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Seeds for New Beginnings? Ecological Uncertainty, Blurry Ideology, and Speculative Design at the Universitas Symposium, 1972

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Abstract

In 1972, designer Emilio Ambasz (b. 1943) organized the symposium "The Universitas Project" at MoMA in New York City. The issue at stake was how the field of design should tackle the possibly irresolvable societal, political, and ecological problems of post-industrial society. Ambasz proposed a new design approach, which he named *design as a mode of thought,* with the aim of building a new research-education institution for design that could tackle the *wicked* problems ahead. In order to articulate his proposal, Ambasz turned to the speculative realm: discursive design critique, metaphysical cybernetics, design fiction, and storytelling. By critically engaging with some of the participants' conference presentations, the article first discusses how the concept of the environment was reconfigured by the emerging ecological catastrophe. Then the article discusses ideological responses to the Universitas Project to show how the seemingly different ideological positions between French so-called "radical left" and American "right-wing technocrats" were grounded in the same; all-encompassing uncertainty and a strive for open-endedness. Finally, the article analyses Ambasz's design fiction writing and the speculative nature of the Universitas and thereby identifies the Universitas as a rare moment in the history of design in which design stopped engaging in the status quo and turned towards a speculative future for finding seeds for new beginnings. The article re-visits the Universitas in order to support a presentist argument: that speculation, discursive design critique, and storytelling might not be sufficient methods *on their own* to tackle the forthcoming accelerating wicked uncertainties that lie ahead.

Keywords: design theory—speculative design—cybernetics—ecology—1970s—Emilio Ambasz—neo-Marxism

In the late 1960s and early 1970s, accelerating sociopolitical complexities evoked a new sentiment of inadequacy in coping with novel challenges in global post-industrial society, such as emergent ecological catastrophes, advances in artificial intelligence and computer technology, and the nascent rise of neo-liberal economies. Researchers from several disciplines claimed that societal complexities had grown beyond human capacities to understand and cope with them.[1] How could the field of design respond? And which design methods could be used in order to confront these forthcoming challenges and build another future?

At MoMA in 1971, designer Emilio Ambasz (b. 1943) started working on what may be characterized as one of the most ambitious research projects ever to be initiated within architecture and design. The Universitas Project was a research project initiated by Ambasz and funded by MoMA and The Institute for Architecture and Urban Studies.[2] The issue at stake was how the field of design could develop a new approach,

which could tackle the possibly irresolvable societal, political, and ecological problems of post-industrial society. A central question for Ambasz was how to understand *the whole* now that everything on the earth had to be considered as entangled with everything else. He wrote: "As we are reaching a situation in which the only valid approaches will be those comprehending the totality of the world system […we] should behold the natural and the man-made environment—the entire planet—as a complete and totally interrelated problem."[3] Ambasz's ambition with the Universitas Project had been to reformulate the notion of the *universitas* (meaning "the whole") and then to build a new research-education institution for design grounded in this re-formulated universitas. Ambasz planned two stages of development of the Universitas, first, a *postulative* stage: a research project and a symposium aimed at identifying the most pressing problems of the world, and through discussions at the Universitas symposium, suggest solutions on how to tackle forthcoming challenges. Then, the Universitas would enter the *implementative* stage, which aimed to actualize the solutions postulated in the first phase, in the form of the establishment "of a new type of education-research-development institution concerned with the evaluation and design of our man-made environment."[4] Although the second stage of the research project was never realized, the first, *postulative* stage is a unique event in the field of architecture and design with implications far beyond disciplinary borders.

A key problem for Ambasz was how to theorize design and planning when the entire planet was now an interrelated problem. How to design for an uncertain future and how to understand the past when this past has disrupted the future? Ambasz turned to systems theory and cybernetics for grappling with the new emerging interrelated and uncertain problems. At the time, cybernetics was especially widespread within architecture and design discourse, as detailed by several recent publications.[5] In brief, cybernetics is a transdisciplinary approach that analyses complex phenomena by focusing on the organizational structure of the system (rather than the specificity of a system). "The structures, functions, and processes of the man-made milieu are best understood as the patterns of interaction of complex adaptive systems,"[6] Ambasz wrote, and referenced systems theorists Arthur D. Hall and Robert E. Fagen's article "Definition of Systems" from 1956.[7] Grounded in theories of complex systems, Ambasz drafted a proposal for a new design approach that he included in his project description of the Universitas Project—a speculative document called the Project Working Paper. In the fall of 1971, this document was sent out to specially invited contributors from a wide variety of fields; physics, psychology, linguistics, philosophy, design, fine arts, cybernetics, microbiology, sociology, poetry, history, and cultural theory. Among the contributors were Henri Lefebvre, Michel Foucault, Octavio Paz, Umberto Eco, Hannah Arendt, Jean Baudrillard, György Kepes, Manuel Castells, Christopher Alexander, Suzanne Keller, Hans Magnus Enzenberger, Gillo Dorfles, Richard L. Meier, and Sheldon Wolin.[8] The invited contributors were asked to prepare written responses to Ambasz's Working Paper and then to attend the two-day symposium "The Universitas Project: Institutions for a Post-Technological Society" at MoMA for further discussions. Previous scholarship on The Universitas Project has established the importance of the symposium in design discourse: Felicity Scott provides a meticulous overview of the event and discusses the political discrepancies amongst participants and Matthew Holt conducts an in-depth scrutiny of the emergent philosophies in environmental design in Ambasz's Project Working Paper, in particular in relation to the term "post-technological."[9] This article, however, focuses on the speculative nature of the Universitas in order to support a presentist argument: that speculation, discursive design critique, and storytelling might not be sufficient methods *on their own* to tackle the forthcoming accelerating wicked—societal, political, and ecological—uncertainties that lie ahead.

