceives architecture as environment-interpretation. Architecture is here understood as world disclosing, a world that is always already there, and the architect as the interpreter of that world or environment as it shows itself. In the first case architecture proposes new ways of living, buildings are the bearers of new meanings, and the emphasis is in the meaning that buildings convey. In the second case the building just shows itself; it is an irreducible presence of itself that opens up the environment.

Where Cassirer emphasizes the creation of new meanings oriented toward the future, Heidegger opposes with the priority of the origin; the interpretation of what is already there. He emphasizes paying attention to the presence of what is there and shows itself before proposing new constructions.

3.2 ARCHITECTURE AS MEANING

We now try to draw some consequences of Cassirer's philosophy for architecture. Our task is to apply Cassirer's philosophy to architecture, beyond what he in fact said about this kind of art. The reason for this application is that Cassirer includes architecture in the symbolic form of art:

> *[W]e can interpret certain spatial forms, certain complexes of lines and figures, in one case as an artistic ornament and in another as a geometrical figure, so endowing one and the same material with entirely different meanings. The spatial unity, which we build in aesthetic vision and creation, in painting, sculpture*

> *and architecture, belongs to an entirely different sphere from the spatial unity, which is represented in geometrical theorems and axioms. In the one case we have the modality of the logical-geometric concept, in the other the modality of artistic imagination –in the one case, space is conceived as an aggregate of mutually independent relations, as a system of "causes" and "consequences"; in the other, it is conceived as a whole whose particular factors are dynamically interlocked, a perceptual, emotional unity.*[30]

"THE SPATIAL UNITY, WHICH WE BUILD IN AESTHETIC VISION AND CREATION, IN PAINTING, SCULPTURE AND ARCHITECTURE, BELONGS TO AN ENTIRELY DIFFERENT SPHERE FROM THE SPATIAL UNITY, WHICH IS REPRESENTED IN GEOMETRICAL THEOREMS AND AXIOMS."

But our claim is that, when dealing with modern architecture, we have to take into consideration technology as well. Modern architecture seems to require a convergence of the symbolic forms of art and technology. As far as we know, Cassirer himself did not study this convergence but he prepared the theoretical ground for such study. In that sense Cassirer's philosophy has much in common with modern architectural theory and, in particular, with the Bauhaus, the great school of design and architecture whose history and final fate of exile runs parallel to that of Cassirer and to the Weimar Republic itself. Cassirer's philosophical orientation is best expressed by the neue Sachlichkeit (the New Objectivity), a social, cultural, and artistic movement committed to internationalism and to a more objective and scientific organization of architecture and the social life through the project of uniting art and technology.[31] This convergence of both symbolic forms, art and technology could be termed "functional aesthetics"[32] or described by the familiar motto "form follows function." That form follows function means that forms are not based on imitations or on mimetic qualities of a substantial reality as produced in traditional paintings, sculptures, and architectural ornamentation, but rather that form is the result of constructing relations, that is, form is the result of function in Cassirer's sense of "function," as opposed to "substance": functional forms are an

aggregate of different elements mutually related.

The works of the artists, designers, and architects of the Bauhaus are above all a realisation of the functional aesthetic approach. As an example, consider Marcel Breuer's furniture and Walter Gropius's lights in the Bauhaus' Dessau building. Both Breuer's and Gropius' designs show modular pieces of furniture and lamps as industrially produced series that create what we might call a functional space. A functional space is based on relations among parts according to repetition and variation. This kind of design allows the construction of furniture (tables, chairs, lamps) and the arrangement of space by fitting together the pieces in different ways. There is not only one way—say one substantial, "real," way to relate the pieces—but rather different users have many equall valid possibilities for combining the pieces and creating their own spaces by sliding the modular elements. Design is not mimetic of a "real being" because the same elements (tables, chairs, or lamps) related otherwise would create a different space.

We can understand this kind of industrial design (or, more generally, functional aesthetics, and the slogans "form follows function," "art and technology: a new unity," "new objectivity") as a functionalized symbol or as a sign without a real signified. It is a sign in the sense of Cassirer's citing of Helmholtz's theory of signs to explain scientific theories:

> *This tendency [explaining objectivity in terms of "pure formal relations"] appears especially pregnantly in Helmholtz's theory of signs […]. Our sensations and representations are signs, not copies [Abbilder] of objects. For one requires of pictures [Bilder] some or another kind of similarity with the pictured object […]. The sign, by contrast, requires no substantial [sachlich] similarity in the elements, but solely a functional correspondence in the two-sided structure. What is established in this structure is not the particular intrinsic character of the designated thing, but rather the objective relations in which it stands to other similar [things].*[33]

Philosophically considered we cannot interpret the production of such designed objects within the framework of the metaphysics of substance or the mimetic or pictorial theory of knowledge because the object and the space are the result of relations and combinations, and they open up the possibility of freedom to change, improve, and transform the space. The space is thus constructed rather than determined by conditions already existing. Functional space is the result of first bringing together independent parts. The space designed is therefore not holistic but rather mechanic—functional—because the part (the modular piece) is prior to

FIGURE 1: BAUHAUS, DESSAU

the whole.

Before considering the second type of architecture, let's take a brief look at Heidegger's philosophy.

4. MARTIN HEIDEGGER

In 1927, two years after Cassirer published the second volume of *The Philosophy of Symbolic Forms*, dedicated to myth, Heidegger published his first important work, *Being and Time*. For Heidegger, to be human is to be gifted with a special sort of receptivity or openness to the world that Heidegger calls the "disclosedness" or "unveiling" of Being. The phenomenon of disclosedness is deeper than our rationality and practical action. Heidegger calls "Dasein" the human being as capable of this opening capacity.

For Heidegger, human beings are defined by finitude, which is to say we discover ourselves in the midst of conditions we have not created and cannot

hope to control. My having been born in a particular year, in a particular land, to particular parents—everything that Heidegger designates as the "thrownness" (Geworfenheit)[34]—is no mere accident that can be overcome. The contingencies of history and the everyday cannot be transcended in such a way as to reveal some underlying essence—like the transcendental symbolic capacity of Cassirer's subject—but rather constitute me from the ground up.

4.1 PRAGMATIC WORLD AND EXISTENTIAL SPACE

Heidegger begins his philosophizing with the analysis of the everyday situations in which the human being is involved.[35] In such situations the world disclosed to human beings is not the world of scientific explanation (the symbolic form of modern science, in Cassirer's terms) but instead the "environment" (Umwelt). The environment shows itself in our practical involvement or dealing (Umgang) with the things. In such involvements the things of the environment appear not as objects but rather as things-in-use, as equipment or tools (Zeug).

Heidegger's basic thought is that the human relation with worldly things is primarily a relation of practice and concern, and not a theoretical one. We understand things not as objects of theoretical analysis, but rather as they first appear within a context of practice. To reinforce this idea, Heidegger introduces the famous distinction between the "ready-to-hand" (Zuhanden) statuses of things as understood in an equipmental fashion versus the "present-at-hand" (Vorhanden) manner of being of entities as they are disclosed for perceptual cognition, theoretical inspection, and consideration.[36] The ready-to-hand is our everyday understanding, and that understanding is the primordial way things appear to us, while the present-at-hand is a consequence of theoretical dissociation from the more basic relation. The theoretical cognition of the merely "present-at-hand" is a derivative mode of Dasein, a modification of the more basic, essentially pragmatic mode of involvement with the "ready-to-hand."

Equipment appears always in a context of interconnections. This context is a totality within which each tool has a sense. The totality thereby assumes a transcendental status in that the whole is a condition for the possibility of understanding any one of its parts. The environment is a holistic structure of concern, in which objects are always understood in a context, before the explicit knowledge of any discrete item we may pick out for inspection.[37] For Heidegger the whole is prior to the part. The functional designs of Breuer and Gropius mentioned earlier run counter to this holistic space of the everyday since the part (the modular furniture)

exists prior to its arrangement.

The holistic character is of great importance for understanding the kind of space that belongs to our everyday, or, as Heidegger puts it, our "existential spatiality."[38] This existential spatiality is a series of environmental regions where Dasein realizes its concerns, plans, and expectations, and it is fundamentally different from and prior to, its scientific understanding as functional space. Existential spatiality is fundamentally different from the Cartesian notion of extension or its more developed scientific-functional version. This conception of space does not apply to a being whose primary relation to the world is one of involvement because Cartesian space always places things at a measurable distance, whereas existential spatiality determines distances in terms of Dasein's context of significance.[39] Existential spatiality is the precondition for our understanding of Cartesian space, because the former is an existential condition for understanding at all. Whatever formalized structures of measurement we might create, such structures were themselves merely a way of "thematizing" the spatiality of Dasein's everyday existence. There can be, therefore, no breakthrough from existential spatiality to space, because an existential condition is by definition constitutive and could not be abandoned. Of course Heidegger does not deny the possibility that one could develop a purely mental representation of formalized space. But this representation is not something more real than the existential spatiality. Heidegger saw the existential structure of human understanding as constitutive rather than, as with Cassirer, evolving toward scientific abstraction.

"FOR HEIDEGGER, HUMAN BEINGS ARE DEFINED BY FINITUDE"

4.2 AUTHENTIC AND INAUTHENTIC EXISTENCE: EXISTENTIAL TIME

If we conceive Dasein not as primarily theoretical or cognitive but rather as oriented

towards pragmatic engagement and projects, then our conception of time (of "existential time" as well as the conception of "existential space") is not just the thought of the line of time, and temporal finitude is not just the thought of an eventual limit to this line of time. Finitude is rather Dasein's concern with its own death, the radical possibility that the on-going pragmatic projects will cease to be.[40] In facing existentially such possibility, the pragmatic subject is removed from the context of pragmatic involvement that defines the everyday understanding of himself. In "being-towards-death," Dasein is revealed to him for what he is: as thrown into the world.

In the normal course of events, Dasein takes the context of its projects and practical activities for granted, a framework that is fixed and simply given. In "being-towards-death," Dasein steps out of this given context, which is then recognized as neither fixed nor given. Dasein recognizes that its normal or everyday context is simply one possibility among others, one that is thereby subject to his own free choice. Facing death thus opens up the possibility of an "authentic" existence in which Dasein's own choices rest on no taken for granted context at all. In "inauthentic" existence, by contrast, Dasein operates unquestioningly in its everydayness as a context of projects taken as given. Heidegger describes the inauthenticity of everydayness in terms of the "others" as "they" (das Man):

> *In utilizing public transportation, in the use of information services such as the newspaper, every other is like the next. This being-with-one-another dissolves one's own Dasein completely into the kind of being of "the others" in such a way that the others, as distinguishable and explicit, disappear more and more. In this inconspicuousness and unascertainability, the they unfolds its true dictatorship. We enjoy ourselves and have fun the way they enjoy themselves. We read, see, and judge literature and art the way they see and judge. But we also withdraw from the "great mass" the way they withdraw, we find "shocking" what they find shocking. The they, which is nothing definite and which all are, though not as a sum, prescribes the kind of being of everydayness.*[41]

Facing death singles out my existence as my own and makes possible the withdrawal from the uniformity of the "they," from the "great mass." It is thus on the basis of "being-towards-death" that the distinction between "authentic" and "inauthentic" existence is defined.[42]

5 ARCHITECTURE AS PRESENCE

We can now distinguish a second type of architecture, inspired by

Heidegger; this kind of architecture goes against its modern conception as the construction of functional spaces or as the fusion of art and technology; it is less concerned with construction and more with the origin and the questioning of building. Heidegger wrote about architecture in the essays "The Origin of the Work of Art" and "Building Dwelling Thinking." But our purpose is not to follow this or that work but the essential core of his thought that we find relevant for architecture, as it is expressed in *Being and Time* in the terms we have just explained. The main points relevant for architecture are the difference between a holistic and a functional space; and the difference between authentic and inauthentic existence, where authenticity means questioning the taken-for-granted assumptions and contexts of our everyday projects.

> "FACING DEATH SINGLES OUT MY EXISTENCE AS MY OWN"

If the kind of architecture that exemplifies Cassirer's position was the Bauhaus-inspired modernist design, then we can propose a more recent architectural project, one critical of modernity, as an example to illustrate Heidegger's thought: Anne Lacaton and Jean-Philippe Vassal's 1996 project for the Place Léon Aucoc in the city of Bordeaux, France.

The Place Léon Aucoc is a triangular village space lined with trees, benches and a place to play. The house facades lining the Place were a good example of sober collective housing. Lacaton and Vassal said:

> *The question was: how is it possible to make an embellishment of the square? And the answer after three or four months of working research was to say: there is nothing to do. And our project is to do nothing. It's our project and please, you have to do it like we want. And it has been done like that.*[43]

The architects decided to exclusively carry out simple maintenance tasks: changing gravel, cleaning

more often, taking care of the trees, slightly modifying the circulation, and so on, with the aim of improving the way people meet. This kind of passivity is not indifference but rather an active non-intervention. Lacaton and Vassal say:

> *What does the idea of "embellishment" boil down to? Does it involve replacing one groundcover with another? A wooden bench with a more-up-to-date design in stone? Or a lamp standard with another, more fashionable, one? Nothing calls for too great a set of changes. Quality, charm, life exist. The square is already beautiful.*[44]

The architects' choice of non-intervention is existentially "authentic" in the sense that this decision rested on not taking for granted the architect's professional context at all. In "inauthentic" existence, the architect operates unquestioningly in the everyday professional work in which the construction of "something" is taken for granted. This project both shakes and radically subverts architecture's customary state of affairs by implying a step backwards towards questioning before constructing. We can understand this architectural project as a questioning of what building is and of what architecture is. These radical questions depended on a fresh interpretation of the place: what the place requires rather than what the architect's freedom wants. Of course, the place and the programme may require the construction of a building but it just as easily may not.

This radical project by Lacaton & Vassal exemplifies a broader attitude in architecture, one which consists in opening up to a given environment, in listening to place, to its sheer presence, and responding to it. The holistic character of the environment is of great importance for understanding this kind of architecture. The whole of the environment is a condition for the possibility of understanding any one of its parts that the architect might build. And these parts open up this whole through different ways and architectural strategies. This totality should not be understood just in terms of physical environment but in a much broader sense, which includes culture and the existential human situation as such. Architecture "mimics" this whole. Whereas for Cassirer architecture as functional space is a new construction rather than determined by conditions already existing, for Heidegger, on the opposite extreme, architecture is determined by these preconditions; that is, it "mimics" or responds to the priority of the whole or of "reality." Heidegger expresses this whole and its architectural response in these terms:

> *The sun, whose light and warmth are in everyday use, has its own places – sunrise, midday, sunset, midnight; these are discovered in circumspection and treated*

FIGURE 2: PLACE LÉON AUCOC

distinctively in terms of changes in the usability of what the sun bestows. […] 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 own most possibilities of Being in the world.[45]

6 CASSIRER VERSUS HEIDEGGER ON MYTH

Heidegger's description of the holistic character of the environment, of our everyday space, is shockingly similar to Cassirer's description of mythical space:

> *There is no cosmology, however primitive, in which the contrast of the four main directions does not in some way emerge as the cardinal point of its understanding and explanation of the world. […] The east as the origin of light is also the source of life – the west as the place of the setting sun is filled with all the terrors of death. And this opposition of night and day, light and darkness, birth and death, is also reflected in countless ways in the mythical interpretation of the concrete events of life.*[46]

Despite their surface similarities,[47] the use of these conceptions is radically different. In these radically different conceptions of myth resides the final explanation of the philosophers' opposing visions of architecture and of human culture in general.

