

# Metadesign: Object and Environment in France, c. 1970\*

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Almost as soon as the Francophone world belatedly and reluctantly adopted the word “design” into its vocabulary, a corresponding term also was introduced: “metadesign.” If the former term was accepted as a more international and professional way to describe the activities associated with *l'esthétique industrielle* (which connoted only the determination of the stylistic or formal aspects of designed objects), the latter took on a less certain and, in some cases, even somewhat ominous tone. The meta- prefix implied another level of meaning, an alternate reality that transcended—or subtended—the world of useful objects that populated the postwar French urban and domestic landscape. Perhaps not surprisingly, Jean Baudrillard identified metadesign as nothing less than the “political ideology of design” itself.<sup>1</sup> For Baudrillard, metadesign represented a late stage in the evolution of the industrial object; a stage at which the use value of things was giving way to their sign-value, where everything was beginning to partake of the same organizational logic; becoming part of the same combinatorial, commutative milieu—one that was ultimately synonymous with the economic and political system of exchange.

However, there were other theorists and designers in and around France who recognized the shift toward metadesign, and were much more sanguine than Baudrillard. Among them was the Belgian philosopher and cultural theorist Henri Van Lier. Although he was not a historian of design, Van Lier recognized the cultural significance of mass production; and the design of everyday objects came to play an important role in his evolving *weltanschauung* that was premised upon a kind of will to the network, to a world in which all aspects of the post-industrial environment were connected at a deep technological and structural level. In an *Encyclopaedia universalis* entry “Les esthétiques industrielles,” rendered in the plural to stress the simultaneous existence of three distinct design “mentalities” that Van Lier described as the “rigorists,” the “democrats,” and the “technicians.” Each group was identified with a respective mode of production: the rigorists with *équipement* (best rendered in this context as specific services or tools), the democrats with items for popular consumption, or kitsch, and the technicians with metadesign:

These technicians recall that behind the prototypes created by the *designer*, which are messages, there are codes (constructive, plastic, operative, etc.). By perfecting these codes, that is to say by rendering them as coherent and open as possible, one cannot help but make a useful work.<sup>2</sup>

Van Lier's appeal to metadesign as a linguistic or coded system of designed objects reflected the epoch's obsession with language; with structuralism, syntax, communications theory, systems, cybernetics, and semiotics. In this sense, it was analogous to Baudrillard's description of objects as signifiers detached from their function; floating in a combinatorial field. But the two theorists arrived at opposed positions. Baudrillard felt that the convergence of the design of objects and that of cybernetic systems could only signal further social alienation. Van Lier, on the other hand, took an operative view of metadesign that maintained that the greater the technical and semiotic convergence of objects in the built (designed) environment, the more fully man could be a productive part of the system.

The purpose of this essay is to examine both sides of this ideological divide, and moreover to trace the development of these ideas and how they intersected with historical circumstances, and technological and sociological discourses. Although it was hardly in wide use at the time, the word "metadesign" is helpful because it encapsulates these complexities, and signals perhaps the nearest thing we have to a synthesis of object theory and design practice.

It will quickly become clear here that metadesign is an important variation on the methodological use of semiotics (or semiology) in design; ostensibly the recognition that, besides being transparent, functional implements, objects communicate.<sup>3</sup> Typically, this understanding of design semiotics was one in which information was transmitted from object to user, and has traditionally been seen as an extension of functionalism. This application of semiotics would be formulated at the Hochschule für Gestaltung at Ulm by Tomás Maldonado, Max Bense, and others, including the French sociologist Abraham Moles, whom I will discuss at length below.<sup>4</sup>

However, metadesign and its various synonymic formulations signaled another understanding of semiotics as it related to design. As Baudrillard's invocation of "total design" suggests, a truly structural approach to signification implicates not simply individual objects and their "sign value," but the way in which things interact *among themselves* within a given environment. Signification is then a function of the play of differences among the elements of this ensemble—a matter that for some commentators became quite literally about grammar and syntax. Maldonado's student at Ulm, Gui Bonsiepe, would recognize the two modes of semiotics that concern us here:

The hypothesis that the world of objects and the world of signs are identical in structure may well yield fruit.

Moreover, the communicative aspect of the user/product relationship—and these are based on sign processes—will constitute the most important part of a theory of industrial design.<sup>5</sup>

If Bonsiepe (and the vast majority of design theorists in the late twentieth century) privileged the communicative, or semantic aspect, to use semiotic terminology, of industrial design, there was in the French context an explicit attempt to come to terms with the other half of his equation: that the “world of objects and the world of signs are structured identically.” In considering metadesign, we must take quite literally this idea that the collective ensemble of objects in the world was treated as a kind of “syntactical” field, to use the terminology of Charles W. Morris, to be deciphered and manipulated by the user and perfected by the designer.

That there was a continuum that stretched from the smallest individual object, through the user, to the environment or milieu was a common leitmotif of the postwar European design avant-garde. It is echoed in Italian architect Ernesto Rogers’s call for a complete redesign of everything “from the spoon to the city,” or Swiss artist and designer Max Bill’s similar formula, “from the smallest object to the metropolis.”<sup>6</sup> But metadesign was a new phase in the evolution of the modernist *gesamtkunstwerk*—it was not simply a willful crafting of an ideal, aesthetically consistent environment, but also a quasi-scientific approach to the world, not only as designed, but as *found*. Thus, metadesign was an attempt to synthesize the world of objects as projected by design and the world of objects as understood by anthropology: to reform not only the processes of conception and production, but consumption and social use as well.