Environmental and ecological uncertainty

Emilio Ambasz had left his native Argentina in 1966 and completed his MFA in architecture at Princeton two years later. He was appointed Philippe Freneau Professor of Architecture at Princeton in 1967, and within three years he had been a visiting scholar at the Hochschule für Gestaltung in Ulm, had taught at Pittsburgh's Carnegie Mellon Institute, and was appointed to a Graham Foundation Fellowship at the recently founded Institute for Architecture and Urban Studies (IAUS). In 1970, Ambasz was appointed Curator of Design at MoMA and at the time he was already working on a research project at IAUS entitled *Institutions for a Post-Technological Society: The University of Polis Development*. Some aspects of his early research on the Universitas were published in the article "The Formulation of a Design Discourse" in *Perspecta* in 1969, and two years later, a more developed discussion of the Universitas Project was published in the same journal bearing the three-fold title: "I: The University of Design and Development. II: Manhattan: Capital of the Twentieth Century. III: The Designs of Freedom."[10] In the former article, Ambasz drew on the semiotics of Charles Sanders Peirce and argued for a renewal of design theory that would depart from the previous, more positivistic design approaches, and instead focus its attention on "philosophical levels of meaning of visual signs and symbols."[11] In the latter article from 1971, Ambasz had departed from his earlier strong semiological approach, but continued to argue for the necessity of a radical renewal of design theory. This renewal needed to happen because the world was entering a state of "environmental crisis," as he explained in the opening passage of the article:

> As the natural milieu replaced the divine milieu in becoming Renaissance man's primordial area of concern, so has a newly emerging man-made milieu become the all pervading framework of contemporary man's thought and imagery. It has become increasingly evident that the profile being adopted by this new milieu is escaping control—that the future will provide only a continuation of the present if facts of technological feasibility, rather than new values of human existence, remain the accepted shaping forces. The present climate of opinion has, thus, become pervaded by a feeling of "environmental crisis."[12]

This passage introduces the metaphysical nature of the Universitas Project. Ambasz identified three different conceptions of the environment, corresponding to chronological epochs: the divine milieu, the natural milieu, and the man-made milieu. However, the current epoch (which Ambasz called the newly emerging man-made milieu) was already escaping control. The ever-accelerating technological revolution had already established an environmental crisis, Ambasz argued, and in order to confront this newly emerged environmental crisis, Ambasz suggested a profound solution: there was a need to search for "new values of human existence." The intention of the Universitas Project was to search for these new values by discussing the prospects of design.

One of the early phases in the Universitas Project was the development the Project Working Paper which consisted of four essays, written mainly by Ambasz, discussing general matters and theoretical issues that had the purpose of outlining the aims and goals of the research project.[13] Informed by cybernetic theories—and referencing in particular the influential 1969 book *The Sciences of the Artificial* by Herbert A. Simon (who is often considered the "father of artificial intelligence")—Ambasz stated that in order to confront the environmental crisis, the man-made environment had to be

considered an adaptive and responsive open-ended network of relations between co-existing entities. Within the framework of cybernetic theory, Ambasz theorized design as being a part of a relational, dynamic, and adaptive network. In the Project Working Paper, he called for a new design theory that understood the designer not as an individual agent, but as operating in a dynamic and participatory manner together with the product or service, expertise from other disciplines, and the end-user. Ambasz suggested that the practices of design could foster a *new way of thinking* that de-centered the notion of the individual mind as the cradle of thoughts and imagery. Condemning operational terms such as "planning" and "analysis," which Ambasz claimed operated with the given, he understood "design" not as giving form to something in order to solve problems, but as an abstract process where no individual governed the design process. Ambasz's proposal for a new mode of thought—grounded in design—involved a reconfigured interrelation between the realms of nature, technology, and human beings. This cybernetic design theory, Ambasz postulated, could confront the emerging "environmental crisis" by encompassing pluralistic complexities, reverse established technocratic hierarchies, and facilitate holistic equilibrium.

The next stage of the Universitas Project was to invite scholars and intellectuals from a wide variety of fields to respond with a written paper to Ambasz's essays. These written responses were then distributed among the invited contributors and made up the reading list for the symposium. Hungarian born György Kepes—a key member of the New Bauhaus and founder of the Center for Advanced Visual Studies at Massachusetts Institute of Technology (MIT)—introduced his response to Ambasz's Working Paper with an alarming warning of a new tidal wave:

> The forces of nature that man has brought under a measure of his control have again become alien; they now approach us menacingly by avenues opened by science and technology. This does not mean that we have freed ourselves from nature's old scourges: earthquakes, volcanic eruptions, floods, and other "acts of God." […] What we face now are destructive forces of a completely different kind—man generated, cumulative, and of almost cosmic proportion.[14]

Kepes' paper at the symposium, "Art and Ecological Consciousness," addressed topics he was already working on at the time, and the paper was later included in his edited anthology *Arts of the Environment* (1972).[15] In the paper, Kepes directed his attention towards what he identified as a break in time. He wrote about the present, destructive conditions where a lack of a limit between humans and the environment changed the environment into a new reconfigured environment: "Our present relationship to our environment is at the threshold of […] a process of reorientation. New circumstances have now forced us to see that we can no longer think of ourselves as separate and independent from our environment; rather together they form a new, higher gestalt."[16] A reconfiguration was taking place, Kepes argued, which conditioned a new epoch that we were at the threshold of. The novelty of the present situation was on the one hand marked by the new "obvious, immediate, and real environmental tragedies."[17] However, changes that were even more fundamental were taking place. "What are these new circumstances?" he asked. Kepes suggested mankind was at the threshold of entering a new stage in which the status of human beings was being altered. Until recent times, we human beings had to protect ourselves against the environment. We had to protect ourselves from outer conditions such as "beasts, cold, sickness, and hunger."[18] However, Kepes added, "at this historical junction, the real beasts are man-created; we face ourselves as the enemy."[19] Further, this new gestalt arrived too fast and too forcefully to be intelligible. The general sense of hopelessness grew, argued

Kepes: we were no longer in a secure relationship with the world. No longer in a secure relationship with ourselves. We needed a new framework of thinking in order to comprehend this new, unintelligible situation. Kepes suggested that a new framework of thinking required a dynamic pattern, a symbiotic and self-regulating system. He stated: "The increasing magnitude and complexity of interacting lives must make us realize that our future depends upon an understanding and control of our common system—a self-regulated, interdependent, dynamic pattern that moves from yesterday into today and from today into tomorrow."[20]

