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Introduction

The decade of the 1990s was a watershed for design as a field of practice and inquiry. The search for better understanding of design through history, criticism, and theory expanded in many venues around the world. Research and serious writing achieved a respected place in the design community, and the connection between design and other fields of learning received new, productive attention. We are now beginning to see the fruits of development through a growing body of literature on diverse facets of design. However, it is important to remember that one of the key sources of vitality in design studies is design practice—the creation of communications, artifacts, interactions, and environments that serve human beings in the accomplishment of their diverse goals in life. The effective and responsible practice of design is where our studies of history, criticism, and theory find a fundamental grounding.

This issue of the journal begins with a sophisticated critical discussion of "deconstructive design" and the work of Scott Makela. Kirsten Strom explores the distinction between "absorptive" and "theatrical" expression offered by art historian and critic Michael Fried. Though Fried regards the absorbed contemplation of the visual as a superior form of experience—prizing the fine arts and dismissing the engagement of design—Strom explains both the origin and goals of graphic design as a medium aspiring to actively court the viewer's attention in order to compete and communicate in a world of visual distraction. She discusses the role of text and image in graphic design and, to the point of her article, the special exploration of type and image in the work of Scott Makela. Without reducing an explanation of his distinctive style to his condition of dyslexia, she shows how the altered perception of the dyslectic affords an opportunity to deconstruct the supposed universals of detached contemplation and objectivity that Fried asserts.

The next articles discuss the history of design education in Turkey and Japan. Design education is an important theme in Design Issues—see the special issue "Educating the Designer" (7:1, autumn 1990) as well as other individual articles—and perhaps now is a good time to explain why. First, the editors believe—along with a growing number of others—that an understanding of design education is essential if one is to understand design itself in human culture. There is an important dialectic between design education and professional design practice. For good or bad, what is taught in the schools emerges as the dominant thread of professional design practice, helping to explain both the strengths and weaknesses of
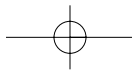
the field. Recessive and emergent practices take shape around the dominant vision of design education, and this dialectic deserves ongoing exploration. Second, the editors also believe that design education is one of the most important expressions of different national agendas for design and social life. This is illustrated in the two articles presented in this issue of the journal. Alpay Er, Fatma Korkut and Özlem Er discuss the development of industrial design education in Turkey from the 1950s to the 1970s, describing the involvement of the United States. Yoshinori Amagai discusses the beginnings of design education in modern Japan, starting in 1876 with the establishment of the Art School of the Ministry of Public Works.

Following is an article by, Elzbeita Kazmierczak which explores communication design and, specifically, the concept of diagrammatic reasoning and modeling in design. She argues that design is concerned with making meaning, and that a focus on received meaning shifts the focus of design from a preoccupation with objects to a focus on cognitive processes within the receiver. In essence, she argues, design shifts from a static notion of content to a dynamic process of inducing and guiding the cognitive processes of the viewer. From this follows a rewarding discussion of information, graphic diagrams, semiotics, and related themes.

If Kazmierczak addresses theoretical issues in a recognized area of design inquiry, Sherry Blankenship's article on the cultural differences between Arabic calligraphy and Latin typography begins to open up a new area for discussion. This brief article serves to bring new materials to the attention of the design community. We hope that it will lead to further exploration of the development of design in Arabic countries of the Middle East, where design plays an interesting—and increasingly important—role in commerce and social life.

The next article is a healthy reminder that designers—and design educators—sometimes turn serious design issues into slogans, and in the process lose the advantage of new ideas. Michael Siu discusses the "user-oriented" approach to design, pointing out that user needs are often not seriously researched and addressed. He argues for a different view of the designer's role, emphasizing ideas of user-participation in the design process. In his words,

> *The main concern of designers should be what actually happens when someone uses their designs, for that is the ultimate measure of every design's worth.*

We conclude this issue of the journal with a remembrance of designer and design historian Philip B. Meggs, whose recent death is another loss for the design community. We share Roger Remington's warm regard for a friend and colleague who valued teaching and research, and who respected design as a field of inquiry and practice.

Richard Buchanan
Dennis Doordan
Victor Margolin
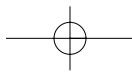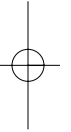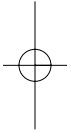
Reading Scott Makela:
The Subversion
of Dyslexic Deconstruction[1]
Kirsten Strom

Since its proliferation as a field in the nineteenth century, graphic design has constantly renegotiated its ambiguous position in the spectrum of visual culture. As Marcus Verhagen has written, art nouveau posters, for example, were met with numerous polemics surrounding the contested status of the poster in fin-de-siècle Paris, which was widely criticized by an appalled conservative contingent, partially on the grounds that both its imagery and its style courted the viewer like a street-walking prostitute.[2] Though the metaphor may well sound rather exaggerated, or even absurd when taken at face value, this criticism does raise a significant issue pertaining to the proactivity, or "theatricality," not only of art nouveau posters, but perhaps more broadly, of graphic images in general. I borrow the term, "theatricality," from art historian and critic Michael Fried, whose work since the 1970s has been influential in introducing the role of the spectator as an object of study. As I will outline below, Fried's conclusions about the relationship between the viewer and the image are markedly conservative, as if to side with the opponents of Chéret and Toulouse-Lautrec mentioned above. Fried's terms, however, represent a language useful for speaking of the relationship between an image and its viewers, and indeed I will ultimately suggest that part of the significance of the recent model of deconstructive design, particularly as exemplified by the work of Scott Makela, lies in its ability to scandalize Fried's classically inspired paradigm.

Fried's model theorizes a dichotomy, which pits the "absorptive" against the "theatrical."[3] The former, epitomized by high classicism, neoclassicism, and more recently, selected examples of formalist painting, he describes as an art so self-absorbed as to be utterly unaware of and indifferent to the presence of the viewer. In figurative works, such absorption manifests itself not only in the engaged gesture and expression of the figure, but also, and for my purposes more importantly, in the seamless technique of the artist, which disguises itself in such a way that one sees only the narrative illusion and not the strokes of the brush or the chisel. In short, neither the figure nor the artist actively solicits the viewer's attention. In such works, Fried maintains that viewers would be so

1   This is a revised and expanded version of a paper presented at the 2002 College Art Association Conference, for the panel "Do I Make Myself Perfectly Clear: Readability and Legibility in Graphic Design," chaired by George Marcus. Both versions of the paper owe thanks to my colleagues Michelle Bowers and Paul Wittenbraker, who generously shared their time and resources.