The description of myth is very important for Cassirer since it reveals not only the primitive stage that was reached many centuries ago but also the unmediated experience of perception. Myth embodies the concreteness of life before the categorization of theoretical consciousness. Myth is the lowest and most primary form of symbolic existence and it is the ground of any other form of culture. All other symbolic forms only come into existence by working through myth. Cassirer is convinced that in the history of human culture the rise of conceptual abstraction is a welcome progress. He is committed to philosophical modernism and understands modernity, and thus modern architecture, as the triumph over, and a displacement of, myth. As we said before, Cassirer holds this view during the 1920s but in a moderate way, accepting the plurality of symbolic forms. It was only after the Nazi seizure of power that he became critical of mythical thought: to move from myth to higher forms of symbolic consciousness is a demand placed upon human beings; it is the call to work oneself—as an individual, as a civilization—out of myth and to come to light, to enlightenment, as living a life in culture.[48] It is a demand to keep the forces of myth at bay.

Heidegger's primordial space, by contrast, cannot be overcome but only concealed or forgotten. Such forgetting is symptomatic of what Heidegger calls the "fallenness" of Dasein. The scientific calculation and objectification of space robs the world of its "worldhood" and transforms the existential space into functional space. Heidegger wishes to return us to a purer and more authentic state of being, one located not in some mythic past but under the surface of everyday life. For Heidegger mythical existence is a simplified model of the human existential structure but essentially remains the same.

Whereas for Cassirer the path from myth to science is an inevitable and welcome progress of mind, and the culmination of the human capacity to create worlds, for Heidegger this process is rather more like a lapse, a regrettable breakdown in the otherwise constitutive structures of human being. The functionalist symbolization of reality that Cassirer sees as a high achievement is, for Heidegger, a historical impoverishment in human understanding. In fact, Heidegger says that such a break from existential space to a modern scientific one is not progress but a loss and an alienation from both the world and individual existence. What Heidegger calls thrownness and passivity is for Cassirer a primitive and mythical conception of humanity that denies both its responsibility and emancipation. What Cassirer calls freedom and creativity is for Heidegger an old metaphysical misconception that hides the essential human finitude.

We have seen the antagonistic understandings of Cassirer and Heidegger on both architecture and on culture broadly considered. It is not our intention to decide which one is preferable because only together do they define the complete image of the human being and how it shapes its place in the world. If we compare metaphorically human beings' life and history as a play in two acts, the night from which culture springs and the day that overcomes the night, we can say that Cassirer draws attention to the second, the day of culture, and Heidegger to the first, the night from which it springs. One looks at what has flourished, the other at its roots.[49] Human culture involves both.

That said we would not like to finish this paper without a last commentary on politics. Cassirer's continuous confrontation with Heidegger, in the context of the weak parliamentarian politics of the Weimar Republic, had more than purely philosophical motivations; they were at opposite ends in social and political terms as well. In his last work, *The Myth of the State*, written in his American exile, Cassirer writes:

> *In all critical moments of man's social life, the rational forces that resist the rise of the old mythical conceptions are no longer sure of themselves. In these moments the time for myth has come again. For myth has not been really vanquished and subjugated. It is always there, lurking in the dark and waiting for its hour and opportunity.*[50]

"IN THESE MOMENTS THE TIME FOR MYTH HAS COME AGAIN. FOR MYTH HAS NOT BEEN REALLY VANQUISHED AND SUBJUGATED. IT IS ALWAYS THERE, LURKING IN THE DARK AND WAITING FOR ITS HOUR AND OPPORTUNITY"

From his exile Cassirer interpreted the irruption of Nazism as the irruption of myth in modern times and judged Heidegger's philosophy as encouraging myth's staying power. Cassirer's philosophy helps us to prevent political radicalisms such as xenophobia and radical nationalism that today, when Europe is again in crisis, threaten our societies.

I would like to conclude by saying that Cassirer was overall a moderate humanist and defender

of the Enlightenment, and even though he thought that science is the highest stage in human consciousness, he rejected the reductionist views of scientism on the one side and of myth's irrationalism on the other. In the early twentieth century, these two reductionisms appeared in the guise of positivism and *Lebensphilosophie* (philosophy of life). Cassirer condemned both because they elevated a single symbolic form into an absolute conception of the world, presenting a partial truth as though it were total.

This is something we can learn today at the beginning of the twenty-first century from the debate that took place early in the twentieth.

ENDNOTES

[1] For a thorough understanding of the Davos debate see the excellent book by Peter E. Gordon, *Continental Divide. Heidegger, Cassirer, Davos* (Cambridge and London: Harvard University Press, 2010.) See also Michael Friedman, *The Parting of the Ways. Carnap, Cassirer, and Heidegger* (Chicago and La Salle: Open Court, 2000), 1. Friedman writes: "Davos, Switzerland; March 17–April 6, 1929. An intensive "International University Course," having the express purpose of effecting a reconciliation between French-speaking and German-speaking intellectuals, was sponsored by the Swiss, French, and German governments. The high point of the occasion was a series of lectures presented by Ernst Cassirer and Martin Heidegger, followed by a disputation between the two men."

[2] Edward Skidelsky, *Ernst Cassirer: The Last Philosopher of Culture* (Princeton and Oxford: Princeton University Press, 2008), 196.

[3] See Deniz Coskun, "Cassirer in Davos: An Intermezzo on Magic Mountain (1929)," *Law and Critique* 17 (2006): 1-26.

[4] Skidelsky, *The Last Philosopher of Culture*, 196-197.

[5] Friedman. *The Parting of the Ways,* 3.

[6] Peter Gay, *Weimar Culture: The Outsider as Insider* (New York and London: W.W. Norton & Company, 1968). Gay explains that one of the main tensions during the Weimar Republic was the generational conflict between fathers and sons. This conflict was represented in Davos by the figures of the old philosopher Cassirer and the young Heidegger.

[7] Skidelsky, *The Last Philosopher of Culture,* 196-197.

[8] Jeffrey Herf, *Reactionary Modernism: Technology, Culture, and Politics in Weimar and the Third Reich* (Cambridge: Cambridge University Press, 1984).

The author explains how the right-wing intellectuals of this period, the so called "reactionary modernists," argued that the Enlightenment tradition was un-German. The Enlightenment belongs to "civilization," a term used to characterize the tradition of nations such as France and the United Kingdom while German is defined by Kultur, term understood as the opposite of Zivilisation.

[9] Friedman, *The Parting of the Ways,* 4.

[10] Gordon, *Continental Divide*, 7.

[11] Sebastian Luft, *The Space of Culture: Towards a Neo-Kantian Philosophy of Culture* (Cohen, Natorp, and Cassirer) (Oxford: Oxford University Press, 2015), 45. See also Friedman, *The Parting of the Ways*, 99.

[12] Gordon, *Continental Divide*, 13. Gordon writes: "The Philosophy of Symbolic Forms represents the effort to interpret all of human creativity after the transcendental model. Culture is an ever-expanding and pluralistic field of symbolic expression, which obeys certain laws of formation, the a priori principles of human spirit."

[13] Ernst Cassirer, *An Essay on Man: An Introduction to a Philosophy of Human Culture* (New Haven: Yale University Press, 1944), 228.

[14] Ernst Cassirer, *Substance and Function & Einstein's Theory of Relativity* (Chicago: Open Court, 1923). For a commentary on this work see Friedman, *The Parting of the Ways*, 94. See also Luft, *The Space of Culture*, 157-161.

[15] Cassirer, *Substance and Function*. For Cassirer's treatment of substance and the realist position see Part I, "The Concept of Thing and the Concept of Relation" and Chapter I, "On the Theory of the Formation of Concepts," 3-9.

[16] Ibid. 21.

[17] Friedman, *The Parting of the Ways*, 95.

[18] Luft, *The Space of Culture*, 157-161. For example, the atom, as a concept, is not a name for a thing, which one could identify in nature, no matter if one had the most powerful microscope. The atom is a name for an idea, a theory, for the relation of different elements that make up reality. The thing "atom" is a construction in the framework of a theory.

[19] Friedman, *The Parting of the Ways*, 103-109.

[20] Ernst Cassirer, The Philosophy of Symbolic Forms: Volume Three: The Phenomenology of Knowledge. (New Haven: Yale University Press, 1957). See Part I, "The Expressive Function and the World of Expression."

[21] Ibid. See Part II, "The Problem of Representation and the Building of the Intuitive World."

[22] Ibid. See Part III, "The Function of Signification and the Building Up of Scientific Knowledge."

[23] Ibid. 68.

[24] Ibid. 119. See also Friedman, *The Parting of the Ways*, 104, 105.

[25] Cassirer, *The Philosophy of Symbolic Forms*, 142.

[26] Ibid. 284.

[27] Ibid. 46.

[28] Hans Blumenberg. "Afinitäten und Dominanzen" in *Ein mögliches Selbst-verständnis: Aus dem Nachlass* (Stuttgart: Philip Reclam, 1996), 161-168. See Gordon, *Continental Divide,* 349:

> *Blumenberg reprises and old theological controversy that took place 400 years earlier between Martin Luther and Ulrich Zwingli, over the character of Christ's presence in the Eucharist. The confrontation was between the orthodox view that the body of Christ is really present in the bread and wine, and the unorthodox view according to which Christs's embodiment is merely an illusion, that the bread and wine only signify his body and blood though they are not literally so.*

[29] For a discussion of the realism of Heidegger see the crucial §44 of Heidegger, "Dasein, Disclosedness, and Truth," in *Being and Time* (New York: Harper and Row, 1962). See also the arguments given by Friedman, *The Parting of the Ways*, 54-58. Friedman says that Heidegger "rejects (in §44) the "Copernican Revolution" in favor of an apparently "direct realist" conception of truth." From Friedman, The Parting of the Ways, 54. Friedman also writes that "Heidegger is a "direct realist" in so far as he begins with the idea of "being-in-the-world." We do not start with a cognitive subject together with its contents of consciousness, but rather with a living practical subject necessarily engaged with its environment." From Friedman, *The Parting of the Ways*, 55.

[30] Ernst Cassirer, *The Philosophy of Symbolic Forms: Volume One: Language* (New Haven: Yale University Press, 1955), 96. See also Ernst Cassirer, *The Philosophy of Symbolic Forms: Volume Two: Mythical Thought* (New Haven: Yale University Press, 1955), 166. Here Cassirer directly links art and architecture together.

[31] We can also find a close bond between the modernist architect Adolf Loos and Cassirer. In *Ornament and Crime*, (Adolf Loos, *Ornament and Crime: Selected Essays.* Riverside: Ariadne Press, 1997). Loos writes: "I

have discovered and given to the world the following notion: The evolution of civilization is synonymous with the elimination of ornament from the utilitarian object." We find a parallelism between the historical narrative of the elimination of the ornamental with Cassirer's historical emancipation from myth and religion in order to achieve the enlightenment of reason and science. According to this interpretation, architecture should be freed form ornamentation in the same way that philosophy should be emancipated from myth. See Peter Galison, "Aufbau/Bauhaus: Logical Positivism and Architectural Modernism," *Critical Inquiry* 16, no. 4 (1990): 726. The author compares in this article the Bauhaus theory of design and architecture with the philosophy of logical positivism. Even though Cassirer criticised the scientism of the logical positivists, there are some points in common between both.

[32] Birgit Leitner, "Ernst Cassirer and (?) the Bauhaus: The Question of Functional Aesthetics," *Proceedings of the European Society for Aesthetics* 3 (2011): 167.

[33] Cassirer, *Substance and Function*, 304.

[34] Heidegger, *Being and Time*, §29.

[35] For the following discussion of the everyday pragmatic situations in which Dasein is involved see Heidegger, *Being and Time*, §15-16.

[36] For the conversion of the "ready-to-hand" to the "present-at-hand," see Heidegger, *Being and Time*, §16

[37] Gordon, *Continental Divide*, 221-224.

[38] Heidegger, *Being and Time*, §§22-24.

[39] Ibid. §18.

[40] Ibid. §§46-60. For the analysis of "being-towards-death" and the possibilty of "aunthentc" existence.

[41] Ibid. §27, 119.

[42] Friedman, *The Parting of the Ways*, 50-51.

[43] https://www.lacatonvassal.com/index.php?idp=37#

[44] Ibid.

[45] Heidegger. *Being and Time*, §22.

[46] Cassirer, *The Philosophy of Symbolic Forms: Volume Two: Mythical Thought*, 98.

[47] In 1925, while Heidegger was working on the manuscript of *Being and Time,* the Deutsche Literaturzeitung sent him a copy of the second volume

of *The Philosophy of Symbolic Forms* dedicated to myth. It is certainly a possibility that Cassirer influenced Heidegger. See Skidelsky, *The Last Philosopher of Culture*, 205.

[48] Luft, *The Space of Culture,* 164.

[49] Rudiger Safranski, *Un maestro de Alemania: Martin Heidegger y su tiempo* (Barcelona: Tusquets, 1997), 226-227.

[50] Cassirer, *The Myth of the State* (New Haven: Yale University Press, 1944), 280.

ON DURABILITY

MARI HVATTUM

"AN ATTEMPT TO GRASP ETERNITY"

On November 9, 1993, the Mostar bridge fell. For months it had withstood heavy artillery, withstood in the same way that it had endured wars, floods, and disasters ever since its erection in 1566.[1] But that afternoon it finally gave in; its collapse was broadcasted on television screens all over the world.

> "ON NOVEMBER 9, 1993, THE MOSTAR BRIDGE FELL"

Some days after the event, the Croatian journalist Slavenka Draculić picked up a newspaper with two pictures on the front cover. One showed the body of a woman, killed in the ongoing war; the second was a photograph of the destroyed bridge. To her own dismay, Draculić found herself crying as much over the bridge as she did over the dead woman. It made her feel slightly guilty, prompting her to reflect on her own reaction: "Why do I feel more pain looking at the image of the destroyed bridge than the image of the woman?" she asked herself, and continued: "Perhaps it is because I see my own mortality in the collapse of the bridge, not in the death of the woman." Draculić added: "We expect people to die. We count on our own lives to end. The destruction of a monument […] is something else. The bridge, in all its beauty and grace, was built to outlive us; it was an attempt to grasp eternity. […] A dead woman is one of us – but the bridge is all of us, forever."[2] In a collection dedicated to the human in architecture, Draculić's "eternity" offers, I believe, a poignant point of departure.