Kepes argued that a new form of pattern-thinking that emphasized speculative approaches—imagination and creativity—could engender a way of confronting what he labeled the forthcoming ecological catastrophe. Referencing The Rolling Stones, Lucio Fontana, Eldrige Cleaver, and Jimi Hendrix, he suggested that all forms of creative expression could participate in this search for a new form of thinking. Yet, he added, these kinds of explorations were not limited to artistic imagery—creative scientific explorations also had capacities for new forms of thought that could tackle the reconfigured environment. Here Kepes referenced Niels Bohr's atomic model, which actually challenged the notion of scientific objectivity by showing the interdependent relationship between the observer and the observed.[21] As explained by Kepes: "When observed and measured with maximum precision, the environment, in both its largest and its smallest realism, cannot be considered an independent objective world anymore."[22] Not only did Kepes include experimental scientific explorations in his equation, he also saw advanced technology as a part of the new ecological consciousness. According to Kepes, "radio, television, and computer technology,"[23] that is, advanced machine technology, facilitated the complete interaction between a human and the environment. Yet it is important to note that Kepes did not consider these technologies to enable a control society; rather, they created the conditions of "a truly embracing participatory democracy."[24] Nevertheless, there was an uncertainty governing this new techno-democracy: There was no analytical or methodological apparatus to conceptualize such a new gestalt.

It was within the technological and ecological sphere that Kepes saw a looming crisis. Mankind had no capacity for thinking within a world of such complexities: "It is difficult," he added in a pensive tone, "to accept as one this world of ghettos, criminal wars, urban violence, and inner erosion that coexist with bioengineering, genetic engineering, the pill, distant sensors, cyborgs, and an ever-increasing communication network."[25] Modern man, concluded Kepes, was "lost without a frame of reference in the new dynamic scale."[26] Kepes ended his essay with the claim that the world was at a threshold of a complete reorientation, and with a deep concern for the coming times, he added: "To achieve redemption for a crime, one must be conscious of the crime committed. Without an ecological conscience, we have little hope for change."[27]

The matters discussed at the Universitas symposium touched on a wide range of existential, ideological, political, and epistemological concerns that surpassed the disciplinary borders of architecture and design. Yet regardless of the broad and interdisciplinary scope of the event, one clear common trait stands out among the written papers and the subsequent discussions: there was a universal uncertainty regarding how to understand the newly emerged planetary complexities and the world was consequently considered to be at the threshold of a breaking point. The old system of thought was on the way out, but a new one was not yet there. In her paper, sociologist Susanne Keller summarized this imminent seismic shift:

> As I read the Project Working Paper circulated in November, I think it is asking one and the same question in a variety of ways: how to think about and imagine

> alternative possibilities for the world taking shape. Such alternatives will be increasingly necessary if we are to solve the massive problems confronting us in every area of life. It is widely agreed that humanity today is caught between two social orders, one on the way out, though not yet past, and one on the way in, though not yet there.[28]

Architectural critic Martin Pawley opened his response to the Working Paper by setting up an apocalyptic scenario. He referenced science fiction author H.G. Wells' renowned quote, which says that the survival of humanity depends on the outcome of a race between education and catastrophe. Indeed, there was a catastrophe, Pawley noted, which he identified as a societal crisis that within the last five years had taken shape as a war between established powers and counter-cultural radicals. He recognized a historical—in his words even cosmic—change taking place. Referring to disciplinary discrepancies and societal complexities, Lefebvre also described the Universitas symposium as if he was "witnessing a historical event, I should say a biblical event, in the midst of the Tower of Babel."[29] He continued by questioning the survival of humanity: "There are, of course, very unfavorable scenarios that come to mind. There is an example, of course, of the very survival of man as species; it can be considered that man could be largely eliminated either through a third world war, or through pollution, or any such destructive happening."[30]

There was "something" taking place, argued several of the participants at the symposium, something that was not yet intelligible. Lefebvre also described the present condition as a moment without control: "We, therefore, find ourselves in rather disagreeable circumstances, as though we were on a boat that still had a motor, and that is still capable of being steered."[31] Which methods to use to approach this new situation?

"Radical left" and "right-wing technocrats"

Although the conference participants came from highly varied backgrounds, two disciplinary orientations can be identified. First, trajectories within systems theory, communication theory, and cybernetics, in the persons of Hasan Ozbekhan, Anatol Rapoport, Erich Jantsch, Kepes, and Ambasz himself. Second, the symposium included several participants either being self-proclaimed Marxists (most notably Lefebvre), or others that were loosely associated with post-Marxism and leftist ideology, such as Jean Baudrillard, Hans Magnus Enzensberger, Alain Touraine, Umberto Eco, and Manuel Castells. The ideological polemics caused an antagonistic atmosphere, as several participants mentioned in the conference post-script.

The German author Hans Magnus Enzenberger canceled his attendance at the Universitas symposium at the last moment because of the United States' involvement in the Vietnam War.[32] His pre-circulated paper, however, bears witness to a revolutionary figure belonging to the radical left—a political position many of the symposium's participants subscribed to. One of these, the French sociologist Jean Baudrillard, responded to Ambasz's proposal condemning everything his theory and the entire Universitas Project was all about. In Ambasz's theory of design, Baudrillard located a danger he associated with the new "environmental" discourse, which he connected to the cybernetic mode of thought. "The political *ideology* of design," Baudrillard wrote, is "today taking on its planetary dimension in the discourse of the environment. From Gropius to Universitas, the thread is unbroken, leading to what we might call a metadesign, a

political meta-economy, which is to neo-capitalism what classic liberal economy was to capitalism."[33] In his paper, Baudrillard understood technology as something that indicates growth and development; in his opinion, a cybernetic framework promoted late-capitalist ideals, and in doing so, promoted a paradigm of unbridled progress. One of the subheadings in Baudrillard's response is telling: "Environment and Cybernetics: The Crowning Stage of Political Economy."[34]