2   See Marcus Verhagen, "The Poster in Fin-de-Siècle Paris: 'That Mobile and Degenerate Art'," in Leo Charney and Vanessa Schwartz, eds., *Cinema and the Invention of Modern Life* (Berkeley: University of California Press, 1995), 103–129.

3   See Michael Fried, *Absorption and Theatricality: Painting and Beholder in the Age of Diderot* (Chicago and London: University of Chicago Press, 1980).

convinced by the illusion of an autonomous reality that they would even unwittingly project themselves into the image, thereby attaining a direct, unmediated relationship to the content of the painting, and consequently losing themselves in a similar state of contemplative absorption.

By contrast, the theatrical, in Fried's particular use of the term, is that which acknowledges and indeed panders to the presence of the viewer, whose own self-awareness consequently precludes an aesthetically transcendent experience. In other words, a work that more overtly solicits attention, whether through imagery or exaggerated technique, reminds its viewers that they are the embodied spectators of an object of artifice.[4] For Fried, the absorptive and the theatrical represent not only a dichotomy, but also a hierarchy, privileging the absorptive, which he favors as a superior form of experience.

Mired in the humanist presumptions of the "fine arts," Fried likely would have little to say in defense of graphic design, particularly in its overtly "applied" manifestations. His rejection of the notion that an artwork might be created for any purpose other than to quietly signify its own integrity is representative of a longstanding, but recently reconsidered, marginalization of fields such as graphic design, which might seem, at least in one sense, to be of its very nature theatrical rather than absorptive. In the instance of client-based or advertising design in particular, I specifically mean that the designed object seems to know that its purpose is to acknowledge, address, speak to, and ultimately persuade a human subject. It is quite significant here that graphic design would begin to fashion itself as a field and a profession in the capitalist marketplace and society of spectacle of Western culture in the late nineteenth century.[5] The degree to which posters, images, and advertisements would increasingly find themselves competing with one another in city streets for the attention of the passerby has only escalated in our own time. Thus, as previously suggested, design has evolved, as if of necessity, as a medium aspiring to actively court the viewer's attention in order to viably compete—and hence communicate—in a world of visual distraction.

The inclusion of text would seem to further contribute to the theatricality of design images and advertisements in two ways, the first being in the sense that words are arbitrary signs, which acknowledge—and indeed assume—a reader. Secondly, however, imagery designed to incorporate text also is theatrical in the sense that the juxtaposition of two-dimensional words onto an illustration or photograph generally qualifies whatever narrative or spatial illusion may be implied by the image, thereby destroying any classical pretense of autonomous self-absorption to which the image might have aspired.

Ultimately, of course, the point that text, including slogans and product names, would play a central role in the development of

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4   Bertolt Brecht's theory of distanciation would purposely adopt this sort of "theatricality" as a form of protest against the conventional, classically realist theater, which actually conformed more closely to Fried's model of absorption.

5   See Steven Heller, "Advertising: Mother of Graphic Design," in Michael Bierut et al, eds., *Looking Closer 2* (New York: Allworth Press, 1997), 112–18.

graphic design is a notion that requires little belaboring. And yet one finds that the widespread—and allegedly modern—form-follows-function ideology of the early twentieth century would define the role of type in terms which would seem derived from a classical aesthetic theory of visual restraint, and which therefore would seem to exist in a paradoxical relationship with the seemingly theatrical purpose of most designed images, as discussed above. Thus, even in an age characterized by the rise of discourses of graphic design and widespread typographic experimentation, the classical, or absorptive, paradigm—and the hierarchy it implied—would seem to have held fast to its ground.

Specifically, I speak of the implicitly universalizing presumption that the goal of text is "invisibility," meaning that the viewer would read the type without looking at it, without, in other words, being distracted by the visuality of the text. That text should be seamlessly self-absorbed is a notion implicitly articulated in "The Crystal Goblet, or Printing Should Be Invisible," a 1932 essay by Beatrice Warde, in which she famously surmised that text should function transparently, like a clear glass, a vessel to be looked through but not at. While the notion of "transparency" at the heart of her metaphor bears some print-specific connotations distinct fro m those of Fried's model of "absorptive" painting (and vice versa), the terms overlap in their adoption of the classical assumption that restraint in form enables a higher relationship to content, which consequently can be accessed without barriers. Excesses of the artist's or designer's hand, however, are to be dismissed as undesirable distractions. Indeed, articulating her concept of the transparency of "good" type, Warde speaks with great enthusiasm of print's potential to communicate content without mediating or qualifying it: "The most important thing about printing is that it conveys thought, ideas, images from one mind to other minds. This statement is what you might call the 'front door' of the science of typography. Within lie hundreds of rooms, but unless you start by assuming that printing is meant to convey specific and coherent ideas, it is very easy to find yourself in the wrong house altogether." [6] *According to this formulation, text, therefore, was to be not theatrical but invisible, speaking to the reader, but doing so without its form being seen in order to avoid any distraction from the "specific and coherent" content to be conveyed. As previously suggested, Warde's notion of "invisibility," would seem to be based on a classical model, evoking the ancient Greek dictum that the height of art is to conceal its own artifice.* [7]

Of course, numerous designers in recent decades, such as Paula Scher and David Carson, have disrupted the hierarchy of the symbolic word over the visual text, in the process overturning the notion that the height of typography is to conceal the type. Such efforts have been successful to such a degree that Warde's essay today reads almost like a satire. And yet while designers and histo-

6   Beatrice Warde, "The Crystal Goblet, or Printing Should Be Invisible," in Gunnar Swanson, ed., *Graphic Design and Reading* (New York: Allworth Press, 2000), 92.

7   The same idea also is described by Katie Salen's metaphor of the visual voice-over. Of course, when we see an image of a woman washing dishes, and we then hear a man's voice say, "Joy softens hands while you do the dishes," this should destroy the illusion that we are voyeuristically seeing into an unmediated slice of this woman's life. Yet with the baritone voice, which speaks with perfect diction, a formulaic intonation, and a standard Midwestern accent, we have been conditioned to assume that indeed we are hearing the disembodied voice of truth, which has become so familiar that we don't even notice it. See Katie Salen, "Surrogate Multiplicities: In Search of the Visual Voice-Over," in Swanson, 77–90.

rians have recognized this as a significant paradigm shift, I would suggest that perhaps the theoretical implications of such a shift have yet to be exhausted. To support this latter claim, one might note that such experiments primarily have been theorized in rather simplified terms as "subjective," or as symptoms of a distraction-laden, channel-surfing culture out of control. Here, however, I wish to address the potential of such works to speak to the issue of the gaze as it manifests itself in the classical, self-absorbed model of invisible text. As stated above, client-based design and typography are largely functional in nature: design and text are created to speak to and acknowledge a human subject; but perhaps inevitably, this has involved the presumption of a particular type of subject. Much discussion has been directed in recent years toward the implied presence of a "male gaze" in visual forms of communication. In similar terms, I wish to propose that conventional design recognizes and addresses what might be termed a "normalized gaze." This notion is particularly implicit in Warde's text, when she states, for example, that:

> There is no "explanation" whatever of the fact that I can make arbitrary sounds that will lead a total stranger to think my own thought. It is sheer magic that I should be able to hold a one-sided conversation by means of black marks on paper with an unknown person halfway across the world. Talking, broadcasting, writing, and printing are all quite literally forms of thought transference, and it is this ability and eagerness to transfer and receive the contents of the mind that is almost alone responsible for human civilization.[8]

According to her statement, therefore, Warde's thought is simply transferred through text, directly, correctly, and without mediation. Implicitly enabling such a statement is the presumption not only of a seeing, literate, English-speaking subject, but also of a viewer or reader who conforms to a classical, or Cartesian, model of cognition, one which maintains that sensory information, in this case visual text, objectively imparts itself onto passive human organs of sight, sound, smell, etc., and that the viewer's perceptions and corresponding knowledge can be objectively confirmed as correct.[9]

But what of the dyslexic, the viewer who perceives and processes information differently? How can this viewer be acknowledged? Designer P. Scott Makela was himself such a viewer, one who saw forms instead of words, the very text which was allegedly invisible. Without wishing to overemphasize its importance to his work, or to suggest that it was the primary influencing factor in his process,[10] I believe that the notion of dyslexia can function as a potent metaphor and theoretical touchstone for Makela's work, and more broadly for contemporary graphic design and typography in general, particularly as they intersect with theories of deconstruc-

8 Warde in Swanson, 92.
9 Similarly, the point might be made that the classical painting of which Fried spoke assumes a viewer with "normal" perceptions of color, spatial representation, etc.
10 Other traits for which Makela and his work are well known include collaboration (particularly with Laurie Haycock Makela), viscerality, high energy, and multidisciplinarity.

tion which have been appropriated into these fields. Thus, the remainder of this paper will explore the implications of Makela's "dyslexic" gaze, suggesting that it not only challenged the hierarchy of words over text, but that it subverted the underlying assumption of a "normal" gaze which had empowered the classical model for so long.

As its etymology directly suggests, dyslexia has been defined as a neurologically based learning disorder, "characterized by difficulties in single word decoding," which can impair the dyslexic's ability to process, or "decode," visual manifestations of language.[11] Though the condition has been known to manifest itself in many diverse ways, it has been suggested that some dyslexics may have acute abilities in other areas, such as physicality and spatiality, which can compensate for a lack in more conventional skills, and it is perhaps not coincidental that these are indeed traits for which Makela's work is known. Yet generally speaking, dyslexic characteristics may be adapted to Warde's metaphor as a fog complicating the transparency of the goblet, causing one to look at the glass rather than through it, by extension prohibiting—or at least problematizing—the direct access to the symbolic word of which she spoke.

Until fairly recent times, most dyslexic children, with Makela likely included, lacked the power of the word "dyslexia" to describe and validate their experiences. Painter Chuck Close, for example, himself dyslexic, has spoken of his own early schooling as a double frustration. He was neither able to succeed at academics nor to explain to himself or his teachers why his countless hours of studying failed to pay off. Makela similarly seemed to have had great difficulty at feeling successful not only at conventional academics, but also at drawing and handwriting.[12] Like many contemporary designers, however, he found salvation in the computer. This would afford him the alternate strategies necessary to exploit his own unconventional abilities.[13]

Yet more important to my purposes here is that during his experiences at Cranbrook, first as a graduate student, then later as a designer-in-residence and co-chair of the 2-D department,[14] Makela was exposed to recent French literary theory which advanced notions of deconstruction. Whether or not he would himself recognize it in such terms, the experiences of a frustrated and marginalized childhood dyslexic would find validation in a theoretical paradigm which posited that the subjectivity of the reader—or viewer—played a critical role in the creation of meaning. In such a model, texts and objects no longer could be conceptualized as neutrally imparting their own true meanings. (Such a supposition would be dismissed by Derrida as "metaphysical.") Thus, the resultant theory would recognize not only the existence of the reader, but the temporal and contingent nature of the reader's experience. The reader also could no longer be conceptualized as a neutral and passive vehicle

11 The Orton Dyslexia Society Research Committee, April, 1994.

12 Makela himself would describe this condition in less explicit terms as "a childhood combination of poor motor skills and hyperactivity." (Scott Makela, untitled interview, *Emigré* 23, 1992).

13 For more on the computer's influence, see Stephanie Zelman, "Looking Into Space," in Swanson, 51–60.

14 Scott Makela co-chaired Cranbrook's 2-D area with his wife Laurie Haycock Makela from 1996 until his sudden death from a viral infection in 1999.

onto which information objectively projected itself. Instead, the reading subject would become an active participant not only in the construction of meaning, but in the unraveling of the narrative's— or the image's—absorptive illusion of self-sustenance. Importing such literary theories to the field of graphic design, Makela would simultaneously impose a dyslexic gaze, forcing the viewer into activity, making him or her see the words as letter forms, and making the reader work, much as he had had to work to read even allegedly "invisible" text.

Makela's font Dead History, for example, raises key issues pertaining to ways in which one does or does not experience "legibility." Described by Philip Meggs as "rather jarring,"[15] and weighing in with other "deconstructive" fonts which have been rejected as illegible by traditionalists in the field, Dead History boldly juxtaposes elements from seemingly incompatible fonts, both serifs and sans serifs, which are forcefully melded into an unsystematic arrangement of hybridized forms. But what is to be read into controversies surrounding such deconstructive, or "post-modern," fonts, which are anything but "invisible"? While Emigré's Zuzana Licko has famously surmised that we read best what we read most, numerous researches and polemics have been dedicated to the question of which font or fonts have the greatest legibility.[16] Factors such as retinal regression and blinks per minute have been measured to resolve the issue; yet in the end it can perhaps only be concluded that the question is itself unviable, not only because various polemics have reached entirely contradictory conclusions, but also because the very posing of the question implies both that the goal of typography is invariably facile legibility, and that perception can be unproblematically standardized.