We do indeed expect the built world to persist

longer than we ourselves do. People die, but the things they built tend to last a little longer. It is a twofold that says something crucial about the role of architecture. In the next few pages I want to use this particular kind of "eternity" as a point of departure for thinking about that which lasts and that which perishes, and the ways—or at least some of the ways—in which it happens.

RELATIVE PERMANENCE

Architecture may last longer than the people building it, but it is not eternal. Buildings are subject to all sorts of changes: weathering, war, neglect, changing uses and needs, economic up- and downturns, the force of gravity and the law of materials. In her book *The Human Condition* (1958), Hannah Arendt writes about the relative permanence that characterizes the human-made. "The durability of the human artifice is not absolute," she points out, yet artifice gives to human life—fragile as it is—a certain stability and solidity.[3] "The things of the world," says Arendt, "have the function of stabilizing human life, and their objectivity lies in the fact that – in contradiction to the Heraclitian saying that man can never enter the same stream – men, their ever-changing nature not-withstanding, can retrieve their sameness, that is their identity, by being related to the same chair and the same table."[4] The durability of the human-made—the fact that the things we make last longer than us and are modelled on things that last longer still—is what for Arendt upholds a human world.

At first glance, Arendt's observation may seem staggeringly out of sync with her times. More often than not, twentieth century architects and artists took the exact opposite stance, celebrating the ephemeral over the durable and looking towards the future rather than the past. "Our houses will last less time than we do, and every generation will have to build its own city," proclaimed Antonio Sant'Elia triumphantly in his manifesto for futurist architecture from 1914.[5] To many modernists, ephemerality was a badge of honour, testifying to the dream of an architecture that responded strictly to the here and now. When the English architect William Holford characterized the modern monument as a "momentary crystallization of a scientific fact," he testified to this belief.[6] If the historical monument spoke of eternity, the modern monument, paradoxically, must speak strictly of the now.

The fascination with the transient carries well into the present. A quick look at contemporary architectural publications, exhibitions, or student projects gives a strong sense that the ephemeral has a great deal more

FIGURE 1: OLD BRIDGE IN MOSTAR, CA. 1974

appeal than the durable. But there is another side to the coin. For if modernity is "the ephemeral, the fugitive, the contingent," as Charles Baudelaire famously stated, he also reminded us that its other half is "the eternal and the immutable."[7] And modernity has indeed sought eternity: the eternity of scientific facts, for instance, or the eternity of a petrified past, safely stowed away in the museum. In architecture, the desire for eternity is perhaps encountered most directly in modern preservation, with its dream to fixate the historic monument as an unchanging entity, available for contemporary veneration.

> "THE THINGS OF THE WORLD", SAYS ARENDT, "HAVE THE FUNCTION OF STABILIZING HUMAN LIFE"

I will try to steer clear of both poles in this dichotomy, addressing neither the ephemeral nor the eternal. Or rather, the "eternity" that I will speak of—the eternity that Draculić hinted at as well, I think—is not the pretend eternity of the musealized monument but rather what Hannah Arendt called durability, that is, the relative permanence of the human-made world.

Let me try to be a bit more specific. For what—if we stick to the realm of architecture—is it that endures? The buildings themselves? Their materials and constructions? Matter can certainly endure for a very long time, like the stones of the cave tombs in Barnenez, supposedly the oldest building in the world, or the tar-saturated wood of the nearly 1000 year old Norwegian stave churches. Ancient matter has a fascination of its own—Alois Riegl, for one, considered the appreciation of "age value" as a particularly modern sensibility.[8] The memory of matter can endure even longer, like Aldo Rossi's famous example in the *Architettura della Citta* of how traces of a Roman amphitheatre continue to structure the city, even when the original stones and bricks are long gone.[9] Rossi drew on a long tradition of seeing type as a harbinger of durability, a dominant position in architectural thinking throughout much of the modern period.[10] This is not, however, the only way to think about durability in architecture. Here I will focus on a little handful of thinkers who, each in their own way, proposed that what endures in architecture is not just matter, or type, but human action: ways of doing things, ways of making oneself at home in the world. If Hannah Arendt wrote of the reification of work into a world of things that in turn stabilizes and lends durability to human life, then we can perhaps speak of architecture as a reification of human action into built form.

The three nineteenth century thinkers that I will discuss in the following—the German art historian Karl Bötticher; his fellow countryman, the architect Gottfried Semper; and the Norwegian ethnologist Eilert Sundt—did just that. And although only one of them could be considered an ethnologist by profession, all three drew on the new discipline when trying to understand the origin and development of architecture. In fact, their thinking on architecture could be seen, if not as fully fledged ethnologies (or anthropologies) of architecture, then at least as attempts to integrate the human into architectural thinking in ways that broke sharply with the academic neo-classicism of the late eighteenth and early nineteenth centuries. If theorists such as Marc-Antoine Laugier or Antoine Chrysostome Quatremère de Quincy had envisioned architecture as an imitation of primordial architectural form—most famously the primitive hut—these mid-nineteenth century thinkers saw architecture as an imitation, rather, of human action.

Karl Bötticher is most famous for his books on Greek tectonics, published in several versions from the mid-1840s onwards.[11] Here, however, I will discuss a much more idiosyncratic work by Bötticher, namely *Der Baumkultus der Hellenen* from 1856. Despite its small size and seemingly obscure topic, this book presented a fierce criticism of nineteenth century art history, which had, according to Bötticher, ignored the link between ritual action and architecture. The obsession with style and appearance had led to a neglect of the purpose for which man builds, he argued. In the eyes of the ancients, ritual practice could not be separated from the building or artefact accommodating it, and understanding ritual action was thus a prerequisite for understanding architecture, the Greek temple in particular.[12] Cultic practice and its physical setting formed one indivisible knot of meaning and should be studied accordingly.

That more holistic approach was exactly what Bötticher set out to achieve. He traced the decorative apparatus of the temple back to the ephemeral adornment of sacred trees: ribbons, bells, and garlands embellishing places for ritual and sacrifice. He considered such arrangements architectural pre-forms, motives that would later be reified into architectural form in the temple. "Bäumen seien die ersten Tempel der Gottheiten gewesen" (trees were the first temples of the dieties) he stated.[13] By suggesting that the adornment of holy trees was the beginning of architecture, Bötticher invoked a notion of origin that broke sharply with neo-classical thinking. The origin of architecture, far from being found in architecture itself, resides in the ephemeral arrangements of worship.[14]

Bötticher's thinking on the origin of architecture turns our conventional ideas about ephemerality and durability upside down. What lasts, here, is not matter, construction, or type, but ephemeral human

acts, metamorphosed into the architecture of the temple. It is a delicious idea: the most durable thing in architecture is a ribbon or a bell, fluttering in the wind.

DURABLE METAMORPHOSES

Bötticher did not develop his ideas on ritual into a fully-fledged theory of architecture. As many scholars have pointed out, *Der Baumkultus* remains a somewhat isolated work within his oeuvre.[15] For Bötticher's contemporary, Gottfried Semper, however, the ritual origin of architecture would become a central premise. In Semper's view, architecture is essentially about the stuff people do in order to make themselves at home in the world. And the most primordial way of doing that is to imitate. Primitive man imitates the order of the world around him, writes Semper: the rhythmical shifts of day and night, the cycle of the moon, the ebbs and flows of the sea. He continues, "[P]rimitive human beings […] delight in nature's creative law as it gleams through the real world in the rhythmical sequence of space and time movements, in wreaths, a string of pearls, scrolls, round dances, the rhythmic tones attending them, the beat of an oar [...] These are the beginnings out of which music and architecture grew."[16]

By imitating nature's rhythms in the things he does and makes—in dance, knots, or tattoos on his skin—man makes for himself a specifically human realm. Architecture emerges gradually out of these ephemeral acts, as a metamorphosed reification of human action. The origin of architecture, then, is not found in building, but in man's attempt at coming to terms with the world around him through rhythm and ritual.

Weaving is one of Semper's key examples of how the ritual act is translated into physical form.[17] Beginning with the rhythmic movement imitating the order of the natural world, the weaver produces an enclosure—the wickerwork wall, for instance—which in turn establishes a human domain separated from the natural world. Weaving, then, is simultaneously a ritual imitation of cyclical time and the technical origin of the architectural wall. It runs through the history of architecture as a constant motif, yet is continuously transformed and metamorphosed into new guises through the process of material transformation, or Stoffwechsel, as Semper called it. The wickerwork enclosure, then, ossifies into Chinese lattice work, Assyrian stone reliefs, Pompeiian frescoes, and sixteenth century Portuguese tiles, continuing to echo even in the modern wallpaper. Through history, architecture retains its role as enclosure yet it is never exactly the same—it goes through a never-ending material

metamorphosis and carries all the memories of its previous stages with it, at any point of its development.[18]

So what is it that endures, here? Not matter, certainly: the material is but a medium in this metamorphic process. What endures is human work, ossified in a chain of ever-changing materialities. Rather than looking for the origin of architecture in architectural form, Semper located it in human action, thus overturning key principles of neo-classical thinking.[19] In one of his late essays he stated this quite explicitly: "In a most general way, what is the material and subject matter of all artistic endeavour?" he asked, and answered, "I believe it is man in all his relations and connections to the world."[20]

PATTERNS OF USE

The nineteenth-century discipline that most vigorously explored 'man in all his relations and connections to the world' was of course ethnology, or Kulturgeschichte as it would be called in German and Scandinavian-speaking countries. Both Semper and Bötticher were influenced by contemporary ethnology. Scholars have for instance pointed out Semper's reliance on the German ethnologist Gustav Klemm, whose *Allgemeine Kulturgeschichte der Menschheit* (1843–1851) elaborated on the ritual origins of art and postulated dance and knots as the dual origin of architecture. Klemm described artefacts as "mimetic narratives" and as primary vehicles for man's orientation in the world.[21]

> "WHAT ENDURES IS HUMAN WORK, OSSIFIED IN A CHAIN OF EVER-CHANGING MATERIALITIES"

If architects read ethnology, ethnologists also sometimes read architectural history. At least that is the case for the Norwegian ethnologist Eilert Sundt (1817–1875), a younger contemporary of Semper and Bötticher.[22] Neither an architect nor a historian, Sundt nevertheless made a significant contribution to understanding the relationship between architectural form and human action. He

also gave quite an original answer to our initial question of what it is that endures in architecture.

Sundt studied theology and earned his living as a Protestant minister. His reputation as pioneer of Norwegian social science, however, he earned from his empirically scrupulous studies of everything from marriage habits and mortality statistics to Norway's gypsy population and the social conditions of the urban poor. Among his many books is one on vernacular architecture in the Norwegian countryside published in 1862. It is called *Om Bygnings-Skikken paa Landet i Norge,* a title perhaps best translated as "On the manner of building in the Norwegian countryside."[23] On his many travels up and down the country, Sundt tells his readers, he had been struck by the underlying regularity of vernacular buildings. Although each hamlet, farm, and building was to some extent different from every other, they all adhered to a common pattern. The regularity was noticeable not least in the organization of the domestic interior. Sundt observed how building form, furniture, and permanent elements such as fireplaces, windows, and entrances followed the exact same template, reflecting the social structure of rural Norwegian society. "I cannot tell how surprised I was when I first realized this house custom [hus-skikk]" he wrote:

> *Once you have gotten to know how things are arranged in one house, you know for certain how all houses of a similar kind are organized. When I now travel through the Gudbrandsdalen region and see an old-fashioned house, it is as if I can see through the walls and know, that here, by the door, stands the great cabinet; there in the corner is the main seat; in the other corner, the master bed, etc. It is as if the houses were made of glass.*[24]

While in the city, people build "after their own heart," Sundt writes; in the countryside, building is governed by ancient traditions that regulate not so much the building itself as the way of life that in turn regulates building. Sundt called this reciprocal process 'skikk.' It is a tricky concept to translate, but comes close to tradition, or custom. 'Skikk' refers to ways of doing things, ways of arranging social phenomena into certain patterns that can be embodied in buildings and things. It is tempting to adopt Arendt's vocabulary: 'skikk' is human work transformed into a built world.

The durable factor in Sundt's architectural analysis was not wood or stone, but ways of translating life into recognizable—and indeed durable—configurations. In an almost proto-structuralist fashion he describes how the 'skikk' governs life, how life governs architectural form, and how architectural form in its turn gives stability to life. It is a slow cycle that is not unchangeable but nonetheless relatively stable. Interestingly, Sundt sees this mimetic stability between life and artifice

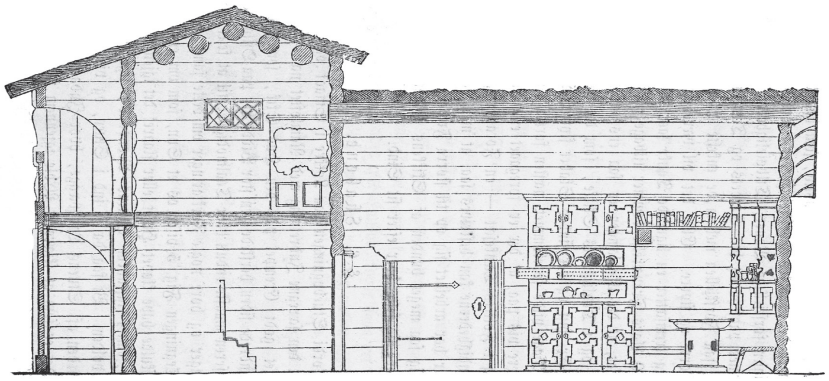

Fig. 5. Det Indre af Ramstuen paa Lykkre.

FIGURE 2: SECTION OF FARMHOUSE, NORWAY TAKEN FROM SUNDTS BOOK

as a waning phenomenon. Modern man does not adhere to any 'skikk,' he writes. In the modern city, houses reflect individual habits and desires, and have thus no durability outwith the life of the individual: "It is different in the cities: the houses are more singular and the people as well – each with their own habits and needs, […] one in this way, the other in that way."[25] Modernity, for Sundt, represents a break with the durability of 'skikk.' It is replaced by individualist transience, but also, we may add, by a compensatory search for eternity. For Sundt's farmhouses, that eternity came in the form of the museum, where so many of the interiors he studied would end up.