Political theorist Sheldon Wolin also explicitly opposed everything the Universitas Project was about. In fact, the criticism even became uncomfortably harsh during the debates at the symposium when both Baudrillard and Wolin asserted that the ideology of the Universitas represented "everything" that was wrong in the world. Further, both claimed this ideology would eventually build a society fully governed by neo-capitalist forces. Wolin argued that the "essential nature of [the Universitas] does not derive from either a passionate protest against injustice, inequality, and misery, or from calmly reflecting upon the possibility that the existing order may be fundamentally deranged."[35] Rather, Ambasz's research project was, in Wolin's opinion, "inspired to remove obstacles to a fuller, more 'rational' exploration of the potentials of existing society."[36] Moreover, Wolin claimed that the thinking presented in Ambasz's project description was even dangerous, mainly because there was a discrepancy between the language used, and the theoretical framework within which certain notions were inscribed. Ambasz talked about "freedom" and "creativity," and then, these notions were "peacefully absorbed into a theoretical formulation, in this case 'systems theory,' which […] is diametrically opposed to the spirit and substance of the original words."[37] Wolin continued by defining cybernetics and communications theory as "a thoroughly technological way of thinking, not only in its choice of metaphors but in reflecting a crucial quality of that thinking and, indeed, of the history of technological progress itself."[38] The conventional interpretation of a cybernetic mode of thinking is as a framework of universal calculability, in which the specific and the situated are neutralized and become subordinate to the cybernetic system. Terms such as "superstructure" and "infrastructure" performed, in Wolin's opinion, a kind of lobotomy on thinking, that "dull[s] our sensibilities to the coercion inherent in present-day social, political, and economic forms and relations."[39] Then, Wolin paralleled the notion of design to the notion of control: "the author [Ambasz] of the paper […] discuss[es] the 'design' of cities and universities without realizing that design is a professional euphemism for control over people and things, a euphemism, that is, for power."[40] A cybernetic approach to design and planning depersonalized and dehumanized society.

Throughout his paper, Wolin associated cybernetics—and also design as such—as a new kind of totalitarian political right-wing movement, a technocratic right constituted by a thoroughly technological way of thinking. The present form of knowledge, informed by modern sciences, had "given us power to introduce rapid changes, but only in certain directions and in accordance with certain values: mass production for mass consumption."[41] In order to be genuine, argued Wolin, the alternative to this worldview had to be radical; at this point in time, the present social and political blueprints were "doomed to failure."[42] The alternative had to be a fundamental "breaking with the dynamics of future-oriented growth," not returning to a pre-industrial society nor settling for a no-growth ideology. Wolin suggested a de-structuring which would break away from rule-bound, bureaucratic super-infrastructures, and that instead emphasised experiences rather than "a pre-mediated theory," that is, the experience "of exploring and inventing new social, political and economic forms."[43] His proposal for a new ideal research-education institution can be summed up as follows: localized power, decentralized autonomy, slow growth, dismantling bureaucracy, quality over

quantity, public space over private property. Wolin concluded by suggesting that a new research-education institution would have to find new strategies for "broadening and deepening action-oriented vocations […] dedicated to a politics of nurture rather than to a politics of exploitive growth."[44]

Relating systems theory and cybernetics to the private research institutions or even the American military, several participants at the Universitas symposium understood the concept as technocratic, "power through technology"[45] as Henri Lefebvre skeptically claimed was the aim of the Universitas Project. Previous research (e.g., N. Katherine Hales and Molly Wright Steenson) has situated the development of cybernetics and systems theory primarily within American research institutions, and, considering the field's close bonds to management and organizational theory, the field came to be regarded as the technocratic discipline *par excellence*. In the Universitas Project, there was a clear polemic strand of two ideological positions blaming each other for utopian thinking. The cyberneticians were criticized for advocating what Felicity Scott has called a "techno-utopia."[46] Yet, if investigating the particularity of the critical argumentation of the cyberneticians at the symposium, it becomes clear that the cybernetic design theory fleshed out the symposium was not conditioned by scientific rationalism, technological optimism, and paradigms of endless processes of production.

In fact, the cyberneticians at the Universitas symposium argued that the dogma associated with the radical left—especially as formulated in the poststructuralist paradigm—offered a rather closed conceptual model which was governed by language, that they claimed to belong to an intelligible realm. The world was, claimed the cyberneticians, more complex, uncertain, and instable than what the linguistic analytical models could conceptualize. Ambasz argued that humankind needed to understand their existence as being in a synergetic relationship with the environment and consequently, he condemned operational terms such as "planning" and "analysis," which he claimed corresponded to a stable, certain, and objective reality hence these notions represented a stable structure for technocratic hierarchy. Considering the pluralistic complexities of the contemporary world, these notions could no longer serve as methodological design tools. Ambasz understood designing not as giving form to something, or as real-life problem-solving, but as an abstract process where no individual governed the design process, thus challenging the modernist grand-narrative of hierarchical rigidity. His search for a new design theory which could encompass pluralistic complexities, redefine the relationship between humans and the environment, reverse established technocratic hierarchies, and facilitate holistic equilibrium, importantly, had to start by departing from Western epistemology and the realm of scientific worldviews: Ambasz's solution for tackling possibly irresolvable societal, political, and ecological problems was to develop a new multidisciplinary design approach that departed from the scientific worldview and from real-life problem-solving. He wrote in the Universitas Project's Working Paper that the "development of a mode of thought appropriate to the task of designing the man-made milieu necessitates a breaking away not merely from old patterns of thought but […] from a whole way of beholding reality, which has been dominant in our culture: the scientific world-view."[47] Instead, the cyberneticians at the Universitas symposium used speculation and metaphysics as methods for proposing future-oriented design thinking.