After all, the brief appearance and sporadic use of the term at the end of the 1960s marked the culmination of decades of object theory in France: the more or less systematic analysis of the making and using of things. Taken together, these theories phased through virtually every discursive mode from the poetic treatments of the surrealists and Francis Ponge in the interwar period, continuing after World War II with Henri Lefebvre’s 1947 “discovery” of the epistemological category of everyday life. The fifties were marked by a new sociological awareness of objects, thanks largely to their postwar ubiquity, and several important theoretical statements about technology’s effect on society. Between 1954 and ’58, a veritable explosion of design and technology-oriented texts appeared, including Pierre Francastel’s *Art et Technique*, and two philosophically opposed works that would come to define the period’s ambivalent relationship to technological progress: Gilbert Simondon’s *Du mode d’existence des objets techniques* and Jacques Ellul’s *La technique ou l’enjeu du siècle* (*The Technological Society*). (Incidentally, and not without significance, Claude Lévi-Strauss’s *Structural Anthropology* appeared in 1958.)<sup>7</sup> These seminal texts were supplemented by a

slew of other popular and academic works; one of the most important being André Hermant's *Formes utiles*, a pictorial and theoretical summary of the activities of the *Union des Artistes Modernes* and the related *Salon des Arts Ménagers*.<sup>8</sup> Alongside poetic and operative design statements such as Hermant's, a new critical discourse developed as a response to the new consumer society, signaled initially by Roland Barthes's collected series of essays written for *Les Lettres Nouvelles* that appeared under the title *Mythologies*, and culminating with Baudrillard's *System of Objects* in 1968. All the while, popular manifestations including the films of Jacques Tati, and the novels of Georges Perec and Alain Robbe-Grillet, addressed the new ubiquity of commodities with irony and not a small amount of cynicism.<sup>9</sup>

The intense technical and cultural attention paid to objects in France had a very real impact on the culture of design itself. Designers faced an uphill battle to transcend perceptions of their activities seemingly inherited from 1925: the designer as luxury cosmetic stylist, as someone called in during the final stages of the development process to add fashionable appeal to whatever consumer gadget. And if being saddled with the legacy of art deco were not enough, France's diminished cultural standing in the new world order resulted in French design being widely perceived as simply inferior to that of its American, Italian, German, and Japanese counterparts.

Many French designers, especially those associated with Jacques Vienot's *Institut de l'esthétique industrielle* (Institute of Industrial Aesthetics), were keen to reform design and design education in France in the fifties and sixties.<sup>10</sup> This image of the designer as *ex post facto* shaper of object "skins" was combated with various appeals to a deeper conception of what design could be. These were registered in the journal of the Institute, which during the sixties clearly avoided illustrating too many domestic appliances (*les art ménagers*) or consumer gadgets, in favor of constant attention to the design of industrial machines; examples of designers collaborating with engineers at the earliest phases of a project, the designer's role as ergonomist, and as architect of comprehensive design policies like those employed by IBM or Olivetti, whose efficacy was measured in astounding corporate profits. From a more technical perspective, new technologies and materials often were the focus. Applications for plastics were especially appealing, and often culturally controversial.<sup>11</sup>

But the *Institut* sought to make a case for the relevance of design, not only by appealing to technical and market conditions, but to social conditions as well.<sup>12</sup> It was also for these reasons, certainly, that the names of several high-profile theorists began to appear in the pages of the journal of The Institute, *L'esthétique industrielle*, which significantly in 1966 changed its name to *Design Industrie*. Philosophically minded designers, including Georges Patrix<sup>13</sup> and Jean-Lin Viaud, would periodically contribute theoretical essays;

and then names such as Abraham Moles and the Italian philosopher of aesthetics Gillo Dorfles also appeared.<sup>14</sup> Even a Monsieur Jean Baudrillard [*sic*] participated in a roundtable discussion in November of 1967.<sup>15</sup>

### **From Technological Coherence to an Object Ecology**

The attempt to reform design, design pedagogy, and design's public image in France relied strongly on the theoretical project of describing the activities associated with design as being much more than simply skin deep (thus the many appeals to sociological theory and the importance of new technologies and materials). One theme often encountered in the pages of *Design industrie* and other publications is the attempt to posit a motivated connection between the internal structure of an object and its ultimate form. Thus, there was an overwhelming drive toward integration as a new kind of functionalism; of an object's appearance being an inevitable result of the laws structuring its conception and use.

One of the most important sources for this integrative conception of design was Gilbert Simondon's *Du mode d'existence des objets techniques*.<sup>16</sup> This book was a sophisticated philosophical treatment of the evolution of technology since the industrial revolution. Indeed, it went far in phenomenologically defining technical modalities in what would come to be known as the "post-industrial society" that France had apparently become.<sup>17</sup> But Simondon's was no mere speculative cultural analysis. He looked at the actual mechanics of industrial technologies, and more recent developments such as communications networks to describe a world in which everything was becoming more and more connected—unified, not by physical function, but by relational placement within larger systems (groups of machines, networks, etc.).<sup>18</sup>

But Simondon's text was also much more than a technical guide. It was essentially a new humanism of technology. The book positioned itself against recent technological statements by the likes of Martin Heidegger, Jacques Ellul, and Lewis Mumford.<sup>19</sup> If, in these works, the machine had been viewed as an artificial agent in the environment that separated Faustian man from nature and alienated him from the simple pleasures of artisanal handicraft, the developments described by Simondon would allow these oppositions to find a new kind of resolution; a world in which man was seen as a "permanent coordinator and inventor of the machines that surround him. He is *among* the machines that function [*opèrent*] with him."<sup>20</sup> Part of what necessitated society's recognition of the integral role of machines, according to Simondon, were transformations on the plane of technology. The alienation of technology from the human realm was partly effected by the "abstract" nature of the machinery itself in the nineteenth century. For Simondon, technology in the first industrial revolution had produced insular, highly specialized machines and tools that served singular purposes. These "abstract"

machines would eventually give way to the “concrete” technologies of the twentieth century.