> "IN THE MODERN CITY, HOUSES REFLECT INDIVIDUAL HABITS AND DESIRES, AND HAVE THUS NO DURABILITY WITHOUT THE LIFE OF THE INDIVIDUAL"

MIMESIS OF PRAXIS

"[B]uildings and paintings and poetic texts, as much as rituals, are cables that hold a society together through time" write Alexander Nagel and Christopher S. Wood in their book *Anachronic Renaissance*.[26] Nagel and Wood are particularly interested in artworks that—explicitly or implicitly—evoke multiple temporalities, like the way Roman spolia in early Christian churches acted as veritable time machines, connecting and doubling time and tying the present to multiple pasts "like a homeopathic remedy for discontinuity."[27]

Semper's material metamorphosis, Bötticher's reified ritual arrangements, and Sundt's long-enduring "skikk" are all examples of such multi-temporal conditions. Their durability has nothing to do with the fixed eternity of the museum or the immobilized past of the historical monument. Instead, all these examples demonstrate architecture's capacity to accommodate and preserve human action, giving shape to our attempts at making ourselves at home in the world. Aristotle said that the tragedy was "not an imitation of men but of actions and of life."[28] Much the same could be said for architecture in the way I have outlined it here, as a "mimesis of praxis," it is an imitation of human action.

ALL OF US

Back to the question: What is it that endures in architecture? A brief glance at Semper's theory of Stoffwechsel, Bötticher's ephemeral tree decorations, or Sundt's "skikk" has taught us that it is neither matter nor form. It is rather—very much like Hannah Arendt proposed—the fact that work and works tie us to a shared duration, not a singular, monolithic past, but a heterogeneous, multi-temporal, contentious past. Perhaps that can help us understand Slavenka Draculić's reaction to the destruction of the Mostar bridge. "Why do I feel more pain looking at the image of the destroyed bridge than the image of the woman?" she asked herself, emphatically stating that while "the dead woman was one of us, the bridge was all of us, forever." In what way was the bridge all of us? By means of its symbolic role as a bridge between East and West, Muslim and Christian—a sort of super-symbol of a multi-ethnic Balkan? Perhaps, but that is not the whole story. As the architectural historians Hans-Henrik Egede-Nissen and Emily Macas have both pointed out in their respective PhD dissertations, this symbolism is not uncontroversial.[29] Political scientist Heiko Wimmen put it even more strongly: "This popular image probably reveals more about the Western need to reduce a complex and multi-layered structure to clear-cut oppositions, which can then be, as it were, bridged."[30] It seems to me that Draculić's "all of us" may point to something more than simply the bridge as a symbol of ethnic conflict and its potential reconciliation. Rather than a horizontal "us," she evoked a vertical "us" linked through time as much as through geographical or ethnic divides. The bridge was an attempt to grasp eternity, she wrote—a complex, contested, and relative eternity in this case, but nevertheless an eternity involving "all of us." It was perhaps this contentious but significant common-ness that made UNESCO forego their usual requirement of material authenticity and inscribe the reconstructed Mostar bridge into

the world heritage list.

What lasts in architecture is not stone, but rather memories, rituals, dreams, and acts metamorphosed into matter and form a thousand times over. At a time when we seem to oscillate between a fascination for ephemerality and a longing for museum-like eternity, it may be good to keep this relative permanence in mind, particularly when thinking about architecture and its relationship to the human.

"WHAT LASTS IN ARCHITECTURE IS NOT STONE, BUT RATHER MEMORIES, RITUALS, DREAMS, AND ACTS METAMORPHOSED INTO MATTER AND FORM A THOUSAND TIMES OVER"

ENDNOTES

[1] The Mostar bridge was erected for Sultan Suleiman the Magnificent in 1566 by the architect Mimar Hajrudin. The bridge was hit several times during the 1992-95 Bosnian war, both by the Serbian-backed Yugoslav Peoples' Army (JNA) and the Croatian Defense Council (HVO). For more information, see "*Nomination Dossier: The Old City of Mostar,*" UNESCO, January 2005, http://whc.unesco.org/uploads/nominations/946rev.pdf. I am indebted to Hans-Henrik Egede-Nissen, whose Ph.D. dissertation "*Autentisitetens relevans: på sporet av et endret fokus for kulturminnevernet,*" presents a thorough analysis of the destruction and reconstruction of the Mostar bridge. See Hans-Henrik Egede-Nissen, "*Autentisitetens relevans: på sporet av et endret fokus for kulturminnevernet*" (Ph.D. dissertation, Oslo School of Architecture and Design, 2014), 175-234.

[2] Slavenca Draculić, "Falling Down. A Mostar Bridge Elegy," *The New Republic*, December 13, 1993.

[3] Hannah Arendt, *The Human Condition* (Chicago: University of Chicago Press, 1989), 136.

[4] Ibid., 137.

[5] Antonio Sant'Elia, "L'Architettura Futurista: Manifesto" (Milan, July 1914). English translation in Ulrich Conrads (ed.), *Programmes and Manifestoes*

on 20th-century Architecture (London: Lund Humphries, 1970), 38. On the convoluted history of the manifesto and its reception, see Esther da Costa Meyer, *The Work of Antonio Sant'Elia: Retreat into the Future* (New Haven: Yale University Press, 1995), 141-168.

[6] William Holford, "In Search of a New Monumentality," *Architectural Review* vol 104, no 621 (September 1948): 125

[7] Charles Baudelaire, *Painters of Modern Life*, trans. J. Mayne (London: Phaidon, 1995), 12.

[8] Alois Riegl, *Der moderne Denkmalkultus: Sein Wesen und seine Entstehung* (Wien und Leipzig: Braumüller, 1903), 9 and 16-18.

[9] Aldo Rossi, *The Architecture of the City*, trans. D. Ghirardo and J. Ockman (Cambridge: The MIT Press, 1982), 89.

[10] See, for example, Anthony Vidler, "From the Hut to the Temple: Quatremère de Quincy and the Idea of Type," in *The Writing of the Walls: Architectural Theory in the Late Enlightenment* (New York: Princeton Architectural Press, 1987), 147-64; Anthony Vidler, "The Third Typology", *Oppositions* 7 (1976): 1-4; and Adrian Forty, "Type," in *Words and Buildings: A Vocabulary of Modern Architecture* (London: Thames & Hudson, 2000), 304-11.

[11] Karl Bötticher, *Die Tektonik der Hellenen*, vols. 1-2 (Potsdam: Riegel, 1844-1852). Second, revised edition: Berlin: Ernst & Korn, 1874-1881.

[12] Karl Bötticher, "Einleitung," in *Der Baumkultus der Hellenen nach den gottesdienstlichen Gebräuchen und den überlieferten Bildwerken dargestellt* (Berlin: Weidmann, 1856), 1-6.

[13] Bötticher, "Umriss des hellenischen Baumkultus," in *Der Baumkultus der Hellenen nach den gottesdienstlichen Gebräuchen und den überlieferten Bildwerken dargestellt* (Berlin: Weidmann, 1856), 9.

[14] Ibid., 7-25

[15] See, for example, Hartmut Mayer, *Die Tektonik der Hellenen: Kontext und Wirkung der Architekturtheorie von Karl Bötticher* (Stuttgart and London: Menges, 2004), 16.

[16] Gottfried Semper, "Prolegomenon" in *Der Stil in den technischen und tektonischen Künsten; oder, Praktische Aesthetik: Ein Handbuch für Techniker, Künstler und Kunstfreunde*, vol. 1 (Frankfurt am Main: Verlag für Kunst und Wissenschaft, 1860), xxi-xxii. English translation in Gottfried Semper, *Style in the Technical and Tectonic Arts; or, Practical Aesthetics, trans. and ed. H. F. Mallgrave and Michael Robinson* (Los Angeles: Getty 2004), 82.

[17] Semper presented his ideas on weaving in several places, see,

for example, *Der Stil* §54 and §57-61, as well as "The Four Elements of Architecture," in *The Four Elements of Architecture and Other Writings,* trans. and ed. Harry F. Mallgrave and Wolfgang Herrmann (Cambridge: Cambridge University Press, 1989), 103-104.

[18] A poignant presentation of Semper's notion of Stoffwechsel and Bekleidung is found in §66, "Excursus über das Tapetzierwesen der Alten," in *Der Stil in den technischen und tektonischen Künsten,* vol. 1 (Frankfurt am Main: Verlag für Kunst und Wissenschaft, 1860), 276-322.

[19] This point is elaborated in J. Rykwert, "Gottfried Semper and the Conception of Style," in *Gottfried Semper und die Mitte des 19. Jahrhunderts,* eds. A. M. Vogt, C. Reble, and M. Frölich (Basel: Birkhaüser, 1976), 68-81.

[20] Gottfried Semper, "On Architectural Styles," in *The Four Elements of Architecture and Other Writings*, trans. and ed. Harry F. Mallgrave and Wolfgang Herrmann (Cambridge: Cambridge University Press, 1989), 269.

[21] Gustav Klemm, *Allgemeine Kulturgeschichte der Menschheit,* vol. 1 (Leipzig: Teubner, 1843), 2-3.

[22] The links between Semper and Sundt have been explored by the Swedish art historian Rudolf Zeitler in the unpublished lecture "*Om Eilert Sundt og G. Semper*" (1979, typewritten manuscript held at the Norwegian Directorate for Cultural Heritage Archive in Oslo), though from quite a different vantage point than the present comparison.

[23] Eilert Sundt, *Om Bygnings-Skikken paa Landet i Norge* (Christiania: Malling, 1862).

[24] Ibid., §5, 14. In the original text:

> *Jeg kan ikke sige, hvor jeg blev forundret, da jeg første gang blev opmærksom på og opfattede denne hus-skik. [...] Det er så i disse bygder, at når man først har gjort sig fortrolig med hver tings plads i et hus, så veed man med det samme, hvordan det er i alle de andre huse af samme bygningsmåde. Når jeg nu kjører igjennem Gudbrandsdalen og i forbifarten ser på et hus, at det hører til dette gammeldags slag, med stue og kleve, hvilket er tilfælde med de allerfleste, og når jeg fremdeles ser, hvordan huset er stillet, eller hvad der er fremsiden og bagsiden - hvilket kan skjønnes på dørens eller vinduernes eller skorstenspibens plads, - så kan jeg ligesom se ind igjennem væggen og vide, at her ved døren står fremskabet, der ved hjørnet er høisædet, i hjørnet hist borte står husbondens seng o.s.v. Det er, som om husene skulde være af glas.*

[25] Ibid., 14-15. In the original text:

> *Anderledes i byerne: husene mere ulige og menneskene ligeså - med ulige vaner og fordringer, mere udviklet forskjellighed i sind og tænkemåde, en så, en anden så. I den fjerne landsbygd kan en velstående og en fattig bonde have det så temmelig ens i sit hus og sit daglige liv, i hovedstaden derimod kommer forskjellen mellem den*

rige og den fattige, den dannede og den udannede o.s.v. tilsyne på hvert punkt. Der er vexel-virkning her: under bylivets bevægede forholde kunne de forskjellige anlæg og sindsretninger udvikles frit, og frit sees da enhver at indrette sit hus og sit hele husliv, som han bedst veed og kan; men de udvortes forskjelligheder, som herved opstå, skabe igjen forskjellige vaner, tilbøieligheder, lidenskaber, og hermed påskyndes hin sindets og tænkemådens udvikling, så forskjellen mellem de enkelte mennesker bliver altid større og større.

[26] Alexander Nagel and Christopher S. Wood, *Anachronic Renaissance* (Cambridge: The MIT Press, 2010), 15.

[27] Ibid., 183.

[28] Aristotle, *Poetics,* trans. J. Hutton (New York: Norton, 1982), 1450a.

[29] Egede-Nissen, *Autentisitetens relevans,* 210. Emily Gunzburg Macas, "The Old Bridge," in *Representing Competing Identitites*, (Ph.D. dissertation, Cornell University, 2007), 198-255.

[30] Heiko Wimmen, "*New Nations, Imagined Borders: Engineering Public Space in Post-War Mostar, Bosnia-Hercegovina*" (paper presented at the Beirut Conference for Public Spheres, Beirut, Lebanon, October 22-24, 2004), quoted in Macas, *Representing Competing Identitites*, 217.

FROM ANTHROPOMIMETIC TO BIOMIMETIC CITIES - THE PLACE OF HUMANS IN "CITIES LIKE FORESTS"

HENRY DICKS

INTRODUCTION

In *Biomimicry: Innovation Inspired by Nature,* Janine Benyus argued that the key to sustainability is to learn from the 3.8 billion years of "research and development" already carried out by nature.[1] Since the publication of her book, biomimicry has been heralded as "the mantra for Silicon Valley and other regions of the techno-sphere"[2] and as a "revolutionary concept" capable of underpinning a "Second Industrial Revolution."[3] In keeping with this, biomimicry is also attracting increasing attention from architects and urbanists. The famous architecture critic, Charles Jencks, has noted that "the basic trend of the time [is] towards biomimesis,"[4] and there is a growing tendency amongst both architects and urban theorists to see natural ecosystems—especially forests—as models for the city.[5]

> "THROUGHOUT WESTERN HISTORY THE DOMINANT MODEL FOR THE POLIS, *QUA* BOTH CITY AND STATE, HAS BEEN THE HUMAN BEING"

Perhaps the most significant limitation of current thinking in and around biomimicry is that it focuses almost exclusively on technological innovation. Turned resolutely towards the future via the concept of sustainability, biomimicry practitioners—usually engineers, designers, architects, or urbanists—typically focus on how basing artificial entities or systems on natural models can provide a coherent response to the ecological destruction wrought by conventional technologies. If biomimicry is as important as its advocates believe, however, then it also raises important questions for the humanities,

including such disciplines as urban and architectural history, anthropology, political theory, sociology, and philosophy. If buildings and cities are henceforth to be based on "natural models," then how is this different from what went on in the past? Did architects and urbanists previously design things without reference to models or did they just use different models? If the cities of the future are to be based on natural ecosystems, then what place might humans occupy in these cities and how might the emergence of these cities affect human self-understanding? And, given the important but often overlooked relation between the polis *qua* city and the polis *qua* state, what implications might the rise of biomimetic urbanism have for political theory?

With a view to responding to these questions, this article will be split into three parts. In the first two parts, I will argue that the traditional model for both the state (Part 1) and the city (Part 2) is the human being. Then, in the third part, I will briefly examine the emerging model of the natural ecosystem, and in particular the forest, before going on to consider—via an articulation of Heidegger's thinking of the clearing with some recent theoretical insights into human evolution—how this new model calls for a radical shift in human self-understanding.