The fact that Ambasz had invited several prominent systems theorists to the symposium is symptomatic of the ever more prominent role of advanced computation within urbanism and design,[48] yet common among these cyberneticians was a turn away from an epistemology of calculability toward what can be called metaphysical cybernetics. Erich Jantsch, an invited participant at the Universitas symposium and

a key member of the Club of Rome[49]—described by Ambasz as an "astronomer, physicist, engineer, educator, and author"[50]—opened his paper at the symposium by establishing that the world had become "too complex and too interrelated" to be addressed by fragmenting the present situation into separate elements.[51] In accordance with Ambasz, Jantsch proposed cybernetics as a mode of thought capable of tackling accelerating complexities. Yet Jantsch too blamed positivism for producing a "given" reality that did not acknowledge different modes of thinking or other experiences as equally valid. "Should we," he asked rhetorically "just continue and redouble our efforts to express all our experience in knowledge equivalents and thereby restrict ourselves to a narrow notion of merely 'rational' inquiry?"[52] Jantsch rejected methodologies from the "hard sciences" and even blamed scientific discourse for producing deceptive conclusions and fostering conceptual notions of stability and linear causality, directing attention away from the actual—much more complex—challenges. "So far, in Western society and its forerunners" he wrote, "considerable emphasis has always been placed on expressing all aspects of experience in terms of knowledge—and neglecting, to an increasing extent, those aspects that resisted such reduction to knowledge."[53] In other words, scientific methodology had blindfolded humanity. The critique of scientific methods becomes somewhat amplified considering it was coming from a scientist. Interestingly, it was in the paradigm of design that Jantsch saw solutions to the aforementioned challenges.

Jantsch proposed a design theory that operated in a metaphysical realm, where the notion of design vastly diverged from the modernist notion of planning—which correlated to a certain and objective reality, in other words, to a stable structure for technocratic hierarchy. In contrast, Jantsch claimed a new design theory needed to distribute creativity away from the individual designer and let it play out in cooperation with the public, with cultural, political, societal, and generally commutative structures. Jantsch suggested that even humans had to understand themselves as cybernetic beings and relate their design practice to this mode of thought. He noted: "A holistic measure of improvement for total human experience will have to do with the extent to which man grasps his role as cybernetic actor on the planet Earth, and is capable of relating his design capacity, that is, his capabilities of inquiry as well as creation, to this task."[54] According to Jantsch, technology, arts, analysis, experiences, and expressions all came together in the notion of design, and if the theoretical and methodological approach to design was cybernetic, it would create a "super-existence" that through "some form of *ecstatis* [sic.] (which literally means 'standing outside oneself') […] may be recognized as the inner core of primitive rites."[55] A few interdisciplinary design projects are particularly emblematic of this theoretical and methodological approach, for instance, the development of Soft Control Material (1968–1964) and the practice of phycologist and cybernetician Dr. Warren Brodey as discussed by Larry Busbea in the article "Soft Control Material: Environment and Design c. 1970."[56]

A new design institution based on a cybernetic design approach would then surpass the human mind and situate creative agency within a dynamic network of design. In this metaphysical understanding of design, the human subject transgressed her borders, left the realm of intelligibility, and thereby changed into a displaced being—literally standing outside herself.[57] Jantsch argued for a reconfigured design theory by claiming that the future of design would not only imply human-centered-design: Because of accelerating technological progressions, design for the future would require designing for hybrid techno-humans: "Most of the systems we are building today will be inhabited by people with technologically extended capabilities, functions, and desire. The modes of design, appropriate for such systems, will have to be more complex,

too."[58] To design for complex techno-humans necessitated a design approach that was fundamentally complex and based on a paradigm of metaphysical techno-humanity.

The kind of cybernetics proposed at the Universitas symposium (exemplified by Jantsch's paper) was far from technocratic in its means, aims, and values. Although the foundation of this mode of thinking is intimately linked to holism, systems biology, circular thinking, feedback loops, and advanced computer technology, the cybernetic design theory proposed as the Universitas was grounded in metaphysical cybernetics, outside of real-life design solutions and problem-solving.[59] The fact that the cyberneticians at the Universitas symposium indorsed notions such as democracy and destabilization of central agencies, gave condemning critique of modern positivist sciences, and even blamed Western epistemology for inaugurating the ideological drive for unbridled progress was somehow neither perceived nor recognized by the radical left (in this article represented by Lefevre's, Baudrillard's, and Wolin's critique). The two ideologically different positions at the Universitas in the end came down to the same: the earth was to enter a new stage in which ecological catastrophes, technological acceleration, and a reconfiguration of the status of the human beings created a new kind of uncertainty (what Felicity Scott defines as "indeterminacy" is several of her academic works). Design needed to respond to this moment, but not by problem-solving and engaging with the status quo.

The Universitas symposium marks a unique moment in design history in which the nascent ecological catastrophe encountered cybernetic design theories to discuss the future of design. The outcome of this idiosyncratic entangle of different ideologies, was not real-life solutions for the present, but instead a *discourse* of allegedly differences—that in fact were rather similar—which both delved into the realm of utopian speculation as a means to change the future.

Design fiction, speculative design, and storytelling

At the close of the Universitas symposium Ambasz wrote a fable about the rise and fall of an imaginary city—a utopian city in a dystopian landscape. This city had been established as a response to an awareness that the "main areas of intellectual speculation and artistic imagery had been shifting from an anxious observation of the natural milieu to an anguished inquiry into the nature and praxis of the man-made environment."[60] The new, man-made environment necessitated a new mode of intellectual speculation and a new mode of artistic imagery. In the fable, Ambasz imagined a "univercity"; an experimental school of design placed in a dynamic and responsive relationship with the city. The city was the laboratory of the university, as much as the university was the laboratory of the city. The physical plan of the Univercity "was to be based on the concept of open-ended systems."[61] This created a completely dynamic model, an "urban system capable of interacting with its surrounding context."[62] Ambasz's Univercity was a superstructure, where a *flow* of infrastructure—operating in a constant state of adaption—would lay the foundation for new urban and institutional innovations that would provide "preventive health care, personal and mass transportation systems, different forms of neighborhood government and communal living, [and a] new working and leisure pattern."[63] The inhabitants of Ambasz's imaginary Univercity would come from highly diverse backgrounds and could be considered a representative cross-section of the general population. The number of inhabitants would eventually stabilize at approximately 100,000 people. In a relatively short space of time, the Univercity achieved its goal of building a new interrelated urban environment: the dynamic urban model

proved to be an immense success. There was no difference between the city and the university; it was a continuous flow of open-endedness in which intellectual speculation and artistic imagery operated in a circular feedback loop between university and city. Within this dynamic urban model, intellectual speculation and artistic imagery were transformed during the process of interaction. This responsive system governed the urban model; hence, the Univercity was a conceptual site of an adaptive environment.