Perhaps the most famous section of the text, and one that illustrates the movement from abstract to concrete, is one in which Simondon describes the development of the internal combustion engine. Here, the progressive development of polyvalent parts helped to unify the functioning of the entire ensemble:

In the old engine, each element intervened at a certain moment in the cycle (of combustion and compression), then ceased to have any further effect on the other elements: the parts of the engine are like people who each work at a given moment, but who have no knowledge of the work of the others.... The old engine is a logical assemblage of elements defined by their complete and unique function. Each element can best accomplish its own function in so far as it is a perfectly finalized instrument, totally oriented toward the accomplishment of this function.<sup>21</sup>

The progression beyond the “abstract” finality of the engine led to polyvalent, “concrete” elements:

There thus appear particular structures for each constitutive unit, which can be identified as supporting structures [*structures de defense*]: the cylinder head of an internal combustion engine bristles with cooling fins. These were at first simply an extraneous element, as it were, added to the cylinder and the cylinder head for the sole purpose of cooling. In more recent engines, however, these fins have come to play a mechanical role as well by providing a ribbing that serves to inhibit the distortion of the cylinder head under the pressure of gases.... Now the two functions are no longer distinguishable; a unique structure has thus evolved, one which is not a compromise but a concomitance, a convergence. The ribbed cylinder head may now be made thinner, which allows for faster cooling. The bivalent fin/rib structure therefore fulfills the two formerly separate functions by means of a synthesis—and the result is far more satisfactory in both cases: it integrates the two functions and transcends them.<sup>22</sup>

The process of concretization, for Simondon, was one in which the specificity of component parts gave way to a relational convergence; a synthesis of distinct functions in polyvalent objects and ensembles. While Simondon’s account of technological evolution is more complex than the above very limited example (he allows for the influence of “exterior” economic pressures, and special technical circumstances in which differentiation of parts can serve a concrete function).<sup>23</sup> Overall, he describes the trend toward concreteness as a trend toward synergy and interconnectedness.

This integrative system was not limited to the physical components of machines themselves. With the singularity of an object totally de-emphasized, it was no longer a question of individual components fulfilling well-defined functions within the technological object. Instead, Simondon identifies functional “sub-ensembles” within the larger ensemble of the technological object. Remarkably, these concrete sub-ensembles begin to integrate even the incidental byproducts of normal functionality, such as excess heat or vibration. This opens the way for the concrete technological object to supersede its material boundaries in an annexation of the milieu of the object. As an example of this kind of annexation, of the creation of what he termed an “associated milieu,” Simondon offers the so-called Guimbal turbine, an underwater generator powered by tidal water movement. In this engine, the mixture of pressurized oil and water drawn from the ocean serves to generate power and dissipate heat simultaneously. But the role of the associated milieu was more complex than this simple example indicated. Simondon saw the environment as a conditioning element that would actually affect the adaptation of functional ensembles. Indeed, the dynamic nature of the relationship between concrete technology and its environment was such that the former “conditions the birth of a milieu instead of being conditioned by an already established milieu.”<sup>24</sup> Therefore, the technology placed within an environment transforms that environment, and vice versa.

Thus, Simondon had provided a technical description for what would become an ethical imperative in French design: that no single object could be considered in (aesthetic, social, or technical) isolation. Everything was connected; everything had (or should have) its place in the great grammar of the world of objects.

That the relationships among objects and milieus would be understood in terms of linguistic structures did not simply reflect a metaphorical correspondence. Simondon’s text had much about it that was structuralist: primarily his description of the changing importance of individual technical manifestations versus their interrelationships. Later, Baudrillard appropriated Simondon’s description of the internal combustion engine to establish his own critical semiotics of the world of objects in which Simondon’s term “milieu” became the more highly charged (especially circa 1968) “system.”<sup>25</sup> For Baudrillard, there was virtually no distinction to be made between Simondon’s description of functional synthesis and language: “we are in effect at the level of language here and, by analogy, with linguistic phenomena; those simple technical elements—different from real objects—upon whose interplay technological evolution is founded might well be dubbed ‘technemes’.”<sup>26</sup>

That semiotics was essentially forged in the context of design and the postwar proliferation of consumer goods is not simple coincidence. Ferdinand de Saussure’s suggestion that his structural analyses could one day be expanded into a science of

semiology, which would concern itself with what he described as the extra-linguistic “mass of anthropological facts” that constitutes daily life, took on a heightened sense of urgency in the postwar economic boom.<sup>27</sup>

One of the most ambitious attempts at this kind of application (although it went far beyond a simple semiotics) is Abraham Moles’s *Théorie des objets* of 1972. Moles was a sociologist, whose theoretical interests were incredibly broad. Beginning with formal and technical analyses of electronic and stochastic music, he soon applied his cybernetic method to the visual arts as well as design.<sup>28</sup> Moles was keenly aware of the way in which graphical signs and everyday objects affected the environment at both a structural level, as well as the more subjective level of individual experiences. The first sentence of this text, “The object has become the essential element of our environment,” makes it very clear that Moles had very much internalized the object-environment continuum established in French object theory.<sup>29</sup> Indeed, his book would go the furthest in describing in exacting detail its social and psychological mechanics. Moles’s project is unique for its time, but also appears in retrospect as utterly symptomatic of the development of meta-design. He incorporates many different ideological strands of the period; from Henri Lefebvre’s critique of everyday life, to Maurice Merleau-Ponty’s phenomenology; and attempts to reconcile these with a cybernetic understanding of the world adapted from Norbert Wiener, Marshall McLuhan, and presumably also the semiotic theories of Ulm colleagues Bense, Maldonado, and Bonsiepe.<sup>30</sup>