Figure 1
Scott Makela, Dead History, Bold (1990).
© Copyright Émigré, Inc. 1995–2002.
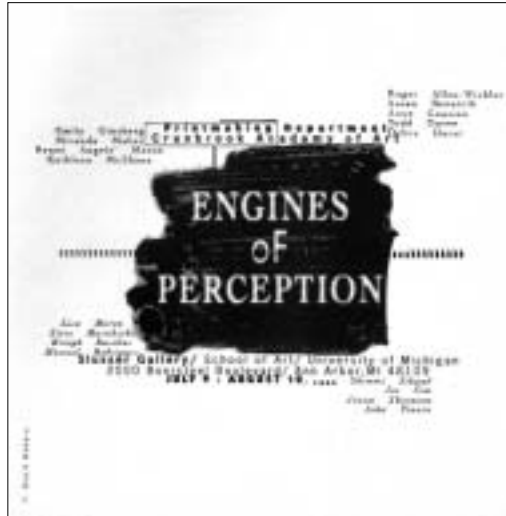

Dead History Bold

ABCDEFGHIJ
KLMNOPQRS
UVWXYZ
abcdefghi
jklmnopqrst
uvwxyz
0123456789
!#$€£@&()*?

15 Philip Meggs, "Dead History," *Print* 49: 3 (May/June 1995): 118–19.
16 See Rolf F. Rehe, "Legibility," in Swanson, 97–110.

Figure 2
Scott Makela, *Engines of Perception*
Exhibition Invitation Cranbrook Academy
of Art (1990), with permission of Laurie
Haycock Makela.

Other examples of Makela's work invoke pertinent themes regarding the process of perception as an activity, rather than as a simple occurrence. A 1990 exhibition invitation, for example, seems to play off of the exhibition's title Engines of Perception. Though relatively restrained by the standards of Makela's other works, the invitation implies, but ultimately breaks out of an orderly grid structure based on a predetermined flow of information, from upper left to lower right. In this case, rather, the flow is nonlinear, and while the metaphor of the engine implies a kind of mechanical objectivity, what one quickly comes to realize is that the information here does not simply transmit itself. The mind is a machine, therefore, not in the sense that it is formulaically mechanical, but rather in the sense that it is at work, churning and making decisions about how to "read" this card which functions simultaneously as text and image. One is perhaps unlikely to lose oneself in a transcendent (re: metaphysical) state of contemplative absorption, while working to assemble meaning in this manner. Such deconstructive design, therefore, generally might be described as adopting a theatrical model of presentation, in order to expose, rather than conceal or render "invisible," the mechanisms through which both the image and its potential meanings are arbitrarily created.

A related work, also of 1990, is Makela's poster Cranbrook design: the new discourse. In this case, the analogy between mind and machine is made even more explicit, because the image of one is juxtaposed onto that of the other. With an engine ambiguously providing a backdrop/frame, the central photograph is of the brain itself, as seen from above, the vantage point which best accentuates its two hemispheres. The structure of this object divided in two is paralleled by the presentation of the text, in which the right half is slightly set apart and invariably off kilter with the left. The words themselves, authored by Katherine McCoy and Michael McCoy

Figure 3
Scott Makela, *Cranbrook Design: The New Discourse* Poster, Cranbrook Academy of Art (1990), with permission of Laurie Haycock Makela.

introduce, among other things, a set of dichotomies negotiated by the imagery: art/science, mathmatic/poetic, mythology/technology, dangerous/rigorous, systematic/idiosyncratic, desire/necessity, being/reading, and failing/finding. The text, also involving a prose description of the dichotomies outlined, furthermore is layered over the image of the brain, and it expands and contracts to mimic the implied three-dimensionality of the object photographed. Here too, then, the form of the text contributes directly to its content and meaning(s), which exceed those of simple and direct signification. Of course, what may be the image's most notable feature is the morphing of the seemingly discreet elements, brain and machine, left and right, words and pictures, into a dramatic swirl, in which neither text nor image is legible. (Ironically, reading is one of the last words to retain a recognizable form.) Here, in particular, it is the form of the text alone which signifies and conveys, since the words themselves no longer function as signifiers. Yet they participate in the potential creation of new content, which seems to speak to the notion of blurring boundaries and problematizing the very premise of a fixed dichotomy. While the viewer's reading skills, whatever they may be, here are purposefully disabled, Makela creates an alternative means by which meaning can occur. As the last pair of terms provocatively suggests, this might be seen as either failing or finding.[17]

For my purposes here, however, perhaps the most noteworthy example of Makela's work is the 1998 book and Website whereishere, which Makela collaboratively produced with Laurie Haycock Makela and writer Lewis Blackwell.[18] The project, in both forms, consists of a curated collection of images drawn from the global context of contemporary graphic design. Short texts, primarily authored by Blackwell, function almost like a manifesto of deconstruction and/or post-structuralist theory. For example, Blackwell states, as if in reference to Roland Barthes, "In this century, we have been told by some leading thinkers that we have an unavoidable dialogue with the audience. And the nature of a dialogue implies that the audience is reciprocating, sending signals back; it is in an unavoidable dialogue with the performer. Each performs for the other." Later, one finds that Blackwell has evoked a post-structuralist critique of identity in stating:

> In this analysis, any idea of being a "creator"—through images, words or other projected experiences—is illusory. This is somewhat ironic: if you thought you were concerned with the illusions created by attempts to communicate, now you end up being presented with the illusion of such an action in the first place. You are left with only a sense of self to deconstruct as you melt down into a philosophized, psychoanalyzed messy blob. You and your putative audience [and its sense of you] is just part of a system so much larger, with dimensions impossible to conceive.

17 The theme of the brain as an organic machine also would be taken up more viscerally in Makela's designs for the title sequence to David Fincher's *Fight Club,* which begins inside the brain of the main character.

18 Lewis Blackwell, Scott Makela, and Laurie Haycock Makela, *whereishere* (Corte Madera, CA: Ginko Press, Inc., 1998); whereishere.com. (The introduction, cited below, is unpaginated.)

Figure 4
Scott Makela and Laurie Haycock Makela,
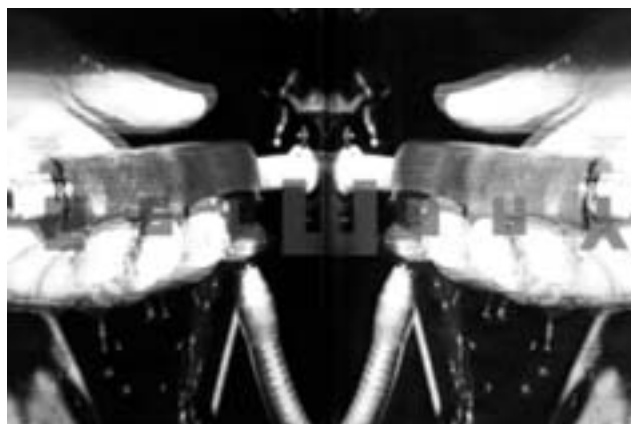*whereishere*, front cover (1998).
Figures 4, 5, & 6 reproduced with permission
of Laurie Haycock Makela.