In his imaginary fable, Ambasz described a place where technology, nature, and human beings merge into a utopian city; a site of the new man-made environment. However, as Ambasz's fable progresses, something changes in the utopian city. An unknown error, an unidentified event, is discovered in Univercity. The utopian gradually became dystopian. In the beginning, "the change [was] subtle and, in turn, gentle."[64] Ambasz continued:

> As time passed by, however, an indefinable yet perceptible shift in Univercity's goals and behaviors began to take place. No one has yet been able to establish exactly in what manner and why, but it is suspected that some of the experiments on which Univercity was based got out of control, generating totally unexpected secondary and tertiary consequences.[65]

In Univercity, something was escaping control. Something unexpected happened that came to outgrow Univercity's capacities. It started with the building of two altars, one altar for Revolution and one for Redemption. Although no one in Univercity believed in gods, there seemed to be a different kind of religion coming into existence. As written by Ambasz: "Later, the citizens established a cemetery in the center of the city. The Future was buried here several times."[66] There was a new mode of uncertainty taking hold of Univercity. However, it was an uncertainty made explicit *not* within language. Ambasz explained:

> As generations changed, uncertainty, which in olden times used to dress itself up as language, gave way to purposeful silence. Music and mathematics became Univercity's form of mystical experience and epistemological transaction. Words, forgotten and aimless, roamed the city, gradually returning to the chaos to which they had once belonged. On festive occasions, the days blended into the nights as the inhabitants gathered to promenade their feelings and dance their passions. The rest of the time they remained in the quietude of their places, making objects and turning thoughts.[67]

The structure that previously had been deployed through language, was no longer the governing force in Univercity. Dancing, music, and making objects constituted a new mode of thought. However, the open-ended education-city outgrew the inhabitants' capacities and consequently destroyed Univercity from within. "None can claim to know how or why Univercity disappeared […] almost all records of [its] history have literally vanished,"[68] Ambasz wrote. Univercity could not be contained and the city collapsed.

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In the aftermath of the symposium, the Universitas symposium received severe criticism from the delegation of neo-Marxists and other scholars identifying with the radical left. According to Felicity Scott, Ambasz was "defeated by such critiques [and] did not push ahead with the Universitas Project,"[69] and the *implementative* stage of the Universitas

Project never saw the light of day. Therefore, instead of analyzing and planning how to establish a new real-life educational-research institution for design, Ambasz designed a speculative institution by means of design fiction.

Interestingly, also other participants' propositions—from the "radical left" and the "right-wing technocrats"—can be identified as belonging to the realm of speculation. Although there were major political disputes between the two ideological fields, that mostly consisted of the radical left claiming the cyberneticians were generating perfect ideological conditions for the rise of late capitalism, both ideological strands were in fact using similar terminology to reach parallel conclusions. Both championed the conceptual notion of de-centrality as an ideological—and epistemological—tool to confront modernist totalitarianism. Both strands claimed that notions of localized power and decentralized autonomy were necessities to tackle possible irresolvable problems to come. Both positions also strived to destruct binary oppositions, both opposed and even attacked scientific positivist approaches, and both positions believed design should not be engaged with the status quo, but instead be a discursive or metaphysical site for future-oriented change.

In *Speculative Everything: Design, Fiction, and Social Dreaming,* Anthony Dunne and Fiona Raby write that "[speculative] design thrives on imagination and aims to open up new perspectives on what are sometimes called *wicked problems,* to create spaces for discussion and debate."[70] Speculative design is a contemporary design movement that turns away from real-life problem-solving and uses fiction and storytelling for situating speculative design projects in another, imaginary future: "We need to dream new dreams for the twenty-first century as those of the twentieth century rapidly fade,"[71] Dunne and Raby write. Ambasz's Universitas Project can be seen as an early act of speculative design,[72] in which the whole project—the *universitas* of the project—became a part of a design fiction for tackling the forthcoming ecological catastrophe, political instabilities, and what Ambasz termed the "environmental crisis."

Conclusion

The Universitas Project is a key event in early postmodern design discourse that transcends disciplinary borders and displays a mode of thought that defined a universal ambience of this period: an ambience of uncertainty centered on political instability, post-technological society, and ecological catastrophe. The critical discussions related to the Universitas symposium reveal that these uncertainties were interrelated measures; the uncertainties depended on each other and reinforced each other, and this ascending entanglement was a precondition for their emergence. Such notions of uncertainty and unintelligibility were inscribed in Ambasz's design proposal for a new design approach. According to Ambasz, new design projects should entail a future-oriented *unknown*: "[…] a structure may be created which embodies new values that no one is aware of, not even its maker, until the meaning of the structure is deciphered and made explicit."[73] The task of the future designer was to search for something unknown, Ambasz claimed, that radically departed from the present conception of the future.

According to Ambasz, the task of the future designer was to create "seeds for new beginnings"[74]: to search for a new future that radically departed from the present conception of the future. As mentioned earlier, this was also observed by Suzanne Keller in her post-script;

in her view, the Project Working Paper was asking how to "imagine alternative possibilities for the world taking shape."[75] The approaches for creating these seeds departed from conventional design methods (planning and analysis), but were instead metaphysical and speculative. Ambasz termed his speculative design approach *design as a mode of thought*.[76]

What was the *unknown* in Ambasz's design project? In his design fiction, his own utopian Univercity collapsed. The design-education-city could not uphold the notion of all-encompassing open-endedness and equilibrium. Instead of *planning* for the future, the inhabitants of Univercity built two *alters* of Revolution and Redemption, which was the start of the collapse. Perhaps Ambasz was not aware of it—or perhaps he was. Nonetheless, perhaps the unknown in his design project was that design as a mode of thought would produce directionless, silent, and paralyzed inhabitants that "remained in their places, lost in thought" unable to move forward.