*Théorie des objets* is one-part exhaustive taxonomy of the types of objects that people interact with on a daily basis (Moles himself calls this “phenomenological statistics”), as well as a theorization of the role of the object as privileged mediator between man and environment. Indeed, Moles saw the purpose of the book as a way to “draw the attention of the citizen of the consumer society, the businessman, the designer, to an important phenomenon, which may well become a defining aspect [of our society]. It is the problem of the object, *universal mediator, revealer of society* in its progressive denaturalization, constructor of the everyday environment, social communication system....”<sup>31</sup> It quickly becomes clear in this instance that Moles is little concerned with the aesthetics of things, or with their individual efficacy or style. Rather, he will engage the social functions of objects, as carriers of messages: “the progressive passage of the *function object* to the *communication object*.”<sup>32</sup>

Moles held the object to be the exemplary tool for communication in a culture characterized by “the ‘massification’ of socialized life and the augmentation of social distance” in which “the human presence is weakened, creating a sort of contemporary *social void* that objects come to fill.”<sup>33</sup> Although he was careful to avoid using the Marxian terms “alienation” or “commodity fetishism,” Moles described a society in which social and personal life is irrevocably



mediated by things. As we might expect, this involved the way in which objects could connote wealth, taste, and other culturally coded messages. But Moles seemed less interested in these individual messages than he was in the system of communication itself, which he held to be commensurate with the totality of objects and how these were deployed in the environment.

For Moles, the idea that objects transmitted information was inseparable from the fact that objects always are deployed en masse in “structured groupings” as he would call them. Thus, objects when taken together (always in a particular space) have a syntax, and “constitute a set, an ensemble of inter-relations.” Moles took this idea of relations quite literally, and sought to apply demographic methods to his analysis thereof: “Here, the objects *know* themselves and others, they cohabit, coexist in a defined space. The population of objects in an apartment, a workplace, etc., respond to this definition. We can therefore establish sociometric distances, of vital spaces and the laws of coexistence (Lebensraum) that tend toward an *ecology of objects* in general.”<sup>34</sup>

For Moles, a world of human interaction had largely been replaced by the human manipulation of myriad objects whose functional and symbolic connections constituted the ambience of everyday life. He understood object ecology as the sum of both kinds of interaction: the more or less direct semantic conception of human use, as well as the syntactical correspondences between objects themselves. The latter formed a literally spatial network; a sphere of life in which the postindustrial citizen dwelled. This sphere, in turn, was made possible via the cultural and technical processes of concretization imagined by Simondon.

### **From Functionalism to Metadesign**

But if the object ecology was the new technical milieu of contemporary society, what was the designer’s role? At least in *Théorie des objets*, Moles contented himself with a sociological analysis, stopping short of operative design statements. However, some years earlier, he had tentatively suggested in a brief article in *Design industrie* some ways in which his ideas could be turned toward the conception of things. For Moles, design was indeed at a crossroads and faced what he termed a “crisis of functionalism.”<sup>35</sup> The crisis arose from a fundamental conflict between Bauhaus doctrine and the accelerated production of goods made for a consumer society: “the contradiction between the neo-kitsch of the supermarket and the comfortable asceticism of function.”<sup>36</sup>

How could the reductive, semantic conception of functional design that sought absolute adequation between means and ends compete in a world filled with the semiotic noise of planned obsolescence, high-pressure advertising, and kitschy preciousness? For Moles, the answer lay in an expansion of the conception of functionalism—one that would be entirely compatible with metadesign,

although he did not invoke this term. Functionalism had to detach itself from purely material and ergonomic considerations: “The sociology and psychology of objects, general sociology, political economy, the ethics of the adaptation of the individual to the world, move toward the construction of an enlarged neo-functionalism, which is in conflict with the neo-kitsch of the consumer unconscious.”<sup>37</sup>

Within this expanded field of neo-functionalism, the designer had a new world of post-industrial tools at his or her command: “... among others, computers, machines that design automatically, combinatory processes, game theory, and listing.”<sup>38</sup> Moles envisioned a new system design based in sociology and statistics that would allow functionalism to encompass not just a rudimentary and directly physical notion of use, but a far more nuanced idea of semiotic function that comprehended the social and communicative uses of things.

Simultaneously with Moles, Henri Van Lier engaged the same social and design questions. Specifically, in an essay published in 1967, entitled “*Culture et industrie: le design*,” Van Lier was more explicit than Moles had been in describing a neo-functionalist program and how such a program had to be conceived as metadesign.<sup>39</sup> For Van Lier, metadesign was an extension of Bauhaus functionalism that transcended the semiotic idea of the object as message (denoting function, connoting value, etc.). It was rather a method of designing or establishing the basic “elements of a code” that could be used to generate specific objects. This metalanguage of design would establish sets of forms, tectonic and ergonomic principles, as well as the possible syntactic links between objects in a given milieu: a kind of grammar of design memes.

Van Lier had taken his cues from designer and theorist, Andries Van Onck, who appears to have been the first to use the term “metadesign.”<sup>40</sup> Van Onck (an Ulm graduate) posited metadesign as analogous to a metalanguage—“a language used to talk about language”—and he based his schematization of it on the semiotics of C. S. Peirce and Charles W. Morris, dividing both metadesign and design into linguistic levels of syntax, semantics, and pragmatics; the last being a term to describe the reception of signs by interpreters (or users).<sup>41</sup> Just as Moles would, Van Onck saw great potential in mathematical tools such as systems theory, group theory, and topology as ways of describing syntactical systems to arrive at a “rational formalism,” or a “formal language” of designed objects.<sup>42</sup> However, he stopped short of using the idea of metadesign as a way to describe the syntactic links among objects in the world.