1 ANTHROPOMIMICRY IN POLITICAL AND SOCIAL PHILOSOPHY

The polis of the ancient Greeks was both city and state. This is not to say, however, that there was not a certain distinction between the two. For thinkers like Plato and Aristotle, the community of citizens that made up the state was far more important than the buildings and streets that made up the city; politics was far more important than urbanism. This split between politics and urbanism has been exacerbated in more recent times as the geographical coincidence between city and state eroded and the nation-state became the primary political unity. The result is the almost complete divorce between political philosophy, on the one hand, and architecture and urbanism, on the other. This is not to say, however, that political philosophy and urbanism have followed totally different paths. Indeed, ever since the ancient Greeks, thinking about the state and thinking about the city have evolved in parallel, conceiving their object in very similar terms: both the state and the city have been conceived via the same foundational model—the human being.

The first major manifestation of "anthropomimetic" political philosophy occurs in Plato's *Republic*.[6] Seeking a response to the question of the nature of justice, Plato argues that the ideal state would be composed of three classes—philosophers, auxiliaries, and businessmen—each

of which corresponds to a "part" of the human soul—reason, courage, and moderation. Justice, he goes on to argue, results from each class "minding its own affairs," for doing so gives rise to that state of harmony and balance between the different parts of the state that Plato sees as the essence of justice. Harmony and balance between the different parts of the human soul thus constitute a model for the organization of the state and therewith also an answer to the question of the nature of justice.

A similarly "anthropomimetic" approach to political philosophy was also common in the Middle Ages, a famous example being John of Salisbury's *Policraticus*, which drew an extensive analogy between the organs of the body and the organs of the state.[7] Modern political philosophy was also strongly marked by this approach. Hobbes's *Leviathan* famously opens with the description of the state as an "artificial man,"[8] and Rousseau's 1755 article in the *Encyclopédie* on political economy likewise contains an extended analogy between the organs of the state and the organs of the human body.[9] Moreover, it is also important to note the role played by speculative anthropology in modern political philosophy. The state was conceived in analogous terms to the human individual in the state of nature. As individuals entered the social contract, thus leaving the state of nature behind, the state of nature did not completely disappear but was instead elevated to the international level; the war of all against all would henceforth take place between nations, not individuals.

"HARMONY AND BALANCE BETWEEN THE DIFFERENT PARTS OF THE HUMAN SOUL THUS CONSTITUTE A MODEL FOR THE ORGANIZATION OF THE STATE"

In the wake of the French Revolution, as representative democracy fitfully emerged as the dominant form of politics in the West, an important shift occurred in political philosophy away from the nature and role of government towards what Hegel and Marx called "civil society." Indeed, for Marx, all traditional history had focused on the "super-structural" issues of religion, politics, and

ideology, thus overlooking the relations and forces of production that make up the economic "base." The separation of civil society from the state, and therewith also the shift from the "political question" to the "social question,"[10] in turn made possible the emergence of sociology. From its very inception, sociology supposed a specific model for society: the physiological one of the organism. Grappling with the newfound separation between state and society, Saint-Simon developed a theoretical understanding of the latter via the concept of "social physiology" (la physiologie sociale).[11] In order to understand society scientifically, he thought, it was necessary to use concepts drawn from physiology, an approach which led him to inquire into the various "organs" of the "social body," while at the same time seeing political economy, law, and public morality as the basic "rules of hygiene" of this same social body. Strongly influenced by Saint-Simon, Auguste Comte may have abandoned the expression "social physiology" in favour of the neologism "sociology," thus founding the latter as a stand-alone discipline, but he did not abandon the organismic model.[12] For Comte, the very possibility of sociology as a positive science depended on seeing society as an "organism," an approach that led him to import a wide number of key operational concepts—organs, illnesses, etc.—from physiology. Likewise, in *De la Division du Travail Social*, Durkheim also took up this physiological view of society, arguing that the division of labour in the "social organism" corresponds to the functional division of the "biological organism" into different members and organs.[13]

For our purposes, there are three key points to underline regarding anthropomimetic political and social philosophy. The first is that specifically in political philosophy, one finds a strong tendency to focus on the soul or mind of the human individual and its mimetic counterpart at the level of the state. Plato, for example, focuses on what he sees as the three different parts of the soul and their mimetic counterparts in the state. Likewise, while Rousseau's article on political economy draws an extensive analogy between the parts of the human body and the parts of the state, his political philosophy—as developed most notably in *Du Contrat Social*—focuses rather on analogies between the mental faculties of human individuals and their corresponding attributes in the state, the most notable example being his invocation of the individual will as a model for the "general will." The second is that the emergence of sociology in the nineteenth century did not amount to a change of model—away from the "anthropological" one favoured by political philosophers from Plato to Rousseau and towards a new and different "physiological" or "biological" one—but rather a shift in focus within the same basic model,

such that the traditional emphasis on the mind, and therewith also on the activities of government and science, was replaced by a focus on the body, and therewith also on socio-economic activity, particularly the work. The third key point is that all the political and social philosophy discussed above sees the political or social community as composed solely of human beings. Plato's state is composed of people, not things. The parts of Hobbes's state that correspond to the different parts or attributes of the human individual (the soul, memory, joints, nerves, strength, etc.) are all people (the sovereign, counsellors, magistrates, etc.),[14] hence the famous depiction of the state on the frontispiece of *Leviathan* as a composite of human individuals. Similarly, in Comte and Durkheim's work, the parts of the social organism that they think correspond to the parts of the biological organism are all different categories of people. In short, human beings provide not just the form but also the matter of the traditional view of the state.

2. ANTHROPOMIMICRY IN URBAN THEORY

The first key manifestation of anthropomimicry in architecture and urban theory occurred in early Renaissance Italy in the work of such important and influential figures as Leon Battista Alberti, Filarete, and Francesco di Giorgio Martini.[15] According to the French urban historian Françoise Choay, the fundamental explanation for this phenomenon lies in what she calls the "scandal of homo artifex."[16] Unlike other species, whose constructions follow paths determined by their nature, humans are free to build things however they choose. So, whereas the laws that govern the construction of beehives or ant nests are determined by the nature of the species, humans, as uniquely autonomous agents, must give themselves their own laws of construction. This in turn raises the question of what laws and guidelines they should give themselves. The response, Choay

explains, was that the construction of artefacts should follow the form of the human body, for the human body was considered the most perfect form in all of nature, primarily on the grounds that it combined the fundamental attributes of all the various different spheres of creation, from the growth of plants and the sentience of animals to the rationality and spirituality of bodiless angels.[17] The result was an approach to the planning and design of cities that would dominate Western architecture for hundreds of years: the form of the city should follow the form of the human body.

There was, however, a complication with this "anthropomimetic" approach to urban planning and design. Unlike Vitruvius, who saw the human body as a purely formal or aesthetic architectural model, the architects and urban theorists of the early Italian Renaissance also looked for functional equivalents to the different parts of the human body.[18] The complication was that it was not easy to find meaningful points of comparison between internal organs of the human body and corresponding functional parts of the city. There was, as Choay notes, a "blank" in the city where the internal organs should be.[19]

Four hundred years later, this blank was eventually filled in. The moment of transition is most clearly visible in the contest between Antoni Rovira i Tras and Ildefonso Cerda for the renovation of Barcelona in the mid-nineteenth century. Rovira's project accepted the basic methodology of the early Italian Renaissance: the renovation of Barcelona was to follow the ideal aesthetic form of the human body. As Antonio Lopez de Aberasturi explains: "[f]rom the head – the forum to the peripheral members, the proportions of its [the proposed city's] elements are modelled on the proportions of the human body, in conformity with the teachings of the great treatises of classical architecture."[20] (my translation) Cerda, on the other hand, introduced a functionalist approach. The city should not have the aesthetic form of the human body, but rather the functional efficacy of the biological organism. The urbanist, in this new framework, takes on the role of both "anatomist" and "doctor" of the "urban organism." His role is first to dissect the city, to analyse its biological functions—its systems of consumption, digestion, circulation, evacuation of waste, and so on—and then, in the case of pathology, to intervene in such a way that the city may be cured of any "illness." So, just as Auguste Comte's founding of sociology as a positive science required society to be seen as an organism, so the emergence of urbanism as a positive science—which Choay traces back to Cerda's *Teoría General de l'Urbanización*—likewise required the city to be seen in this same physiological way.[21]

But the city, as theorized by the nascent science of urbanism, was not just any old organism. Indeed, as the development of urban infrastructures over the course of the nineteenth and twentieth centuries has testified, the principal technological developments in the thinking and practice of urban planning and design typically evoked the model of the specifically human or animal organism. For example, the mid-nineteenth century British hygienists, and Frederick Ward in particular, proposed new forms of centralized urban water systems whose pipes were based on the model of "arteries," "veins," and "capillaries," whose steam-powered pumps used to transport water uphill were based on the "heart," and whose impermeable paving, which was thought to protect the city from disease, was modelled on the "skin."[22] Perhaps the greatest example of this way of thinking, however, is to be found in Le Corbusier's *Urbanisme*, which describes the city as a "human organism," its buildings as "cells," its roads as "arteries," its parks as "lungs," and the urbanist as its "doctor" or "surgeon," depending on the severity of the treatment required. In the book's appendix, Le Corbusier even provides various diagrams of the internal organs of the human body, explicitly referencing them as models on which his practice as an urbanist is grounded.[23]

> "UNLIKE OTHER SPECIES, WHOSE CONSTRUCTIONS FOLLOW PATHS DETERMINED BY THEIR NATURE, HUMANS ARE FREE TO BUILD THINGS HOWEVER THEY CHOOSE"

In view of the above analyses, it is clear that the evolution of Western thinking about both states and cities has followed a similar path. Indeed, while some moments in history have given rise to particularly intense moments of activity for the former (e.g., the Enlightenment) and others for the latter (e.g., the Renaissance), it is also true that there have been periods of strong convergence, most notably the mid-nineteenth century, which saw the simultaneous emergence of both sociology and urbanism, viewed as positive sciences, thanks in large part to a shared grounding in the physiological model of the organism. This is not to say, however, that history does not also reveal significant

theoretical differences between the polis qua city and the polis qua state. We have already seen that the mid-nineteenth century marked a change in focus from the Enlightenment vision of the human soul or mind as model for the workings of government to the sociological vision of the functional differentiation of the biological body or organism as model for the social division of labour. In the case of urban theory, by contrast, the shift is not from mind to body, but rather from the outward, aesthetic form of the human body to its internal, functional organization. A second major difference concerns the composition of the anthropomimetic state in contrast to that of the anthropomimetic city. Whereas the former is composed solely of human beings, the latter is composed rather of houses, temples, fortresses, city walls, market places, and other artificial constructions, though later also infrastructure, most of which was inanimate, as in the case of transport, water, and energy networks, though some of which was composed of living beings, as in the case of the new urban parks, whose creation was justified throughout the Western world on the grounds that they constituted the "lungs of the city."[24]

3 THE BIOMIMETIC POLIS AND THE QUESTION OF THE HUMAN

It is not hard to see that modelling cities and states on human individuals is ecologically problematic. Viewed ecologically, humans are "consumers." To base cities and states on the model of human individuals is thus to create urban and socio-political systems whose continued existence depends on the extraction and consumption of vast quantities of energy and materials from their environment and which also generate huge quantities of waste and pollution. Conversely, to base cities and states on natural ecosystems would be to create urban and socio-political systems which generate their own usable energies and materials while also recycling their wastes in processes analogous to natural nutrient cycling.

To get a brief idea of the power of this new model, let us briefly consider the potential implications of Braungart and McDonough's motto, "[i]magine a building like a tree, a city like a forest,"[25] for sustainable energy systems. According to this model, every building would capture all or almost all of the energy it requires using solar panels, whether photovoltaic or, in the future, using techniques closer to natural photosynthesis. As for distribution, just as in the forest the rhizosphere connects the trees together such that excess sugars may be passed on to mycelium in the soil and thereby also on to other trees, so "energy positive" buildings would pass on their excess energy to buildings that do not meet their own energy requirements via a distributed underground grid. And finally,

just as in the forest the mobile organisms—the insects and animals—obtain their energy in the first instance from the plants, so in a city like a forest, the mobile elements—cars, trams, drones, etc.—could also obtain their energy directly from the buildings.

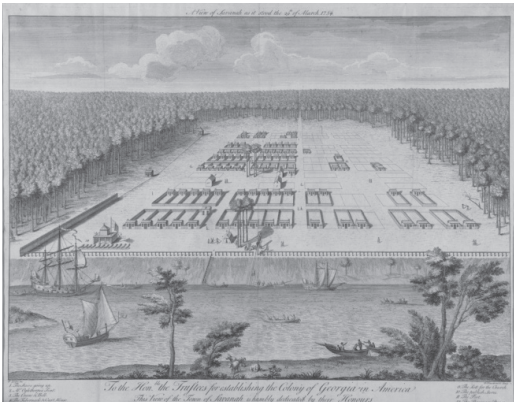

FIGURE 1: THE CONSTRUCTION OF THE CITY OF SAVANNAH, GEORGIA IN AN AREA OF CLEARED FOREST

While it would in theory be possible to develop all sorts of other examples of how forest ecosystems could help us re-think the technological foundations of our cities and states, the key question that the remainder of this article will seek to address is rather the anthropological one of the "place" humans might occupy in the biomimetic polis, and therewith also the issue of how basing the polis on forest ecosystems calls on us to re-think our self-understanding. Before developing a response to these questions, it is important to recall two key features of the basic anthropology supposed by modern political philosophers: first, the key opposition that structures this anthropology is that of a body shared with the rest of nature and a mind unique to humans; second, human individuals—*qua* syntheses of bodies and minds—provide both the form on which the state is modelled and the matter of which it is composed. In this manner, the state provides a place where these dual aspects of the human may find fulfilment: bodily fulfilment may be attained via the activity of consumption we share with animals and mental fulfilment by the intellectual activities—politics, science, art, etc.—that humans alone possess. In view of this, it could perhaps be thought that the biomimetic polis runs the risk of going to the opposite extreme of the anthropomimetic polis (i.e., of excluding the human altogether). If the basic models for the different elements of the state are provided by nature—plants, animals, fungi, etc.—and not by the

human, then what place might the biomimetic polis accord to humans? In response to this question, the key argument sketched out in the remainder of the article is that it is possible to think the place of the human in "cities like forests" via the development of a speculative philosophical anthropology that combines Heidegger's ontological thinking of the "clearing" with various anthropological insights that have emerged from the study of human evolution and pre-history.