By scrutinizing a historical event which employed what we can—*a posteriori*—call speculative design as a response to the uncertain future, we learn that we need to do more than dream. When facing accelerating wicked problems and new uncertainties, creating a space for discursive discussion did not enact real change. In order to confront the ever more uncertain future, perhaps design need to leave behind *design as a way of thinking* and find ways to reconfigure planning and analysis—the very core of what Ambasz and the Universitas symposium opposed—in order to plant real seeds for new beginnings.

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Endnotes

1 See, for instance, Jay W. Forrester, *World Dynamics* (Cambridge, MA: Wright-Allen Press, 1971); Erich Jantsch, "World Dynamics," *Futures* 3, no. 2 (1971): 162–69; Constantinos A. Doxiadis, *Architecture in Transition* (London: Hutchinson, 1963). Cybernetics is tightly connected to general, synchronic, and external currents in and of the humanities, as discussed in detail by, for instance, N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: University of Chicago Press, 1999) and Orit

Halpern, *Beautiful Data: A History of Vision and Reason since 1945* (Durham: Duke University Press, 2014).

2 Emilio Ambasz was co-founder of the Institute for Architecture and Urban Studies (IAUS) and developed the Universitas Project in close dialogue with the members of the Institute, in particular with director Peter Eisenman. For a study of IAUS see Kim Förster, "The Institute for Architecture and Urban Studies, New York (1967–1985). A Cultural Project in the Field of Architecture." PhD thesis, ETH Zurich, 2011.

3 Emilio Ambasz, ed., *The Universitas Project: Solutions for a Post-Technological Society* (New York: Museum of Modern Art, 2006), 21.

4 Ibid., 19.

5 Larry Busbea, *The Responsive Environment: Design, Aesthetics, and the Human in the 1970s* (Minneapolis: University of Minnesota Press, 2020); Arindam Dutta, ed., *A Second Modernism: Mit, Architecture, and the "Techno-Social" Moment* (Cambridge, MA: SA+P Press & MIT Press, 2013); Halpern, op.cit; Felicity D. Scott, *Outlaw Territories: Environments of Insecurity/Architectures of Counterinsurgency* (New York: Zone Books, 2016); Molly Wright Steenson, *Architectural Intelligence: How Designers and Architects Created the Digital Landscape* (Cambridge, MA: MIT Press, 2017).

6 Ambasz, *The Universitas Project,* 21.

7 The transdisciplinary, and highly diverse, field cybernetics can be defined as the science of complex systems and the control of these systems. Early cybernetic approaches originated in the 1940s as a framework for understanding control and communication within self-regulated systems in both animate and inanimate realms. The most influential works in early cybernetics are Norbert Wiener, *Cybernetics: Or Control and Communication in the Animal and the Machine* (Cambridge, MA: Technology Press, 1948); W. Ross Ashby, *An Introduction to Cybernetics* (London: Chapman & Hall, 1956).

8 The initial list of invited contributors was: Louis Althusser, Jean Baudrillard, Kenneth Boulding, Pierre Boulez, J. Burnham, Manuel Castells, René Dubos, Umberto Eco, Hans Magnus Enzensberger, Richard Falk, J. Forrester, Michel Foucault, Jermen Gvishiani, Roman Jacobsen, Erich Jantsch, György Kepes, Henri Lefebvre, Tomas Maldonado, Martin Meyerson, Hasan Ozbekhan, Octavio Paz, Anatol Rapoport, Herbert Simon, Susan Sontag, George Steiner, Karlheinz Stockhausen, Alain Touraine, Rexford Guy Tugwell, and Sheldon Wolin. The Advisory Board for the research project, which also functioned as the peer-review committee, included Stanford Anderson, Peter Eisenman, Joseph Rykwert, Abraham Moles, Carl E. Schorske, and Rosalind Krauss.

9 See Felicity D. Scott, "On the 'Counter-Design' of Institutions: Emilio Ambasz's Universitas Symposium at MoMA," in *Grey Room* (2004): 46–77; Matthew Holt, "The Black Book: Emilio Ambasz's University of Design," in *Advancements in the Philosophy of Design*, ed., Pieter E. Vermaas and Stéphane Vial (Cham: Springer International Publishing, 2018), 523–48. See also Matthew Holt, "Baudrillard and the Bauhaus: The Political Economy of Design," *Design Issues* 32, no. 3 (Summer 2016): 55–66.

10 Ambasz, "The Formulation of a Design Discourse," *Perspecta* 12 (1969); "1: The University of Design and Development. 2: Manhattan: Capital of the Twentieth Century. 3: The Designs of Freedom," in *Perspecta* 13/14 (1971): 57–70.

11 The Museum of Modern Art, Press Release, no. 99, 22 November 1968, quoted in Scott, "On the 'Counter-Design' of Institutions," 52.

12 Ambasz, "1: The University of Design and Development. 2: Manhattan: Capital of the Twentieth Century. 3: The Designs of Freedom," 360.

13 The four essays carried the titles: "The University of Design," "Manhattan: Capital of the XXth Century," "Design as a Mode of Thought," and "The Designs of Freedom" and were all further developments of Ambasz's two previous articles in *Perspecta*.

14 György Kepes, "Art and Ecological Consciousness," in Ambasz, *The Universitas Project*, 150–160.

15 György Kepes, *Vision + Value Series: Arts of the Environment* (New York: G. Braziller, 1972). For an in-depth contextualization of the "military-industrial-aesthetic complex" in which Kepes operated, see John R. Blakinger, *György Kepes: Undreaming the Bauhaus* (Cambridge, MA: MIT Press, 2019).

16 Kepes, "Art and Ecological Consciousness," in Ambasz, *The Universitas Project,* 152.

17 Ibid., 152.

18 Ibid., 152.

19 Ibid., 152. A parallel argumentation can be read in Gregory Bateson, "Up against the Environment or Ourselves?" in *Radical Software* 1, no. 5 (1972): 33.

20 Ibid., 153.

21 In brief, Bohr's model suggested that the properties of the atom are fluid until measured, thus, the object and the environment exist in a symbiosis. Karen Barad builds her theory of the entanglement of matter and meaning on Bohr's atomic model. See Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Durham: Duke University Press, 2007), 19–20.