On the other hand, Van Lier immediately sublimated the idea into a kind of environmental discourse that encompassed the technological milieu and the object ecology alike. Van Lier’s idea of metadesign was one aspect of a much larger cultural project for the theorist. In other writings, Van Lier had attempted to extend the basic lessons of Simondon’s notion of concretization to culture as a

whole.<sup>43</sup> He insisted that the *reseau* or network was the exemplary model of the contemporary world, and that no entity (person, idea, or thing) should be considered independently of the system of links between it and the rest of the technical milieu. This idea of the world as network was one in which the individual identity of elements within the network was minimized in favor of the laws governing its structure. Accordingly, this structure was to be a dynamic and evolving entity; a self-regulating cybernetic system constantly honing its technical efficiency and eliminating informational and technical “redundancies” (a term taken from information theory). Culturally and politically, Van Lier’s desideratum was a distinctly post-capitalist view of the world: a system that, unlike capitalism, was not based upon the caprice of a market economy, but which at the same time did not resort to the kind of political totalitarianism that he saw in socialism.

Design became a key component in Van Lier’s projected system because the objects that people use every day were presumably the material links between them and the larger milieu or network (following Moles). Van Lier deplored the state of contemporary design, seeing it bifurcated into two equally unfortunate models: on the one hand, the world of market-oriented “styling” that attempted to seduce consumers—via coercive advertising—with new coverings for existing technologies; and on the other hand, the system of standardized, state-imposed production—with its own coercive “propaganda”—characteristic of socialism and fascism. The problem, ultimately, with these two alternatives was that both placed undue emphasis on the semantic messages of individual objects, leading to a kind of product-oriented mentality that ignored the all-important rules governing the relations between objects, and that produced a kind of semantic “anarchy.”<sup>44</sup>

Beyond these two systems, Van Lier identified an approach that held much more promise: information design. Arising from a postwar necessity for flexible, evolutionary production that relied less on the “brute force” of machines than on their ability to adapt to their environments and to interface with one another (Simondon’s concretization), the cybernetic model of information transmission and feedback became key. But information design was not just a new model for industrial technology, it also carried over to a consideration of industrial products themselves: “It became apparent that the product also comprised information, communication even, and one could therefore distinguish in it a code, a message, and a redundancy.” Van Lier continued: “But in order to compose his message, the designer had to, more or less consciously, draw out a code from a system of general structures received as references in his milieu. “...The theoreticians of information have proposed making these elements of code the object of a *metadesign*, saving the term *design* for the particular messages.”<sup>45</sup>

Van Lier described a world in which specific things always alluded to an underlying system or code; whether it was the ideal prototype as it related to the individual exemplar, or the sets of social relations that linked the individual object to the greater ensemble of objects in a given environment. For him, the ideal system was one in which the underlying code was as carefully designed as possible, so that the specific messages or objects it produced would be as efficient and yet as open-ended as possible.

In *metadesign* the object is perceived as a particular instance of an evolving structure.... Inscribed directly in a family of clearly elucidated curves, a mirror “designed” by Max Bill projects its variations without being obliged to overhaul its initial project; the supports on a seat by G. Rietveld are conceived at a level of generality that already includes their application to different pieces of furniture.... [In metadesign] there exist fewer things than elements, or better yet, operative structures, which are always reorganizable in space and time. It diverts the creator and user from a fascination with the object to the continuity of the network.<sup>46</sup>

While Moles had undertaken the sociological task of describing man’s changing and ambivalent place in the object ecology, Van Lier described its utopian horizon: a world, effectively, *without objects*; a world in which, rendered not only as “signs” but as pure information, form would cede its materiality to the network “in which information is in principle more fecund in so far as it is less saturated, more open to other pieces of information.”<sup>47</sup> The sum total would be a system that designed objects whose functional specificity melted away in favor of polyvalent spatial connections, and whose value could only be measured in terms of their syntactic openness. Van Lier thus tied everything together, describing a world where forms and functions were less things than dynamic messages transmitted across the pathways of a completely networked environment.

It was precisely this idea of a semiotic/cybernetic totalizing system that chilled Jean Baudrillard and prompted him to attack both Moles and Van Lier. The specific circumstances of Baudrillard’s critique of metadesign are significant. It originally was formulated under the auspices of Emilio Ambasz’s Universitas program, which the architect had attempted to realize from his position at the Museum of Modern Art in 1971–72.<sup>48</sup> Conceived as a new kind of educational institution, Universitas, according to Ambasz, would have addressed itself to the deepest and broadest conception of designing, not individual objects, but networks and environments—a brief that had direct connections to the idea of metadesign, though in the ideal Universitas, the scope would be much grander.<sup>49</sup> Baudrillard saw the clear connections between Ambasz’s thinking and that of the theorists of metadesign I have been concerned with above (in fact, Moles was on the Universitas advisory board), and when invited to participate in a symposium formulating the scope of Universitas

in January of 1972, took the opportunity to condemn this ideological mutation of functionalism under the auspices of the “political economy of the sign.”<sup>50</sup>