Figure 5
Scott Makela and Laurie Haycock Makela,
Austria spread from *whereishere* (1998).

Figure 6
Scott Makela and Laurie Haycock Makela,
Germany spread from *whereishere* (1998).

When appropriated into, or applied to the field of graphic design, deconstruction has involved—among other things—calling attention to the mechanisms of the image's own production, heightening the role of text as a visual element, breaking down both the modernist grid and the form-follows-function ideology which gave rise to it, and complicating the viewer's experience through the inclusion of characteristics such visual double entendres, etc. In other words, deconstructive design has bluntly refused both the model and the metaphor of Warde's absorptive and classicizing "invisible goblet," and the normalizing assumptions which gave rise to it.

As previously noted, the language of whereishere quite directly frames the project within the rhetoric of deconstruction theory, and the book's design embodies many of the characteristics of deconstructive graphic design already cited. At the same time, the design almost seems to function as an inventory of symptoms of dyslexia. Without wishing to diminish in any way the collaborative contributions of Laurie Haycock Makela, I do, however, wish to illustrate the potential of whereishere to be viewed in light of the context of Scott Makela's experiences with dyslexia, although traits

associated with dyslexic perception are so prevalent and apparent throughout the book that the task of belaboring proof of their evidence seems unnecessary. I shall, therefore, offer only a few initial examples.

The viewer's encounter begins with a cover designed in such a way that the book might be taken to have two fronts. On one side, the text whereishere appears beneath a circle, the cardinal points of which are each met by a word. MEANS and OBSESSION appear right-side-up, but AUDIENCE and DEMATERIAL are upside-down. That one thus is left to question the orientation of the book is further reinforced by the fact that the opposite side contains the telling word POSITION, which also appears upside-down. But in these circumstances, what one is pressured to recognize is that upside-down is right-side-up when flipped over, and thus the issue of the relativity of "position" is performatively illustrated. Of course, both "where" and "here" are similarly relative terms by definition, and one might further realize that these three words in one may be posed as either a question, where is here?, or a declaration where is here. Similar ambiguities take place around the circle. For example, the de- in dematerial is the only text contained within the circle, suggesting perhaps that it is parenthetical, (de)material. Thus, materiality is or is not an issue depending upon context. But means is furthermore an ambiguous term in and of itself, bearing the potential to function as either a noun or a verb. Here we are presented with several possibilities for the construction of a sentence: dematerial audience means obsession, audience means dematerial obsession, etc. In accordance with notions of deconstrucive theory, the viewer is put in the position of decision maker: Which side is up?, Is whereishere a question or a statement?, etc. But at the same time, many of the decisions to be made have to do with an ambiguous sense of orientation. One form of dyslexia involves difficulty in distinguishing between right and left. Perhaps what the dyslexic realizes is the futility of a dichotomy which insists upon absolute orientations.

Yet other possible references to conditions of dyslexia include the lack of spaces in the text whereishere, with words appearing "pushed together," another potential manifestation of dyslexic perception.[19] The shaping of the font plays a significant role as well, with the text appearing to have been cropped at the upper edge. Thus, not only do the rounded letters have an incongruous straight edge across the top, but the proportions appear distorted as well. Implicit within both these observations, however, is the notion that there is an acceptable norm determining both proportion and consistency. This text emphatically denies that the norm and the familiar are valid in and of themselves, and in the process, calls attention to the shape of the words, destroying their invisibility. This process may be alternately interpreted as deconstructive or dyslexic. The text in a sense deconstructs itself by reminding the viewer not

19 The Nemours Foundation Website: http://kidshealth.org/teen/health_problems/diseases/dyslexia_p3.html.

only that text is visible, but that it is constructed as well. It reminds the reader, in other words, that the illusion of an object which appears so neutral as to have willed itself into existence is just that, an illusion. At the same time, however, this font which so brazenly calls attention to its own visuality causes a viewer to perceive the words in a quasi-dyslexic manner, seeing letters as shapes, and not purely as linguistic symbols.

As previously noted, the book's interior consists of a compendium of works by designers, arranged by countries of origin, which are included in alphabetical order. Geography thus is dislocated by the arbitrary system of the alphabet, which locates Japan between Israel and Mexico. Orientation is further problematized by the images and the type which introduce the various nations. The photograph pertaining to Austria, for example, appears turned on its side, while the type is not only dissected by a thin blue line, but reads from right to left as well. This is not immediately apparent, however, because the first and the final pair of the blocky sans-serif letters are symmetrical, reading the same way in either direction. Confusing left and right, as previous discussed, of course is one of the best known symptoms of dyslexia, but another common symptom invoked by this text involves difficulties with spelling resulting from a desire to spell according to phonetics rather than convention. The word of, for example, generally is pronounced by native English speakers as if it were spelled with a v instead of an f. Similarly we find Austria seeming to be spelled with a z in place of the phonetically approximate s. Or perhaps not. In this geometricized font, it may be that the s has been reversed and compressed into the more angular form of a z. In any event, conceptual ambiguity and visual double entendre reign.

In texts introducing other nations, however, words read from left to right, but the letters are backwards, upside-down, or both. In several instances, letters work against themselves as they become other letters when flipped. Not only do ds become bs, as in Canada, but even the upside-down lowercase r of Brazil could be taken to be an uppercase L and vice versa. Throughout, there is little consistency within each word, with, in some cases, a single letter upside-down. The most common device, however, seems to be that the first and last letter of each word is capitalized, suggesting again that texts might be read in either direction. And here, with Austria, Brazil, and Canada, we have only made it through a, b, and c.

The effect, needless to say, is disorienting, even as the text tries to tell us exactly where we are. We come to expect the articulation of each new country's name, yet we find ourselves wondering, "Where is here?" In my own experience, I found context to be an invaluable aid to literacy. Struggling to read words such as Germany, which might seem to be spelled g-a-l-w-e-u-y, or Japan, which could almost be read as Nepal, I relied on the context of the images and even the order of the alphabet itself to determine the referents of the
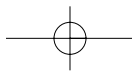
words at which I was looking. And I dare say that I have never looked harder at words in my life. The ambiguity became a guessing game, in which I needed to actively pool my own resources to determine which of the numerous possibilities was the most viable. And yet in so many cases, I knew that an r could still be an L, thus preventing my conclusion from becoming closure, in the sense in which Derrida critiques this term as inherently metaphysical. Thus, the exercise of reading these words functioned simultaneously as a performance of deconstruction theory, and as an enactment of the extended effort of a dyslexic reader.