22 Kepes, "Art and Ecological Consciousness," in Ambasz, *The Universitas Project*, 155.

23 Ibid., 156.

24 Ibid., 156.

25 Ibid., 156.

26 Ibid., 156.

27 Ibid., 157.

28 Keller, "Notes for Discussion on Future Communities," in Ambasz, *The Universitas Project*, 142.

29 Henri Lefebvre transcribed in Ambasz, *The Universitas Project*, 424.

30 Ibid., 425.

31 Ibid., 339.

32 Scott, "On the 'Counter-Design' of Institutions: Emilio Ambasz's Universitas Symposium at MoMA," 70, footnote no. 12.

33 Baudrillard, "Design and Environment: Or, The Inflationary Curve of Political Economy," in Ambasz, *The Universitas Project*, 63.

34 Ibid., 61.

35 Sheldon Wolin, "Whose Utopia?" in Ambasz, *The Universitas Project*, 291.

36 Ibid., 291.

37 Ibid., 291.

38 Ibid., 293.

39 Ibid., 293.

40 Ibid., 293.

41 Ibid., 294.

42 Ibid., 295.

43 Ibid., 295.

44 Ibid., 296.

45 Henri Lefebvre, "Repost on the Discussions of January 8–9, 1972, at The Museum of Modern Art," in Ambasz, *The Universitas Project*, 465–66.

46 Felicity D. Scott, *Architecture or Techno-Utopia: Politics after Modernism* (Cambridge, Mass.:MIT Press, 2010).

47 Ambasz, *The Universitas Project*, 21.

48 See, for instance, Margot Lystra, "Drawing Natures: Us Highway Location, Representational Techniques and the Rise of Ecological Design," *Journal of Design History* 30, no. 2 (2017): 157–74.

49 One of the outcomes of the think-tank Club of Rome (founded in 1968) was the book *The Limits to Growth* published in 1972. Jantsch was one of the authors of The Club of Rome's Project Description "The Predicament of Mankind: Quest for Structured Responses to Growing World-Wide Complexities and Uncertainties: A Proposal," written in 1970.

50 Ambasz, *The Universitas Project*, 490.

51 Erich Jantsch, "Education for Design: Preliminary Notes on a Systems Approach to Total Human Experience and Purposeful Activity," in Ambasz, *The Universitas Projec*t, 121.

52 Ibid., 113.

53 Ibid., 113

54 Ibid., 117.

55 Ibid., 121. Italics in original.

56 Larry D. Busbea, "Soft Control Material: Environment and Design c. 1970," in *Journal of Design History* 30, no. 2 (2017): 139–56.

57 For an in-depth discussion of the epistemological status of subjectivity in design theory circa 1970, see the conclusion in Busbea, *The Responsive Environment* (2020).

58 Jantsch, "Education for Design: Preliminary Notes on a Systems Approach to Total Human Experience and Purposeful Activity," in Ambasz, *The Universitas Project*, 122.

59 In the mid-1970s, the wide interdisciplinary field of cybernetics developed into second-order cybernetics. Briefly put, whereas the first generation of cybernetics provided a mode of thinking in closed systems, that is, feedback loops of inputs and outputs, second-order cybernetics understood the cybernetic mode of thinking as providing a theoretical framework for adaptive and responsive open-ended environments. Second-order cybernetics (or neo-cybernetics) is often claimed to develop in latter part of the 1970s and mostly in the 1980s. See, for instance, Bruce Clarke, *Neocybernetics and Narrative* (Minneapolis: University of Minnesota Press, 2014). The debates about a cybernetic design theory in the Universitas symposium must be considered a key discursive site for early articulations of a second-order—deeply ontological—cybernetic theory.

60 Ambasz, *The Universitas Project,* 505.

61 Ibid.

62 Ibid.

63 Ibid.

64 Ibid., 506.

65 Ibid.

66 Ibid.

67 Ibid.

68 Ibid., 507.

69 Scott, "On the 'Counter-Design' of Institutions: Emilio Ambasz's Universitas Symposium at MoMA," 65.

70 Anthony Dunne and Fiona Raby, *Speculative Everything: Design, Fiction, and Social Dreaming* (Cambridge, MA: The MIT Press, 2013), 2.

71 Dunne and Raby, *Speculative Everything*, 2.

72 There are parallels between critical design and speculative design. In *Critical Design in Context*, Matt Malpass writes that "[c]onceptual and critical forms of industrial design have roots in the artistic avant-garde practices, with the earliest form of critical design practice developed in Italy during the late 1950s." Malpass, *Critical Design in Context* (London: Bloomsbury Publishing, 2017), 18. Dunne and Raby claim that speculative design has historical origins in the neo-avant-garde design movement in the 1970s (for instance, the projects by Superstudio, Gaetano Pesce, and Gruppo 9999). For an analysis of the speculative nature of Gaetano Pesce's design installation in Ambasz's exhibition *Italy: The New Domestic Landscape*, see Ingrid Halland, "Being Plastic," *Log* 47 (2019): 35–44.

73 Ambasz, *The Universitas Project*, 32.

74 Ibid., 33.

75 Keller, "Notes for Discussion on Future Communities," in Ambasz, *The Universitas Project*, 142.

76 In the article "Rethinking Design Thinking," Lucy Kimbell argues that although we find roots of the concept of design thinking in both Christopher Alexander's *Notes on the Synthesis of Form* from 1964 and Herbert Simon's *The Sciences of the Artificial* from 1969, it was only later that the term design thinking emerged. She identifies Peter Rowe's *Design Thinking* from 1987, as one of the earliest discussions of the concept. Lucy Kimbell, "Rethinking Design Thinking: Part I," *Design and Culture* 3, no. 3 (2011): 291. Ambasz's notion of "design as a mode of thought" could be thought of as a precursor of design thinking, especially considering that Simon's *The Sciences of the Artificial* was an important reference for Ambasz's ideas. The author wishes to thank Simon Sadler and Michael Golec for emphasizing this connection.