Baudrillard saw in the Universitas the institutionalization of metadesign that entailed the “universal semantization of the environment in which everything becomes the object of a calculus of function and signification.”<sup>51</sup> He saw, just as Moles and Van Lier had, the imminent dissolution of the material and semantic specificity of the discrete object under the pressure of technical concretization, and, more important, an ineluctable evolution toward milieu and ensemble: “An ‘aesthetic’ ensemble is a mechanism without lapses, without fault, in which nothing compromises the interconnection of the elements and the transparency of the process: that famous absolute *legibility* of signs and messages—the common ideal of all manipulators of codes, whether they be cyberneticians or designers.”<sup>52</sup>

Baudrillard considered Van Lier’s and Moles’s conceptions of metadesign to be the worst kind of naïve neo-humanism: “Having revealed the advent of sign value and its indefinite extension on the basis of rational productivity, [Van Lier] sees in it, without hesitation, an absolute progress for humanity.” Baudrillard saw, rather, “a semiurgy and an operational semiology, which are only the developed form of controlled participation.”<sup>53</sup> These developments were inscribed in the same modernist historical trajectory used by Moles and Van Lier. According to Baudrillard: “from Gropius to Universitas, there is a continuous succession of stages toward what could be termed a metadesign, a meta-political economy which is to neo-capitalism what the classic liberal economy was to capitalism.”<sup>54</sup> Thus, the semiological network of connections between objects was posited by Baudrillard as ideological, commensurate with the economic system of exchange—a literal spatial milieu or ambiance of abstract equivalencies in which man is completely immersed; an inescapable network in which every gesture that is ostensibly a creative act of communicative will is in fact mandated and predetermined by the laws of the network itself.

Metadesign was a crepuscular method. Baudrillard saw in it an ascendant *geist*—an ineluctable, ideological movement toward integration. The theories of Moles and Van Lier, therefore, had the feeling of formulating the foregone; celebrating the inevitable. For them, the attempt to rationalize the “communication object” as Moles described it was a last-ditch effort to stave off the “semantic anarchy” of a global economy in which production was clearly outpacing design.<sup>55</sup> If their utopian dreams posited a world without objects, the opposite was about to come to fruition—a world of the free play of images and things. In this sense, postmodernism and metadesign seem like polar opposites; the latter being theorized just as the former began to dominate culture. But in a much more perverse model, it was not the one that replaced the other, but rather that global integration made the “semiological abuse”<sup>56</sup> of

postmodernism possible, creating a seamless network for the interplay of apparently contradictory signs.<sup>57</sup> In other words, the syntactic network of metadesign enabled the semantic playfulness of postmodernism. The refusal to recognize this relationship is ultimately what lent metadesign its sense of nostalgia. It was, in the end, just another formulation of visionary functionalism; the dream that the means and the ends of design would be synthesized once and for all.

### **Acknowledgments**

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- 1 Baudrillard, "Design and Environment or How Political Economy Escalates into Cyberblitz" in *For a Critique of the Political Economy of the Sign* (New York: Telos Press, 1981), 201–202.
- 2 Henri Van Lier, "Esthétique: Les esthétiques industrielles," *Encyclopaedia Universalis* (Paris: Encyclopaedia Universalis, 1968–72).
- 3 In what follows, I tend to use "semiotics" and "semiology" more or less interchangeably. Traditionally, however, the term semiotics refers to ideas traceable to the work of American pragmatist Charles Sanders Peirce. Semiology, on the other hand, refers to various conceptual trajectories that have a common source in the work of Swiss linguist Ferdinand de Saussure. Peirce was, without doubt, the most important figure in terms of the adoption of semiotic methods in design theory in Europe. His incredibly open and fluid understanding of what constituted a sign was easily applicable to nonlinguistic acts of communication. But even though Peirce provided a basic tripartite schema for the functioning of signs (icon, index, and symbol), it was Charles W. Morris who formulated the essential distinction that concerns us here: that between syntax and semantics. In Germany, Max Bense took up these semiotic ideas in his informational aesthetics, which were incredibly influential at the Hochschule für Gestaltung, Ulm, where he taught during the 1950s. In France, however, Saussure's work gained greater traction, and essentially fostered the birth of structuralism in anthropology and cultural theory. Structuralism's attempt to identify underlying organizational structures that determined surface manifestations of cultural meaning obviously had a profound influence on the genesis of metadesign as both a means of generating new design codes or structures, and its status as interpretive tool. In this sense, ironically, it also shares with structuralism a kinship with the Marxian principles of base and superstructure. See: Charles S. Peirce, *Philosophical Writings of Peirce* (New York: Dover, 1955), 98–119; Charles Morris, *Writings on the General Theory of Signs* (The Hague: Mouton, 1971); and Ferdinand de Saussure, *Course in General Linguistics*, trans. by Wade Baskin (New York: McGraw-Hill, 1966).
- 4 Max Bense was perhaps the leading theorist in Europe to attempt a rigorous quantification of aesthetic information; and his ideas were influential on a generation of artists and designers. For a comparative study of both Bense and Moles's ideas about art, see Claus Pias, "Hollerith 'Feathered Crystal': Art, Science, and Computing in the Era of Cybernetics," *Grey Room* 29 (Winter 2008): 110–133. On Bense at Ulm, see Herbert Lindinger, *Ulm Design: The Morality of Objects* (Cambridge, MA: The MIT Press, 1991); and Paul Betts, *The Authority of Everyday Objects: A Cultural History of West German Industrial Design* (Berkeley: University of California Press, 2004), 139–177.
- 5 Gui Bonsiepe, "Gestammelter Jargon: Industrial Design und Charles Sanders Peirce," *Ulm* 8/9 (1963), 71, quoted in an English translation that is provided in the original, but has been slightly altered here to correct aspects of syntax and diction. The essay criticizes the uncritical adoption of Peirce's theory of signs in design discourse.
- 6 For the Rogers quote, see Giovanni Albera and Nicolas Monti, *Italian Modern: A Design Heritage* (New York: Rizzoli, 1989); and Max Bill, quoted in Betts, *Authority*, 153.
- 7 Pierre Francastel, *Art et technique au XIXe et XXe siècles* (Paris: Éditions de Minuit, 1956), trans. by Randall Cherry as *Art and Technology in the Nineteenth and Twentieth Centuries* (New York: Zone Books, 2000); Simondon, *Du mode d'existence des objets techniques* (Paris: Aubier, Éditions Mouton, 1958); and Jacques Ellul, *La technique ou l'enjeu du siècle* (Paris: Librairie Armand Colin, 1954), trans. by John Wilkinson as *The Technological Society* (New York: Alfred A Knopf, 1964).
- 8 André Hermant, *Formes Utiles* (Paris: Édition du Salon des Arts, 1959).
- 9 Many of these themes are discussed in Kristin Ross, *Fast Cars, Clean Bodies: Decolonization and the Reordering of French Culture* (Cambridge, MA: The MIT Press, 1996); *passim*.