As a final note to whereishere, this latter notion is furthermore quite explicitly invoked in the notes to the work of American designer Peter Hill, which explain that "Hill concentrates on how words and letters lose their meaning to dyslexia sufferers, who become obsessed and distracted with form itself. This image began as letterforms, then transformed into incomprehensible groups and clusters." [20] *In the case of Hill's work, the letterforms indeed are barely recognizable as such, as the ghosts of letters merge and mutate into hybridized shapes, and the seemingly three-dimensional structure of the whole.*

Since Makela himself was generally less direct in acknowledging such a connection in his own work, in conclusion, I would reiterate that I do not wish to leave the impression that he must be theorized above all as a dyslexic, but rather, I would suggest that the condition of dyslexia, as seemingly manifested in his work, can function as a potent model for rethinking the assumptions conventionally implicit within the notion of the viewer's gaze. I would argue, therefore, that deconstructive design too often has been relegated to description by overgeneralized terms, such as "personal" or "subjective," which do not adequately speak to the political nature of difference. Thus, in the degree to which Makela's work calls attention to the biases of normalcy, it may indeed be understood as subversive.

20   *whereishere,* 167.

U.S. Involvement in the Development of Design in the Periphery:
The Case History of Industrial Design Education in Turkey, 1950s–1970s[1]

H. Alpay Er, Fatma Korkut and Özlem Er

Introduction

Industrial design as a profession and discipline spread to "peripheral" countries after World War II. In many countries of the periphery, the introduction of industrial design into local industrial, cultural and political contexts took place during the 1950s and '60s, and was intrinsically associated with the concepts of "industrialization" and "modernization." Like the "industrialization" concept itself, all technological and organizational methods with their ramifications in daily life were imported from the center. They were idealized symbols of modernization as a social project. In this context, industrial design was regarded as a strong, visual symbol of modernity. As Bonsiepe points out, industrial design has been "one way for countries on the periphery to come to terms with modernity, with the modern project, and not only and predominantly in the realm of industry, but also in that of social organization."[2] The history of industrialization in the periphery, which is closely related to the economic and social modernization in those countries, has been observed as a process of learning imported technologies.[3]

Industrial design was "imported" through a variety of transfer mechanisms. One of the more prominent ones was the teaching of industrial design. The two oldest design schools in the periphery, the National Institute of Design (NID) in India and the Escola Superior de Desenho Industrial (ESDI) in Brazil, established in the early-1960s, are typical examples. The design community in central countries played a major role in this process as evidenced by the initiative of Charles and Ray Eames in the establishment of NID, and the involvement of Ulm alumni in both NID and ESDI are among the well known cases of the history of industrial design education in the periphery.[4]

However, little is known about the origins and development of industrial design in the periphery. The distinct nature of its introduction into the peripheral context is one of the fault lines that differentiates the history of design in the periphery from the history of design in the center. The exploration of relatively unknown

1   An earlier version of this article was presented at the Mind the Map: 3rd International Conference on Design History and Design Studies "Design History Beyond Borders" (Istanbul, 9–12 July 2002) Istanbul Technical University - Kent Institute of Art and Design.

2   Gui Bonsiepe, "Developing Countries: Awareness of Design and the Peripheral Condition" in *History of Industrial Design: 1919–1990 The Dominion of Design*, C. Pirovano, ed. (Milan: Electa, 1991), 252.

3   Alice H. Amsden, *Asia's Next Giant: South Korea and Late Industrialization* (New York: Oxford University Press, 1989).

4   See Gui Bonsiepe, "Developing Countries: Awareness of Design and the Peripheral Condition." See also NID, *Eames Report* (Ahmedabad: National Institute of Design, 1997).

design territory in the periphery is crucial if a world history of design is ever to be written. As Margolin[5] points out, a significant part of the world history of design will be explaining interactions between countries, and the development of design in various countries in different social, economic, and political environments.

This article is an attempt to explore the role of external dynamics in the initiation of industrial design education in certain peripheral countries, particularly from the mid-1950s to the early-'70s, which witnessed one of the most interesting and relatively overlooked design promotion programs funded and directed by the U.S. Government and employed a number of American design firms and schools. Apart from discussing the political motivation behind the U.S. initiative, this paper also aims to elaborate the extent and the nature of the U.S. involvement in spreading industrial design education in the periphery in the specific case of Turkey and the Industrial Design Department of the Middle East Technical University (METU).

The study primarily is based on an extensive review of the unpublished reports and documents prepared at METU in the early-'70s, as well as articles and news that appeared in Industrial Design magazine in the late-'50s, and on recent correspondence with David K. Munro, an American design consultant actively involved in AID (Agency for International Development, formerly ICA) programs in many countries including Turkey during this period.

Political Background Preceding the U.S. Involvement in the Development of Industrial Design in the Periphery
Before discussing the details of U.S. programs in the 1950s and '60s, it is imperative to look into the underlying economic and political dynamics of that period in order to fully understand the motivation of the U.S. Government in promoting design in the periphery.

While World War II was ending, the economic principles of the post-war new world order were agreed upon at an international meeting, United Nations Monetary and Financial Conference in Bretton Woods in July 1944. The conference established the forms of cooperation for international trade and the regulation of financial initiatives. The Bretton Woods agreements were exceptional in the history of international economic relations in terms of their scope and impact. The International Monetary Fund (IMF) and the World Bank were established at this conference to promote and regulate the development of an international economy. While this conference may be accepted as the formal beginning of a global economy as we know it today, it certainly laid the foundations for the post-war capitalist world economy. The economic integration and development of the world was considered to be the only safe path to political stability across the globe.

However, the Cold War, which developed out of political differences about the shape of the post-war world, created suspicion

5   Victor Margolin, "A World History of Design and the History of the World" (talk given at the Mind the Map: 3rd International Conference on Design History and Design Studies).