4 THE CLEARING IN ANTHROPOLOGY AND PHILOSOPHY

In "The End of Philosophy and the Task of Thinking," Heidegger describes the clearing as "the open region for everything that becomes present and absent."[26] This becoming present, he thinks, depends on humans' unique ability to understand Being (i.e., the "as"), for it is "as" things—as tools, as other humans, as animals, as Gods, etc.—that beings show up in the clearing. It is widely assumed in the secondary literature on the subject that the clearing in the forest is ultimately just a "metaphor" for this uniquely human ability to understand the "as."[27] On this reading, the clearing in the forest is simply a figurative representation of being-in-the-world, and in particular of its spatiality. In what follows, we will see that it is possible to draw on contemporary interpretations of human evolution and pre-history in order to interpret the clearing not as mere metaphor, but rather as a literal and insightful description of the "there," understood as the space where the "as" reveals itself.

For the first four or five million years since our hominid predecessors separated from the common ancestor they shared with chimpanzees, the driving force behind human evolution was the thinning out of the tropical forests of Africa and therewith also the transition from an arboreal lifestyle to one which increasingly took place in open environments.[28] According to the French paleo-anthropologist Pascal Picq, it was precisely the completion of this transition to open environments—and not an increase in brain size, the generalization of tool-use, bipedalism, language, or any other single factor—that defines the genre homo,[29] and therewith also what are widely referred to as "early humans." The emergence of "modern humans," approximately 1.5 million years later, again marked a significant shift in our ancestors' relation to the environment. If "anatomically modern humans" emerged approximately 200,000 years ago, it was not until approximately 50,000 years ago—during the depths of the last Ice Age—that so-called "modern behaviour" emerged. Then, as soon as the glaciers receded some 12,000 years ago, a dramatic increase in the human population came about thanks largely to the widespread practice of

deforestation, whether to create space in which to dwell, hunt, and gather or to adopt the agriculture and architectural techniques characteristic of the Neolithic Revolution.[30] The clearing, on this view, is not a metaphor for the space where humans dwell, for the genre homo is not only biologically adapted to living in the clearings or open environments opened up several million years ago by climate change, but also, and largely because of this adaptation, has in its most recent incarnation—behaviourally modern humans—constantly sought to clear forests, a practice that has now spread so far and wide that human habitation of clearings goes largely unnoticed.[31]

But the clearing is not just a physical habitat, an open environment to which members of the species homo sapiens are biologically and culturally adapted, for it must also be seen in Heideggerian terms as the space where Being "reveals itself," thus "opening itself" to understanding. In what follows we will not seek to understand the complex philosophical issue of the "self-disclosure" of Being in its entirety, but rather to analyse one important feature of this process that is particularly important for the present inquiry: concomitant with the self-disclosure of the "as" there emerges the possibility of seeing one being "as" or "like" another being. This feature of the self-disclosure of Being resonates with the argument put forward by the cognitive anthropologist Steven Mithen that what ultimately distinguishes modern humans from early humans is "cognitive fluidity." By cognitive fluidity, Mithen means the ability to combine the various different categories of thought and forms of intelligence so as to produce original syntheses.[32] So, whereas Mithen thinks that the Neanderthals had what he calls a "natural history intelligence," a "technical intelligence," and a "social intelligence," each of which was more or less as fully developed as that of modern humans, he also thinks they were unable to combine these various different forms

"WHAT PLACE MIGHT THE BIOMIMETIC POLIS ACCORD TO HUMANS?"

of intelligence and the categories of thought on which they depend to produce novel syntheses.

It is not hard to see that it is this openness of the "as," this cognitive fluidity, which gives humans the unique ability to blend together their understandings of nature, of technology, and of humanity, that constitutes the ontological ground for the creation of both the anthropomimetic and the biomimetic polis. It is what makes it possible to conceive cities and states based on the model of the human individual, understood as a composite of an animal body and a human mind, just as it is also the ontological ground that allows humans to conceive cities and states based on the model of the forest, understood not just as a natural ecosystem, but also as containing clearings and therewith also the open relationship to the "as" that is unique to humans. With this in mind, it would seem that the transition from an anthropomimietic to a biomimetic model of the polis makes possible a new way of thinking about what distinguishes humans from nature: in contrast to the traditional distinction between the mind and the body, the new distinction would be based instead on the opposition between the forest and the clearing. After the "mind/body" dualism of modernity, which identifies the human with the mental and the natural with the bodily, there may thus emerge what I propose to call an "enlightened naturalism" (naturalisme éclairé), which, as the word "naturalism" suggests, seeks to explain the emergence of the human in naturalistic terms via the study of human evolution, while at the same time also making it possible to think about what is ontologically distinctive about the human—the open relation to Being—via the concept of the "clearing" (clairière).

CONCLUSION

Whereas the traditional model for the polis was the "anthropomimetic" one of the human being, the emergence of biomimicry has led to the possibility not only of taking the forest as a model for the polis, but also of understanding the genesis of this model from out of the clearing, understood not only as an open environment, but also as the space where the "as" discloses itself, thereby making it possible to see one thing "as" or "like" another thing. This in turn calls for a radical shift in human self-understanding: rather than seeing ourselves as composites of an animal body and a human mind, we may henceforth see ourselves as former forest-dwellers who have come to dwell in open environments and who, in doing so, have ultimately acquired an open relation to Being, hence the possibility of conceiving states as "artificial men," societies as

"organisms," cities like "forests," and so on and so forth. From this perspective, rather than trying to overcome the much-maligned mind-body dualism of modernity in the name of either reductionist monism (e.g., scientific naturalism) or postmodern pluralism, the task we face is rather to theorize an "enlightened naturalism" (naturalisme éclairé), which articulates naturalistic explanations of human evolution with ontological thinking about the "clearing" (clairière). Moreover, as far as the relation between architecture and philosophy is concerned, although Heidegger's significance for architecture has been much discussed,[33] the idea that building takes place in clearings and that there may be an important link between clearings in the naturalistic and ontological senses has, to my knowledge, yet to be explored. From Vitruvius[34] to Le Corbusier,[35] it has commonly been assumed that the first ever buildings were constructed in forest clearings, but this has not been linked to the ontological sense of the clearing, and thereby also to the question of the being of buildings, and in particular to their openness to being seen "as" imitations of the perfect human form, "as" cells in an urban organism, or "as" habitable imitations of the trees that made way for them in the first place. Lastly, it is of course also important to consider how the model of the forest may allow us to rethink not just architecture and urbanism, but also the polis in the political sense. Could the model of the forest biome help provide a model for the political economy of entire nation states and in particular for their agricultural and industrial production? And, if the forest is the model for the polis, could the clearing perhaps provide a model for the agora, understood as the economic and political space of markets, parliaments, tribunals, and so on, where the essential discussions and decisions of its human inhabitants take place?

"THE EMERGENCE OF BIOMIMICRY HAS LED TO THE POSSIBILITY NOT ONLY OF TAKING THE FOREST AS A MODEL FOR THE POLIS, BUT ALSO OF ACCORDING HUMANS A PLACE WITHIN THIS MODEL"

[1] Janine Benyus, *Biomimicry: Innovation Inspired by Nature* (New York: Harper Perennial, 1997).

[2] Dickson Despommier, *The Vertical Farm: Feeding the World in the 21st Century* (New York: Picador, 2011), 34.

[3] Freya Mathews, "Towards a Deeper Philosophy of Biomimicry," *Organization & Environment* 24, no. 4 (2011): 364-387.

[4] Charles Jencks, *The Story of Postmodernism* (Chichester: John Wiley, 2011), 225.

[5] See Michael Braungart and William McDonough, *Cradle to Cradle: Re-Making the Way We Make Things* (London: Vintage, 2009); Luc Schuiten and Pierre Loze, *Vers une Cité Végétale* (Wavre: Madraga, 2010); Vincent Callebaut, *Paris 2050: Les Cités Fertiles Faces Aux Enjeux du XX siècle* (Paris: Michel Lafon, 2015); and Maibritt Pedersen Zari, "Ecosystem Services Analysis: Mimicking Ecosystem Services for Regenerative Urban Design," *International Journal of Sustainable Built Environment* 4, no. 1 (2015): 145–157.

[6] Plato, *The Republic*, trans. Desmond Lee (London: Penguin Classics, 1974).

[7] John of Salisbury, *Policraticus: of the Frivolties of Courtiers and the Footprints of Philosophers*, trans. Cary J. Nederman (Cambridge: Cambridge University Press, 1990).

[8] Thomas Hobbes, *Leviathan or the Matter, Form & Power of a Commonwealth Ecclesiastical and Civill* (London: Andrew Cooke, 1651).

[9] Jean-Jacques Rousseau, "Discours sur l'Economie Politique," in *Du Contrat Social*, ed. Robert Derathé (Paris: Gallimard, 2007), 66.

[10] Serge Moscovici, *Essai sur l'Histoire Humaine de la Nature* (Paris: Flammarion, 1977).

[11] Claude Henri Saint-Simon, *De la Physiologie Sociale: Œuvres Choisies* (extraits 1803-1825), ed. Georges Gurvitch (Paris: Presses Universitaires de France, 1965).

[12] Auguste Comte, *Leçons de Sociologie: Cours de Philosophie Positive* (Paris: Flammarion, 1995), 47-51.

[13] Emile Durkheim, *De la Division du Travail Social,* (Paris: Editions Norph-Nop, 2011).

[14] The only significant exceptions to this are money and goods, which Hobbes depicts as the "blood" of the "artificial man."

[15] Jütte has documented how in late medieval Europe houses were often

conceived by analogy with human beings, but he also notes that it was only with the Renaissance that the "boom" in anthropomorphic architecture truly began. See Daniel Jütte, "Living Stones: The House as Actor in Early Modern Europe," *Journal of Urban History*, 42, no. 4 (2015): 659-687.

[16] Françoise Choay, "La ville et le domaine bâti comme corps dans les textes des architectes-théoriciens de la première renaissance italienne," *Nouvelle Revue de Psychanalyse* 9 (1974): 239-251.

[17] Ibid., 247.

[18] Ibid., 244.

[19] Ibid., 246.

[20] Antonio Lopez de Aberasturi, "Introduction," in *La Théorie Générale de L'Urbanisation d'Ildefonso Cerdà*, trans. Antonio Lopez de Aberasturi (Paris: Editions du Seuil, 1979), 22.

[21] Françoise Choay, *La Règle et le Modèle: Sur la Théorie de l'Architecture et de l'Urbanisme* (Paris: Editions du Seuil, 1996).

[22] Frederick Ward, *Discours Prononcé à la Séance d'Ouverture du Congrès International de Bienfaisance*, (Bruxelles: Librairie Européenne, C. Muquardt, 1856), 9-31.

[23] Le Corbusier, *Urbanisme* (Paris: Flammarion, 1994).

[24] Catherine Ward Thompson, "Linking Landscape and Health: The Recurring Theme," *Landscape and Urban Planning* 99 (2011): 191.

[25] Michael Braungart and William McDonough, *Cradle to Cradle*, 139.

[26] Martin Heidegger, "The End of Philosophy and the Task of Thinking," in *Basic Writings*, ed. David F. Krell (Oxford: Routledge, 1993), 442.

[27] See Richard Capobianco, *Engaging Heidegger* (Toronto: University of Toronto Press, 2010), 89; Thomas Sheehan, *Making Sense of Heidegger: A Paradigm Shift* (London: Rowman and Littlefield,

2015), 20-21.

[28] Jean-Jacques Hublin, *Quand d'Uutres Hommes Peuplaient la Terre* (Paris: Flammarion, 2008).

[29] Pascal Picq, *Au Commencement était l'Homme* (Paris: Odile Jacob, 2009), 99-100.

[30] Michael Williams, *Deforesting the Earth: From Prehistory to Global Crisis* (Chicago: University of Chicago Press, 2002).

[31] Robert Harrison, *Forests: The Shadow of Civilization* (Chicago: University of Chicago Press, 1992), 245.

[32] Steven Mithen, *The Prehistory of the Mind: A Search for the Origins of Art, Religion and Science* (London: Thames and Hudson, 1996), 203.

[33] See Miguel De Beistegui, *Thinking with Heidegger* (Indianapolis: Indiana University Press, 2003); Adam Sharr, *Heidegger for Architects* (Oxford: Routledge, 2007).

[34] Choay, "La ville et le domaine," 239-251.

[35] Le Corbusier, *Vers une Architecture* (Paris: Flammarion, 1995).

TOWARDS A POST-HUMAN ERA? - DIGITAL ARCHITECTS AND THE FUTURE OF MANKIND

MARION ROUSSEL

In this age of unprecedented technological progress, we can no longer ask "what is man?" without examining what we think man will become. In the field of architecture such an examination necessitates considering both what and for whom we will be building in the decades to come. Since the expansion of information and communication technologies in the beginning of the 1990s, the most forward-thinking architects have been asking these very questions. More specifically, digital architects have been among the first in the field, if not the first, to become interested in the effects of technological advancements not only on architectural design and the built environment of the future, but also on society as a whole and on our physical, psychological, and cultural evolution. Thus they have constructed future world visions often impregnated with post-humanist and trans-humanist currents of thought.

"WE CAN NO LONGER ASK 'WHAT IS MAN?' WITHOUT EXAMINING WHAT WE THINK MAN WILL BECOME"

These future world visions are valuable resources in our quest to grasp and understand the contemporary conception of mankind and of mankind's possible futures. Through such commentary this paper aims to show how digital architects have been imagining mankind's future from the 1990s to the present. It will attempt to shed light upon our current state of evolution and its expected outcomes, regarding especially how we relate to the natural and to the artificial.

These relationships have already been profoundly transformed by new technologies and they will be transformed more and more. From the possibility of new modes of being made possible by cyberspace, which architects dreamed of during the 1990s, to the fantasy of a world populated by a new bio-mechanic species of life and truly living buildings, the statement made by the artist Roy Ascott that "[w]e are only interested in what can be made of ourselves, not what made us" takes its full meaning.[1]

CYBERSPACE: THE POSSIBILITY OF NEW MODES OF BEING

The digital turn in architecture occurred at the beginning of the 1990s as a result of the democratization of personal computers.[2] It was contemporaneous with the development of the Internet and virtual reality technologies, leading, during the course of that decade, to the theorization of cyberspace.

The cyberpunk author William Gibson, who popularized the term "cyberspace," described it as "[a] consensual hallucination experienced daily by billions of legitimate operators, in every nation" and "[a] graphic representation of data abstracted from the banks of every computer in the human system."[3] Born around the beginning of the 1980s in science fiction literature, it was depicted as a new level of reality, an entirely new space of living, but an immaterial one which existed in addition to our physical one and was produced by the global interconnection of computers from all over the world. In fact, during all the 1990s, cyberspace provided a basis for reflection on the topic of the transformation of space under pressure of the ICT (Information and communications technology) and of the hybridization of virtual and physical spaces. Moreover, it nourished a new imagination related to a likely transformation of mankind itself as a result of these virtualization processes.