- 10 For more on Viénot, see Jocelyne Le Boeuf, "Jacques Viénot and the 'Esthétique Industrielle'" in France (1920–1960)," *Design Issues* 22:1 (Winter 2006): 46–63. See also Le Boeuf's monograph: *Jacques Viénot, 1893–1959, Pionnier de l'esthétique industrielle en France* (Rennes, France: Presse Universitaire de Rennes, 2006).
- 11 On new materials, for instance, see the entire issue *Esthétique industrielle* 55 (1962). With regard to the cultural reception of plastics, Roland Barthes's legendary essay in *Mythologies* is the main reference, but recent scholarship has broadened the scope of the social response to this new material. See Edward Dimendberg, "These Are Not Exercises in Style: Le Chant du Styrène," *October* 112 (Spring 2005): 63–88; and Douglas Smith, "Le Temps du plastique: The Critique of Synthetic Materials in 1950s France," *Modern & Contemporary France* 15:2 (May 2007): 135–151.
- 12 See, for instance, the major collaborative article that argued for "socio-cultural considerations" in reforming design education: "Enseignement: considérations socio-culturelles sur le problème des activités dites 'artistique' et esquisses d'une proposition pour une formation conforme à l'évolution de notre société," *Design industrie* 96–97 (July-Oct., 1969): 40–50.
- 13 Patrix is a key figure in the development of metadesign, although the present paper does not seek to explain his role thoroughly. He was a prolific writer, as well as a designer of often-whimsical objects. One of his key areas of practice was the color-coding of industrial spaces for functional and aesthetic ends. See Georges Patrix and Denis Huisman, *L'esthétique industrielle* (Paris: Presses Universitaires de France, 1961); Georges Patrix, *Beauté ou laideur?* (Paris: Hachette, 1967); and Georges Patrix, *Design et Environnement* (Paris: Casterman, 1973).
- 14 Dorfles was conducting research in Italy at this time that, in many ways, was similar to his French counterparts. He was particularly interested in examining design as a kind of social communication and as an aesthetic phenomenon. That he would explore issues analogous to those of metadesign is apparent in his introduction to Gyorgy Kepes's *The Man-Made Object*, where he posits the industrial object as almost a natural component of the environment: "part of our surrounding scene." Gillo Dorfles, "The Man-Made Object" in *The Man-Made Object*, Gyorgy Kepes, ed. (New York: Braziller, 1966), 2. Dorfles's most complete statement on design is found in his *Il designo industriale e sua estetica* (Bologna: Capelli, 1963). Victor Margolin contextualizes Dorfles's writings on designs within the larger Italian debate in "Postwar Design Literature: A Preliminary Mapping" in *Design Discourse: History, Theory, Criticism*, Victor Margolin, ed. (Chicago: University of Chicago Press, 1989), 277–281.
- 15 The transcript is published in *Design industrie* 88 (Jan.-Feb. 1968): 69–72.
- 16 Gilbert Simondon (1924–1989) was a student of both Georges Canguilhem and Maurice Merleau-Ponty. All of his works concern themselves with the dialectic that animated individual elements within the larger context of their connective structures, be they parts of a complex machine or "individuated" human subjects in a collective society.
- 17 See Alain Touraine, *La société post-industrielle* (Paris: Denoël, 1969). Marcuse relies upon Simondon's book to articulate the kind of alienation particular to an automated industrial society: Herbert Marcuse, *One-Dimensional Man* (Boston: Beacon Press, 1964), 24–28.
- 18 I have described this phenomenon elsewhere as a "spatial culture." See Larry Busbea, *Topologies: The Urban Utopia in France, 1960–1970* (Cambridge, MA: MIT Press, 2007), 10–31.
- 19 Martin Heidegger, "The Question Concerning Technology," (1954) in *Basic Writings*, David Krell, ed. (New York: HarperCollins Publishers, 1993), 307–342; Lewis Mumford, *Technics and Civilization* (New York: Harcourt, Brace & World, 1934); and Jacques Ellul, *La technique ou l'enjeu du siècle*.
- 20 Simondon, *Objets techniques*, 12.
- 21 Ibid., 21. Simondon's metaphor here that the parts of the machine are like individual people is an interesting inversion of Georg Lukács's description of alienated human labor in which the worker becomes "a mechanical part incorporated
- 22 Simondon, *Objets techniques*, 22–23. This passage is a combination of my own translation and that of James Benedict from Jean Baudrillard, *The System of Objects* (London and New York: Verso, 1996), 5–6. Baudrillard's quotation of Simondon is a hodgepodge of passages; the gaps of which are not always acknowledged. Baudrillard omitted some of the more technical language from the passage presumably to amplify his conceptual point.
- 23 Simondon, *Objets techniques*, 23–31.
- 24 Ibid., 55.
- 25 Baudrillard, *System of Objects*, 5–7.
- 26 Ibid., 7.
- 27 de Saussure, *Course*, 16.
- 28 For Moles's work on visual art, design, and the environment see: Abraham Moles, *Théorie de l'information et perception esthétique* (Paris: Flammarion, 1958), trans. by Joel Cohen as *Information Theory and Esthetic Perception* (Chicago: University of Illinois Press, 1968). A revised edition appeared in 1972. Also Abraham Moles, *Théorie des Objets* (Paris: Éditions Universitaires, 1972); *Art et Ordinateur* (Paris: Casterman, 1971); *Sociodynamique de la culture* (Paris: Mouton, 1967); *Le Kitsch: l'art du bonheur* (Paris: Mame, 1971); and Abraham Moles and Elisabeth Rohmer, *Psychologie de l'espace* (Paris: Casterman, 1972).
- 29 Abraham Moles, *Théorie des Objets*, 7.