Figure 1
The victory of the allies at the end of World War II as described by the famous Turkish cartoon master of the period, Ramiz Gökçe. The cover of *The Cartoon Album of This War 1*, Istanbul, 1944. Courtesy of Yapi Kredi Yayinlari.

and distrust between the U.S. and the Soviet Union, and destroyed the early and unqualified hopes for a peaceful world based on the economic principles of Bretton Woods. In 1946, Stalin declared that international peace was impossible "under the present capitalist conditions of world economic development."[6] Winston Churchill responded with a dramatic statement: "From Stettin in the Baltic to Trieste in the Adriatic, an iron curtain has descended across the Continent."[7]

From then on, the post-war focus of U.S. foreign policy, which is also known as a "containment" policy, was to prevent the Soviet power and communism from expanding into non-communist nations. In March 1947, after Britain announced that it could no longer provide economic and military aid to Turkey and Greece, U.S. President Harry Truman requested before a joint session of Congress that the U.S. provide the necessary aid. Truman's request became known as the Truman Doctrine, an open-ended commitment to use U.S. power anywhere and anytime to oppose the threat of Soviet power wherever it was perceived. Three months later, in June 1947, U.S. Secretary of State George Marshall launched the Marshall Plan to help a devastated post-war Europe, facing a leadership vacuum. Turkey and Greece also were included in the plan which focused on West European countries. The U.S. Government believed that communism operated best in situations of political chaos and economic deprivation. In this context, the objective was to create a working system of the world economy to permit the emergence of political and social conditions in which Western-style institutions could exist.

In the following year, the U.S. Congress approved the Foreign Assistance Act (April 1948) which included Turkey, Greece, and not-yet-communist China. In January 1949, reelected president Truman announced in his inaugural address a foreign policy program, point four of which was to provide technical and capital assistance to developing countries.[8] "Point Four," known as "Cooperative Program for Aid in the Development of Economically Underdeveloped Areas," was a foreign aid project aimed at providing technological skills, knowledge, and equipment to developing

6   Stalin's speech during Soviet elections, 9 February 1946. See *From Marx to Mao*, "Speech Delivered by J. V. Stalin at a Meeting of Voters of the Stalin Electoral District, Moscow," www.marx2mao.org/Stalin/SS46.html (17 November 2002).

7   Churchill's speech at Westminster College, Fulton, Missouri, 5 March 1946. See The Churchill Society London, "The Sinews of Power," www.churchill-society-london.org.uk/Fulton.html (17 November 2002).

8   *Columbia Encyclopedia,* "Point Four Program," 6th edition (Columbia University Press, 2001), www.bartleby.com/65/po/PointFou.html (17 November 2002).

Figure 2
The front side of a leaflet published in Turkey for the promotion of Marshall Plan, 1947. The "wheel" on the left hand side reads: "Thanks to Marshall Plan civilized people are sharing their skills and knowledge on modern technique for the benefit of human race." On the spokes of the wheel on the right-hand side are the Marshall Plan countries. Courtesy of Yapi Kredi Yayinlari.

countries. Four months later, in April 1949, the North Atlantic Treaty Organization (NATO) was founded. When the Marshall Plan ended on June 30, 1951, the U.S. Congress was in the process of preparing a new foreign aid proposal designed to unite military and economic programs with technical assistance. In October 1951, this plan became a reality when Congress passed the first Mutual Security Act, and created the Mutual Security Agency.

Point Four emerged as a significant aid program that the U.S. Government used to win support from the uncommitted, developing nations. It included not only direct financial assistance, but also the transfer of some technical knowledge and skills to these countries through educational programs and consultancy work. Between 1950 and 1953, the Point Four Program was administered by the Technical Cooperation Administration, a separate unit within the State Department. During the administration of President Eisenhower it was integrated into the overall foreign aid program.[9] It was reorganized under the name of International Cooperation Administration (ICA) in 1955.

The main pillar of U.S. foreign policy in the 1950s was to prevent Soviet power from expanding into non-communist nations by any means. In addition to the direct use of political or military power, the U.S. Government also used foreign aid programs of a financial and technical nature. The foreign aid programs directed towards pro-Western or neutral developing countries under the administration of the ICA (later renamed AID) appear to have included a variety of nonfinancial aid mechanisms including design support.

From the viewpoint of design history, the use of U.S. industrial design expertise in foreign aid programs by the ICA in the second half of the 1950s and 1960s makes this relatively overlooked chapter of the American design history[10] an important part of the development of industrial design in the periphery. The following section details the role of industrial design profession in the U.S. foreign policy in the concurrent cases of international trade fairs and the ICA program for developing countries.

The Role of Industrial Design in U.S. Foreign Policy in the Late-1950s

By the 1950s, industrial designers in the U. S. already had made significant progress towards the public and legal recognition of the profession. The profession was represented by two organizations, the American Designers' Institute (ADI), officially established in 1940, and the Society of Industrial Designers (SID), founded in 1944.[11] In 1951, the ADI changed its name to IDI (Industrial Designers Institute) to identify its members with the emerging profession of industrial design; and in 1955, SID changed its name to ASID (American Society of Industrial Designers) to indicate the national affiliation of its members, particularly of those working for

9   Ibid.

10   *The American Design Adventure* by Arthur J. Pulos perhaps is the only source book that covers a concise review of the American design organizations involved in the ICA program for developing countries. See Arthur J. Pulos, *The American Design Adventure: 1940-1975* (Cambridge: MIT Press, 1988), 236–241.

11   Pulos, *The American Design Adventure,* 196–199. Among the founding members of the SID were the most widely known figures of the American industrial design: Walter Dorwin Teague, Henry Dreyfuss, Raymond Loewy, Norman Bel Geddes and Russel Wright. George Nelson and Charles Eames were the members of the ADI.

foreign clients.[12] *American designers had established professional ties with Europe and Japan, and had been involved in exhibitions both of foreign products at home and of American products abroad.*

Two developments in U.S. foreign policy in the second half of the 1950s opened up new territories and brought new challenges to American designers. Firstly, the U.S. Government developed and implemented a brand new policy concerning the overseas international trade fairs, and secondly, established the International Cooperation Administration, and launched a rather ambitious technical assistance program for the "craft economies" of the periphery.