In the fields of architectural and urban theory, a number of research papers and publications emerged in this decade. *Cyberspace: First Steps* by Michael Benedikt (1991),[4] *Being Digital* by Nicholas Negroponte (1995),[5] and *City of Bits* by William Mitchell (1996)[6] demonstrated the involvement and interest of architects in this emerging digital society and its implications. The publication of the issues of the *Architectural Design* review "Architects in Cyberspace," in 1995[7] and "Architects in Cyberspace II" in 1998,[8] bringing together the contributions of the so-called "cyber-architects" (Marcos Novak, Neil Spiller, John Frazer, Karl Chu, etc.), celebrated the "digital turn" in architecture as well as the community of thought that gathered around the topic of architecture, ICT, and digital architecture.

These works were mostly focused on the issue of dwelling, seeking

to redefine what it means to inhabit at a time when the virtualization of space was seen as capable of creating a transformation in man. Immersion in virtual spaces and, therefore, the mind-body problem, were examined with a view to the future of man (individual, subject, or species) and his technological hybridization. It is not surprising, then, that the *Architectural Design* issue "Architects in Cyberspace" ended with a paper by Stelarc entitled "Towards the post-human: From Psycho-body to Cyber-system," in which the artist announced the obsolescence of the biological body and the entry of the human into a post-evolutionary era.[9]

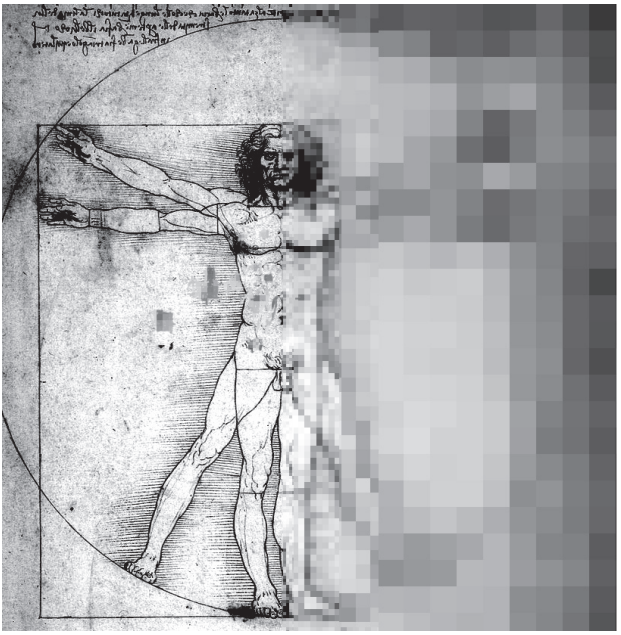

FIGURE 1: TRANS-VITRUVIAN MAN

Creating visions of the world to come, reflecting on the evolution of mankind and society, the "cyber-architects" flirted with trans-humanist currents of thought and definitions of the post-human. Differentiating itself from philosophical-cultural post-humanism and from technological post-humanism, trans-humanism promotes the enhancement of human intellectual, physical, and psychological capacities through techniques such as stem-cell therapy, genetic engineering, psycho-pharmacology, anti-aging therapies, neural interfaces, machines, and other mechanical enhancements.[10] By taking control of the evolutionary process and thus liberating the human species from its biological limitations, trans-humanists aim to attain a post-human existence whose visions range from the post-human as a

cybernetic organism; a digital, disembodied entity; to even a new biological species.[11] In the process, the definition of the human would evolve, perhaps in unpredictable ways.

Most of the digital architects believed that the emergence of cyberspace would truly transcend everything we know.[12] "What would architecture be in this sphere of virtuality?" asked Karl Chu in 1995, before answering: "No one knows for sure, however one thing is certain, traditional conceptions of territory, of dwelling, of identity, of the phenomenology of existence and being will no longer be the same."[13] Thought as a true phenomenological, perceptual, and phenomenal environment, cyberspace opened the possibility of new modes of being, and even of, in Michael Benedikt's words, "another venue for consciousness itself."[14]

Marcos Novak, pioneer of virtual reality and algorithmic architectural conception, exemplified this idea with a virtual environment called "Dancing with the Virtual Dervish: Worlds in Progress" (1991-1994) in which performers were compared to mystic Sufis in trance, immersed in a vision, an inner journey, exploring the meanderings of the human mind. Generated from musical algorithms and L-Systems (a formal and generative grammar used to model and simulate growth in plants), this environment was made up of an increasing number of chambers interconnected on the rhizome model, without any narrative hierarchy or determined development, and without beginning or end, thus leading to ways of being in space totally different from what we experience daily.[15]

For the British artist Roy Ascott, in the same spirit, cyberspace-induced transformations in the concept of inhabiting were considered so important that architecture needed to be fully rethought and urban strategy to be re-conceptualized.[16] In fact, according to Ascott, new perceptual and cognitive abilities should have emerged from our relation to information and communication technologies, expanding our sensory apparatus and connecting our individual bodies. The ability to be both here and there at the same time, which cyberspace should have permitted, should have enabled new ways of thinking and perceiving. The "post-biological faculty of cyberception," as called by Ascott, should have constituted a true "qualitative change in our being." He claims, moreover, that:

> *[n]ot only are we changing radically, body and mind, but we are becoming actively involved in our own transformation. […] Our consciousness allows us the fuzzy edge on identity, hovering between the inside and the outside of every possible definition of what it is to be a human being. We are all interface. We are computer-mediated and computer-enhanced.*[17]

By the late 1990s, it was conceded that what cyberspace architects

had dreamed of was nothing but a fantasy. The inspiring word "cyberspace" became a synonym for the more prosaic Internet, making it clear that there was no distinct virtual space separated from our physical one. It was also conceded that what happened in the electronic space of data and information networks in fact happened in our daily space, now hybridized by virtual technologies. Even William Gibson recognized that "[c]yberspace, not so long ago, was a specific elsewhere, one we visited periodically, peering into it from the familiar physical world. Now cyberspace has everted. Turned itself inside out. Colonized the physical."[18]

The installation "Trans-ports" presented at the Venice Architecture Biennial 2000 by the Dutch artists Kas Oosterhuis and Ilona Lénárd, founders of the ONL Agency, is a striking example of this merging. Trans-ports was an experiment in data-driven architecture: its structure was thought as reconfigurable in real-time in actual space as Internet users manipulated its online 3D model. Concomitantly, data collected in the physical space would also modify the structure, this modification being reverberated online, changing the 3D model. Then the connectedness and interdependence between physical and virtual spaces would be made obvious. Moreover, the "Trans-ports" inner skin was designed as a giant and continuous screen projecting information from websites or webcams, completely immersing visitors in data. This inner skin is conceptually very close to the hyper-surface architecture theory developed by Stephen Perrella during the 1990s, where architecture was conceptualized as a media surface melting the virtual and the built environment into a single hybrid space.

> "WILLIAM GIBSON RECOGNIZED THAT CYBERSPACE HAS EVERTED. TURNED ITSELF INSIDE OUT. COLONIZED THE PHYSICAL"

Even if the fantasy of cyberspace had vanished, the insights developed by Roy Ascott remained deeply relevant. Beyond the traditional natural-artificial debate thenceforth thought as obsolete,

what persisted was the idea of an intentionally and technologically directed self-transformation of humankind; and this some years before the German philosopher Peter Sloterdijk wrote two essays on that very same proposition respectively entitled *Rules for The Human Zoo*[19] and *The Domestication of Being*.[20] According to Sloterdijk, anthropogenesis is the result of anthropotechnics: human beings produce their own identity by means of technics (technological techniques). Neither technics nor technology would be "against" man: we would not be dealing with dehumanization by technology. On the contrary, such self-transformation would fully be part of a greater, and genuine, effort to strive for a better humanity.

The architect Rachel Armstrong expressed a very similar idea in 1998. She stated that "all mechanised individuals, regardless of their degree of integration with technology, remain fundamentally human.[...] This transformation of the body is not an artificial process; on the contrary, it is a natural extension of our humanness. Our species has elevated itself on the Earth by its capacity to use machines, not by its innate genetic programming."[21] Yet, due to, for example, the emergence of new species of life, be they digital, mechanical, or bio-mechanical, the place of man on the earth could well change faster than we expect, and in such a radical way that it could lead to the extinction of humankind itself.

TOWARD NEW SPECIES OF LIFE: TOWARD THE DEATH OF MANKIND?

In 2002 Kas Oosterhuis declared that, "[d]igital life may well assimilate us completely in the end, so that we no longer need to pretend that we are the be-all and end-all of evolution."[22] This architect, clearly, shared a theory of personality like that of Vernor Vinge or Ray Kurzweil, who popularized the hypothesis of 'singularity.' Singularity is the idea that we are at the dawn of a 'technological leap' determined by the exponential growth of computer power that will result in the emergence of artificial super-intelligences. Proponents of singularity believe that, at some point, progress will be the accomplishment of these artificial intelligences only, with humanity becoming obsolete. In the same way, we would no longer be in charge of our own future: the super-intelligences would decide for us; choosing to annihilate us, absorb us, or let us live as they saw fit.

This technological post-humanist concept of the post-human is quite different from that of trans-humanism or from that of philosophical-cultural post-humanism. In fact, whereas trans-humanism embraced the project of creating radically enhanced humanity, and whereas in philosophical-cultural post-humanism the concept of the post-human serves as a basis for a new narrative that would not engage "the literal

end of man but the end of a particular image of us,"[23] technological post-humanism envisions the very disappearance of the human species. Its project, therefore, is not concerned with the human but with the production of an artificial alterity that would not only be no longer human but would in fact supersede us, leading to a completely post-anthropocentric, non-human world.

Karl Chu does not explicitly embrace that singularity idea, but his future world vision seems close to that of technological post-humanism. Since the late 1990s he has been announcing the advent of a post-human era which he has termed the 'hyperzoïc era'. This hyperzoïc era, a "Brave New World more fantastic and hyperbolic than anything we have seen in the history of human civilization,"[24] would be not unlike the Cambrian era—an explosion of diversification and complexity. It would be characterized by "the profusion of a new type of life; the Artificial Life of abstract machines and architecture, which will be reflected in a new type of bionic economy of the mecanosphere, coinciding with the biosphere."[25]

"THE WORLD IS NOW MOVING INTO THE SO-CALLED POST-HUMAN ERA"

He reiterated the same ideas in 2004:

> *Finally, with the convergence of computation and biogenetics, the world is now moving into the so-called Post-Human Era, which will bring forth a new kind of bio-machinic mutation of organic and inorganic substances. […] It is only a matter of time before the world will witness biomachinic mutation of species proliferating into every facet of what so far has been the cultural landscape of humanity. Architects take note: this is the beginning of the demise, if not the displacement, of the reign of anthropology, which has always subsumed architecture. […] The potential emancipation of architecture from anthropology is already affording us to think for the first time of a new kind of xenoarchitecture with its own autonomy and will to being.*[26]

The emphasis put on the possibility of creating

new species of architectural life (that is, living buildings) from scratch, through the use of genetic engineering and synthetic biology, is very interesting. Even more interesting is the idea that, in the same way, architecture, which, according to Chu, "has always been a subset of anthropology," "especially from the standpoint of its mythical inception,"[27] would no longer be subsumed by anthropology. This idea is not, however, developed further and nothing is said about what could become of human beings in this new environment, except that it "may lead to conditions that are so precarious and treacherous as to even threaten the future viability of the species, Homo sapiens, on Earth."[28]

While also largely adhering to a post-anthropocentric trans-humanist view, Marcos Novak's reflection on these issues is more intriguing. According to Novak, we would become alien. In 1998, referencing Nietzsche, he wrote that if the project of modernity might be characterized by the desire to build the super-man, our (post-modern) time would in turn be characterized by the desire to build what he calls "the alien."[29] In 2002 he stated, again referencing Nietzsche and the end of theo-centrism, that the production of the alien, encompassing all aspects and areas of our reality, would lead to the death of mankind. "Allocentrism" would then replace anthropocentrism, undermining the traditional definition of the human.[30] "The death of mankind" is not intended, however, to suggest some sort of "literal, alarmist, and paranoid apocalyptic fear." It implies, rather, that mankind is an ongoing project,[31] and that this ongoing project, according to the architect, would tend toward the alien.

This idea can be linked, first, to what the French philosopher Michel Foucault claimed in *The Order of Things*: that is to say that "man is an invention of recent date. And one perhaps nearing its end."[32] "Man is […] a figure not yet two centuries old, a new wrinkle in our knowledge, and […] he will disappear again as soon as that knowledge has discovered a new form."[33] Thus, to say that mankind is an ongoing project tending toward the alien is to say that our understanding of what is mankind, our conception of man, is shifting. Secondly, in order to understand what it means to become alien, the whole conceptual landscape of Marcos Novak needs to be examined, beginning with its central notion of 'transmodernity.'

Developed in the middle of the 1990s, 'transmodernity' refers to the idea that our era is characterized by all that the prefix 'trans-' entails: 'beyond,' 'across,' 'through,' 'so as to change.' Under the pressure of new technologies and hybridization of virtual and actual spaces, all the traditional taxonomies (dead/alive, natural/artificial, human/non-human, etc.) would be erased, giving birth to new conditions, new situations,

new events, new bodies, and new identities. Thus, the main effect of transmodernity would be the "production of the alien." To sum up, our world would become stranger and stranger, and so would we: "[t]his is no surprise: transmodernity is about becoming: becoming alien."[34]

In "Speciation, Transvergence, Allogenesis: Notes on the Production of the Alien," Novak stated that if in the past our interest has been focused on evolution as a continuous process of adaptation (relying on such concepts as fitness), today it is diversity and the discontinuous mechanisms of speciation which might retain our attention. Drawing an analogy with biological processes (an analogy which requires, however, further explanation), Novak claims that:

> *[t]o say that we are a transmodern culture is thus to say that we have placed ourselves into a period of rapid and intentional cladogenesis. To say that transmodernity is characterised by the production of the alien is to say that our cladogenesis is directed towards what I term allogenesis.*[35]

BIG BANG 2.0: BUILDING A BRAVE NEW WORLD?

'Cladogenesis' refers to a mode of evolution by branching, in which a parent species splits into two distinct species, the new species then being fed by the same genetic material as the one from which it originated. The neologism 'allogenesis' refers to the emergence of new species from every available material—genetic, epigenetic, or even non-genetic. Allogenetic processes are more discontinuous than cladogenetic and can lead to the emergence of "alien" species. This does not, however, mean that we would be dealing with a radical rupture but rather that the continuous movement of becoming, now incorporating new technologies, would direct mankind towards exceptionally rapid changes.