- 30 Moles held the title of *Professeur régulier* at Ulm from 1961 to 1968, when the school closed. Here, and less frequently at Max Bense's Semiology Institute at the University of Stuttgart, was where Moles really began to consider the cultural significance of industrial design and the sociology of objects.
- 31 Moles, *Théorie des objets*, 8
- 32 *Ibid.*, 21.
- 33 *Ibid.*, 11.
- 34 *Ibid.*, 22.
- 35 Abraham Moles, "La cause philosophique de la crise du fonctionnalisme," *Design industrie* 86 (Sept.-Oct., 1967): 10–11.
- 36 *Ibid.*, 10.
- 37 *Ibid.*, 11. Moles's invocation of the term "kitsch" is significant—so significant indeed that to include it here would take too much space. It was a concept in which he would invest a great deal of energy, as would so many other semioticians of design, from the Italian Gillo Dorfles to the Americans Robert Venturi and Denise Scott Brown. Moles's treatment of subject was highly ambivalent. His book on the subject is a bit of a Trojan Horse: designed for mass appeal with myriad entertaining illustrations of "bad taste," but with a more serious sociological message. For instance, his conclusion implies that kitsch may be a kind of unavoidable "totalitarianism" (p. 231–2). But, moreover, Moles's view of kitsch fits well into his dual concern with objects as both semantic communicating elements, as well as integrative elements in a larger milieu: "*C'est dans ce réseau de lignes directrices que nous situons le problème du Kitsch, rapport quotidien avec l'environnement*" (p. 11).
- 38 Moles, "La cause . . .," 11.
- 39 Henri Van Lier, "Culture et industrie: Le Design," *Critique* 22:246 (November, 1967): 935–952. *Critique* is the famous journal founded by Georges Bataille in 1946 which, by the mid-sixties, was beginning to register the theoretical shifts and transformations of structuralism and poststructuralism.
- 40 Andries Van Onck, "Metadesign," *Edilizia moderna* 85 (1964): 52–57. Van Onck's essay was one of many Italian efforts at applying the lessons of semiotics to art, design, and architecture. A few years later, Umberto Eco would summarize much of this work in his *La struttura assente: Introduzione alla ricerca semiologica* (Milan: Bompiani, 1968). *La struttura assente* was never translated into English, rather rewritten and greatly expanded as: Umberto Eco, *A Theory of Semiotics* (Bloomington, IN: Indiana UP, 1976).
- 41 See Morris, *Writings*, 28–54.
- 42 Van Onck, "Metadesign," 52.
- 43 See Henri Van Lier, *Le nouvel âge* (Paris: Casterman, 1962). See also Busbea, *Topologies 18-22*.
- 44 Van Lier, "Culture et industrie," 939–942.
- 45 *Ibid.*, 943–4.
- 46 *Ibid.*, 944–5.
- 47 *Ibid.*, 945. Van Lier here cites Simondon.
- 48 The collected documents and essays resulting from Ambasz's unrealized project have recently been published as *The Universitas Project: Solutions for a Post-Technological Society* (New York: Museum of Modern Art, 2006).
- 49 See Felicity Scott, *Architecture or Techno-utopia: Politics after Modernism* (Cambridge, MA: The MIT Press, 2007), 89–115.
- 50 Jean Baudrillard, "Design and Environment: Or, the Inflationary Curve of Political Economy" in *The Universitas Project*, 50–65; later published as "Design and Environment or How Political Economy Escalates into Cyberblitz," in *For a Critique of the Political Economy of the Sign* (all subsequent citations are to this version).
- 51 Baudrillard, "Design and Environment," 185.
- 52 *Ibid.*, 188.
- 53 *Ibid.*, 199–200.
- 54 *Ibid.*, 201–202.
- 55 A more contemporary model that has some connection to metadesign is found in Ezio Manzini, "Prometheus of the Everyday: The Ecology of the Artificial and the Designer's Responsibility" in *Discovering Design*, Richard Buchanan and Victor Margolin, eds. (Chicago: University of Chicago Press, 1995), 219–243.
- 56 This phrase is Maldonado's, referring to Venturi and Scott-Brown's *Learning from Las Vegas: Tomás Maldonado, Design, Nature, and Revolution: Toward a Critical Ecology*, trans. by Mario Domandi (New York: Harper & Row, 1972), 60.
- 57 Fredric Jameson describes this paradoxical state of affairs most thoroughly in his *Postmodernism, or, The Cultural Logic of Late Capitalism* (Durham, NC: Duke University Press, 1991).