Although intentionally and technologically

initiated by human design, allogenesis might result in beings which would be impossible to predict. It would moreover concern not only mankind but also the production of other species. As Novak announced in 2008:

> *Established species were once mutant. There is a deep relationship between how the new is conceived, produced, introduced, and established in nature and how the new emerges in culture […] we have finally developed tools powerful enough not only to represent or describe the processes of development and speciation by which the new enters the world, but to simulate them, and then, beyond that, to actually embody them. We will not stop at simulating the evolution and mechanisms of life; we aim to manufacture new species of life itself.*[36]

Novak's discourse is very similar to that of Karl Chu. Novak and Chu in fact worked on similar projects that involved the growing of truly living buildings. One example of this 'alloarchitecture' (Novak's term) is the project "AlloBio" (2001-2004), which is defined as an anticipation of the convergence of the virtual and the actual, the psychological and the cybernetical, the architectural and the biological. It may be one of the first examples of what Neil Spiller calls 'post-digital architecture': not architecture without any digital component, but a synthesis between the virtual, the actual, the biological, the cyborgian, the augmented, and the mixed.[37] "AlloBio" was described as the first specimen of a hybrid singular species, an 'allo-living' creature at the intersection of architecture and biotechnology. "AlloBio" might pave the way for buildings which would no longer be manufactured but would grow as plants or animals grow and would couple the virtual and the actual within reflexive and evolving spaces, fed both by data from computer networks and from events taking place in physical space.

AlloBio might be said to have an awareness, a consciousness, and an intentionality of its own. As truly intelligent architecture,

> *[it] would have evolving personalit[y] that wouldn't just behave differently in response to our behavior, but would also change and strive to change us. We would not command [it]; rather we would be in dialogue with [it]. Sometimes we would persuade [it] to do as we wish; sometimes [it] would persuade us.*

This statement is indicative of the desire to establish more respectful relationships with our environment, beginning with our buildings. Beyond the ecological imperative which guides architects such as Dennis Dollens, Michael Hensel, Rachel Armstrong, and Alberto T. Estévez,[38] there appears to be a desire to create a new world, which is not only our own making but also a product of an ongoing dialogue with these kinds of alien architectures.

The idea that it might be possible to create a new world, or that a new world might be about to emerge thanks to biotechnology, nanotechnology, cognitive science, and informatics, is not unique to Chu and Novak. It is also shared by Roy Ascott. According to Ascott a new Big 'B.A.N.G.' would result from the convergence of bits, atoms, neurons, and genes, hybridizing the dry silicon digital domain of computers and the wet biological world of living systems. The birth of this new world might be so transformative that human identity itself might be pushed to a much more complex level. For Ascott the questions "[w]hat is to be human?" and "how do we deal with the responsibility of redefining nature and life itself?"[39] emerge as key questions for our era. Both are of equal importance and are deserving of being treated urgently both in scientific and in artistic fields.

As Ascott wrote: "The artificial is now part of our nature, and nature is in large part artificial."[40] Moreover: "In as much as we are a part of nature, we wish now to be consciously involved in its co-evolution, which is to say in our own self-definition and reconstruction."[41] The fact that the questions "what is it to be human?" "what will man become?" and "what do we want nature to become?" were addressed jointly merits some attention. Now, more than ten years after the publication of Ascott's paper, it is possible to create new species of life almost from scratch with the help of what are called 'living technologies' (synthetic biology, genetic engineering, etc.).[42] Through these technologies nature is in fact compelled to adapt to mankind: "technology, often depicted as the enemy of nature, will bring us closer to it, but it will be a nature entirely re-described, and re-aligned to our post-biological sensibilities."[43] Even in the context of ecological crisis, nature is seen as something to enhance so that it can continue to meet our needs.

> "THE ARTIFICIAL IS NOW PART OF OUR NATURE, AND NATURE IS IN LARGE PART ARTIFICIAL"

Between 2003 and 2014 the Genetic

Architectures Research Group (which includes Alberto T. Estévez, Dennis Dollens, and Karl Chu) developed bioluminescent lemon trees which could be used for street lighting by implanting in their cells genes extracted from jellyfish which produce a fluorescent protein (GFP). Between 2007 and 2010 the same Genetic Architectures Research Group led experiments to develop living tissue and cell masses as a building material, allowing living walls to be constructed autonomously, or rather to grow on their own. This latter project is quite similar to that of the New York architecture firm Terreform One named "In Vitro Meat Habitat" (2008), which is a prototype of organic architectural skin made of pig cells via 3D printing. In 2015 the American-Israeli architect and designer Neri Oxman presented "Mushtari", a life-support system made for intergalactic travelers and consisting of a prosthetic organ filled with synthetically modified micro-organisms. Pointing out that the two bacteria at work in this project never meet in the wild, she said: "Think of it as evolution not by natural selection, but evolution by design."[44]

This statement is representative of the way living species are instrumentalized. No matter how important the ethical and philosophical questions raised by the possibility of engineering life may be, architects such as Amstrong, Estévez, Oxman, and Michael Hensel do not seem to be eager to develop critical reflection on their practices. Similarly, however 'alive' buildings might become, they would not become free from subservience to human beings. Significantly, in her book *Living Architecture: How Synthetic Biology Can Remake Our Cities and Reshape Our Lives*, Rachel Armstrong asked: "Perhaps our homes could care for us, come to our rescue, or even love us?"[45] In other words the end of anthropocentrism which Karl Chu announced has not yet come. As, as it would seem, our human mindset is not changing, there would seem to be little possibility that we could in fact build a better world.

CONCLUSION

During the last thirty years avant-garde architects have been working on what and for whom they will build in future decades. During the 1990s architects dreamed of a totally artificial and immaterial world. Thus freed from terrestrial anchorage, enabled to become pure information, mankind would have become post-human, as post-biological beings in a computer simulation run by machines (undeniably like the fantasy world of *The Matrix*).[46] During the 2000s it was realized that this would not be so. The exponential growth of technologies, new and old, was making everything we know—the artificial, the natural, or the hybridized—more

and more complex. Our gaze therefore turned to the biological realm as the place where we might create new forms of biomachinic life, questioning and subverting our relationships to the world, to nature, and to ourselves. During the 2000s, however, we were not able to produce these new forms of life, and Marcos Novak's "AlloBio" building, for example, remained but an imaginary architecture.

As, however, science and technology improve, it may yet be possible to re-engineer the biology of the whole of nature and to build a 'Nature 2.0.' It would, then, be time to ask important questions—those very same questions which architects have always pondered. What kind of world do we want to live in? What kind of relationship with nature do we want to have? What pathway do we want to follow concerning our own evolution? A new paradigm is needed, as Chu suggested, for our role as active agents in the transformation of our environments and, indeed, of our universe at large.[47] Such as new paradigm is necessary for at least two reasons: firstly, because those who are currently shaping the new world often fail to take stock of their responsibilities, and, secondly (and perhaps more importantly), as pointed out by Roy Ascott, because what we will do to our environments is part of the definition of what we will ourselves become. While much seems unclear, one thing at least is certain: the way we will transform nature will influence our own evolution.

"WHILE MUCH SEEMS UNCLEAR, ONE THING AT LEAST IS CERTAIN: THE WAY WE WILL TRANSFORM NATURE WILL INFLUENCE OUR OWN EVOLUTION"

ENDNOTES

[1] Roy Ascott, "The Architecture of Cyberperception," *Architectural Design* 65, no.11/12 (1995): 38.

[2] It must be acknowledged that if the democratization of the personal computer was the condition for the possibility of the digital turn—this democratization permitting every architect and

every architecture firm to have a computer—the digital turn would of course never have happened without the development of 3D modeling software that allowed architects and firms to design forms on screen that would be impossible to hand draw, even making it possible to add a temporal dimension to the design. See Antoine Picon, *Digital Culture in Architecture: An Introduction for the Design Professions* (Basel: Birkhauser, 2010); and Mario Carpo, ed., *The Digital Turn in Architecture 1992-2012* (London: John Wiley & Sons Ltd, 2013).

[3] William Gibson, *Neuromancer* (New York: Ace Books, 1986), 51.

[4] Michael Benedikt, ed., *Cyberspace: First Steps* (Cambridge: The MIT Press, 1992).

[5] Nicholas Negroponte, *Being Digital* (New York: Alfred A. Knopf, 1995).

[6] William Mitchell, *City of Bits* (Cambridge: The MIT Press, 1996).

[7] *Architectural Design* 65, no.11/12 (1995).

[8] *Architectural Design* 68, no.11/12 (1998).

[9] Stelarc, "Towards the Post-Human. From Psycho-body to Cyber-system," *Architectural Design* 65, no.11/12 (1995): 90-96.

[10] Hava Tirosh-Samuelson, "Transhumanism as a Secularist Faith," *Zygon 47*, no.4 (2012): 716-717.

[11] Robert Ranisch and Stefan Lorenz Sorgner, "Introducing Post- and Transhumanism," in *Post- and Transhumanism: An Introduction*, eds. Robert Ranisch and Stefan Lorenz Sorgner (New York: Peter Lang, 2014), 7-8.

[12] According to John Frazer, however, cyberspace was not the cause but the symptom of this profound transformation: "The parallel world of cyberspace […] is just one manifestation of deep cultural and technical changes which are reshaping our understanding of our world," he wrote in 1995, stressing that this paradigm shift is characterized by "the shift of perception from an universe of objects to one of relationships." See John Frazer, "The Architectural Relevance of Cyberspace," *Architectural Design* 65, no.11/12, (1995): 76.

[13] Karl Chu, "Modal space: The Virtual Anatomy of Hyperstructures," *Architectural Design* 65, no.11/12, (1995): 69.

[14] Michael Benedikt, "Cyberspace: Some Proposals," in *Cyberspace: First Steps*, ed. Michael Benedikt (Cambridge: The MIT Press, 1991), 124.

[15] Marcos Novak, "Dancing with the Virtual Dervish: Worlds in Progress," in *Immersed in technology, art and virtual environments*, eds. Marie Anne Moser and Douglas MacLeod (Cambridge: The MIT Press, 1996), 303-308.

[16] Ascott, "The Architecture of Cyberperception," 40.

[17] Ibid. 38.

[18] William Gibson, "Google's Earth," *New York Times* (New York, NY), August 31, 2010, http://www.nytimes.com/2010/09/01/opinion/01gibson/html?scp=1&sq=william+gibson&st=nyt.

[19] Peter Sloterdijk, "Rules for The Human Zoo: A Response to the Letter on Humanism," trans. Mary Varney Rorty, *Society and Space* 27 (2009): 12-28.

[20] Peter Sloterdijk, *Die Domestikation des Seins. Für eine Verdeutlichung der Lichtung* (Frankfurt am Main: Suhrkamp, 2000).

[21] Rachel Armstrong, "Body Machine," *AD Architectural Design* 68, no.11/12 (1998): 92.

[22] Kas Oosterhuis, "Yes, We Build Spaceships," in *Architecture Goes Wild* (Rotterdam: 010 Publishers, 2002), 30-37.

[23] Ihab Hassan, "Prometheus as Performer: Towards a Posthumanist Culture?," *The Georgia Review* 31, no.4 (1977): 845.

[24]Karl Chu, "The Turing Dimension," *Archilab*, published 2000, accessed October 20, 2016, http://www.archilab.org/public/2000/catalog/xkavya/xkavyaen.htm.

[25] Karl Chu, "X Phylum," *Domus* 822 (2000): 42-45.

[26] Karl Chu, "Metaphysics of Genetic Architecture and Computation," *Perspecta* 35 (2004): 78.

[27] Ibid.

[28] Ibid. 76.

[29] Marcos Novak, "Alien Space: The Shock of The View," *CIRCA Art + Technology Supplement* 90 (1998): 12-13.

[30] See Marcos Novak, "Speciation, Transvergence, Allogenesis: Notes on the Production of the Alien," *AD Architectural Design* 72, no.3 (2002): 66. Novak writes:

> *Renaissance humanism, the anthropocentric production of the philosophical notion of Man, followed an era preoccupied with the theocentric production of the philosophical notion of God. The birth of Man eventually led to the collapse of theocentrism, which Nietzsche characterised as the 'Death of God', thus, I suggest, beginning a series: the production of God (PoG) is followed by the production of Man (PoM); the production of Man leads to the death of God (DoG); the production of Man is followed by the production of the Alien (PoA), which, in turn leads to the death of Man (DoM). […]*

In other words, centrifugal allocentrism is now displacing anthropocentrism, just as anthropocentrism displaced theocentrism, with the alien taking the place of the Nietzschean overman, and extending itself past all human limits to encompass all aspects of our constructed reality.

[31] Ibid. 67.

[32] Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences* (New York: Routledge, 2002), 422.

[33] Ibid. xxv.

[34] Marcos Novak, "Transarchitectures and Hypersurfaces, Operations of Transmodernity," *Architectural Design* 68, no.5/6 (1998): 85.

[35] Novak, "Speciation, Transvergence, Allogenesis," 67.

[36] Marcos Novak, "Alien Beauty: Immanent Design. AlloAtomic Transarchitectures for Automutant (Allo)Selves," in *Manufacturing – Share Festival* 2008, ed. Bruce Sterling (Turino: Share Festival, 2008), 143.

[37] Neil Spiller, "Plectic Architecture: Towards a Theory of the Post-Digital in Architecture," *Technoetic Arts: A Journal of Speculative Research* 7, no. 2 (2009): 95-104.

[38] Marcos Novak, interview by Alessandro Ludovico, *Neural*, published April 2001, accessed October 20, 2016, http://www.neural.it/english/marcosnovak.htm.

[39] For all of them, the artificial life of architecture may be one of the answers to the ecological crisis. On that matter, see Denis Dollens, "Architecture as Nature: A Biodigital Hypothesis," *Leonardo* 42, no.5 (2009): 412–420; Alberto T. Estévez, "Genetic Architecture: New Ecologic-Environmental Architectural Design & New Cybernetic-Digital Architectural Design," in *Genetic architectures*, ed. Alberto T. Estévez (Santa Fe: Lumen Books; Barcelona: SITES Books/Escola Tecnica Superior d'Arquitectura, 2003), 4-19; Rachel Armstrong, *Living Architecture: How Synthetic Biology Can Remake Our Cities and Reshape Our Lives* (New York: TED Books, 2012); Michael Hensel, "(Synthetic) Life Architectures: Ramifications and Potentials of a Literal Biological Paradigm for Architectural Design," *Architectural Design* 76 no.2 (2006): 18–25.

[40] Roy Ascott, "Moistmedia, Technoetics and the Three VRs," *ISEA2000*, published 2000, accessed October 27, 2016, http://www.isea2000.com/actes_doc/01_ascott.rtf.

[41] Ibid.

[42] See Mark A. Bedau, John S. McCaskill, Norman H. Packard, and Steen Rasmussen, "Living Technology: Exploiting Life's Principles in

Technology," *Artificial Life* 16, no.1 (2010): 89-97.

[43] Ascott, "*Moistmedia, Technoetics and the Three VRs.*"

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