"Battleground of Ideologies:" The International Trade Fairs
In the early-1950s the Soviet Union had participated in more than 130 international trade fairs while the United States stayed home.[13] *As it became evident in the exhibits of the Soviet Union and other communist countries, international trade fairs not only offered opportunities for trade but also provided direct access to the public for promoting ideologies, particularly in those so called "uncommitted" countries. Thus the U.S. Government decided to take action and started a program for official participation in trade fairs mainly for political reasons:*

> *Other exhibiting nations do need, and expect, to sell merchandise; the U.S.A. wants and needs to establish its influence in politically uneasy countries, to promote capitalism as a system superior to communism. The first goal, then, is eminently political despite its commercial garb.*[14]

The trade fair program started with the American exhibit in Bangkok in December 1954. An Office of International Trade Fairs (OITF) was established in January 1955 with funding from the President Eisenhower's discretionary budget. In the first year of the program, more than 12 million people in 15 countries visited the U.S. exhibits. The OITF was given a permanent status by the Congress in 1956.[15]

The early American exhibits, in 1954 and 1955, were designed by the Office of Design and Production in Paris under the direction of OITF. However the exhibits were felt to be rather uniform and not fine tuned to the sentiments of the audiences in economically, culturally and politically diverse countries. As the world leader and the richest nation, Mitarachi observed, the U.S. was "all the more an object of resistance and resentment."[16]

In 1956 the OITF decided to invite bids for the design of exhibits and contacted various professional groups including the Advertising Council and the ASID to reach the designers fit for the task.[17] *The bids were awarded on the basis of "quality plus price" and in the fall of 1956 eight exhibits—each based on a different theme—were set up in Salonika, Bari, Izmir, Damascus, Kabul, Stockholm, Vienna, and Zagreb. Following the exhibits, a critical*

12 Pulos, *The American Design Adventure,* 202–203. ASID, IDI, and the Industrial Design Education Association (est. 1957) merged in 1965, and became the Industrial Designers Society of America (IDSA).

13 Jane Fiske Mitarachi, "Design as a Political Force," *Industrial Design* 4 (February 1957): 38; and Pulos, *The American Design Adventure,* 242.

14 Mitarachi, "Design as a Political Force," 39.

15 Pulos, *The American Design Adventure*, 242–243.

16 Mitarachi, "Design as a Political Force," 39.

17 Ibid.

evaluation of the OITF as a client suggested several areas to be reconsidered or improved: guidance and information on audience, control over the material to be presented, time pressure, the bid system, and the selection criteria.[18] Toward the end of the trade fair program, private manufacturers were given access to the official exhibitions as to free funds to visit more countries.[19]

Mitarachi reported in 1957 that the trade fair program was "undoubtedly one of the most serious responsibilities that the design profession has ever assumed."[20] Industrial designers, Pulos commented in retrospect, were well suited to their task and undertook their work "in the spirit of service to their country rather than in the hope of financial return."[21] The trade fair program, from another perspective, also provided the American designers with a unique opportunity to prompt the aspirations and standards for products in other countries.

"Economic Aid through Design:"
The U.S. Design Assistance Programs in the Periphery
Under the Eisenhower administration a new State Department agency, the International Cooperation Administration (ICA) was established in 1955. The ICA was responsible for all U.S. foreign assistance programs "except for military assistance, programs involving refugees, and contributions to international organizations."[22] In the same year, the Hoover Commission proposed to allocate 1/10 (almost $400,000,000) of the U.S. Mutual Security Program budget to an economic aid program for the developing countries around the world.[23] The program, administered by the ICA, was expected to follow, if not to echo, the success of the Marshall Plan, and to keep unstable countries of the periphery on the U.S. side of the "political fence" by stimulating their economies.[24]

However, unlike Europe, the quality of human resources in developing countries was not promising a quick recovery. As put by Fleishman openly, the key word was development, and the developing countries lacked the knowledge and experience to sustain "vast construction projects like dams and factories."[25] Political circumstances in those countries did not seem to allow a gradual buildup of necessary resources of various nature, either.[26] Thus, the new program for developing countries focused on the development of local handicrafts and small industries, and explored various means to increase the commercial potential of those products in internal and external markets—the U.S. market particularly.

Peter Müller-Munk, the head of ASID's Foreign Affairs Committee and a founding member and the first president of ICSID, served as an advisor to the government on ICA program.[27] The five design organizations selected by the ICA and the countries assigned to them were Russel Wright Associates (Hong Kong, Formosa/Taiwan, Thailand, Cambodia, and Vietnam); Walter Dorwin Teague Associates (Greece, Jordan, and Lebanon); Dave

18 Ibid., 55.
19 Pulos, *The American Design Adventure,* 243.
20 Mitarachi, "Design as a Political Force," 55.
21 Pulos, *The American Design Adventure,* 243.
22 U.S. Department of State, "Director of the International Cooperation Administration," www.state.gov/www/about_state/history/officers/dica.html (29 September 2001).
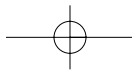23 Pulos, *The American Design Adventure,* 236.
24   Avrom Fleishman, "Design as a Political Force Part 2," *Industrial Design* 4 (April 1957): 45.
25 Ibid.
26 Pulos, *The American Design Adventure,* 236. "Political circumstances" in developing countries in the 1950s and '60s indicated civil wars, regional tensions, cated civil wars, regional tensions, decolonisation problems, political upheavals, and independence movements.
27 Pulos, *The American Design Adventure,* 236, 242.

Chapman's Design Research Incorporated (Pakistan, Afghanistan, Mexico, Surinam, El Salvador, Jamaica, and Costa Rica); Smith, Scherr and McDermott (South Korea); and Peter Müller-Munk Associates (Israel, Turkey, and India).[28] As a separate project under the "Point Four" Program, the ICA also negotiated a three-year contract between the Institute of Contemporary Art in Boston and Technion Institute of Technology in Haifa to provide special design assistance to Israel.[29]

The ICA program mainly involved surveying the assigned country and recommending action to improve the competitiveness of local products. The assignment also included opening markets for those products, and advising local producers on marketing issues.[30] The country surveys conducted by the selected design organizations suggested different approaches and courses of action for the program. Their recommendations, together with examples of related work they undertook or participated in, can be summarized under three main headings:

- *Promoting and marketing selected and/or improved local handicrafts in the U.S. through exhibitions, trade fairs, or trade centers (e.g., Wright's "Southeast Asia Rehabilitation and Trade Development Exhibit" in New York in 1956;[31] Smith, Sherr and McDermott's Korean Exhibit at the New York Gift Show in 1958;[32] and the Korean Trade Center set up in New York).*

- *Training local instructors or craftsmen through training centers, demonstration and promotion centers, or professional design offices set up in the assigned countries (e.g., the Handicraft Promotion Center set up in Taiwan on Wright's recommendation; the Demonstration Center in Seoul established by Smith, Sherr and McDermott;[33] and the Müller-Munk's Haifa design office in Israel).*

- *Teaching design and related courses in local universities[34] (e.g., Smith, Sherr and McDermott's design courses at local universities in South Korea[35]).*

According to Pulos, the majority of the ICA projects fell short of the broad political objectives of the program; some countries, however, including Taiwan, South Korea, and Israel did grow close to the U.S. in political and economic ideology, as well as in technology.[36]

Munro, who was the project director in the Smith, Scherr and McDermott's four-year mission in South Korea, commends the approach developed by Wright in Taiwan, but generally holds a similar view of the ICA projects in the late-'50s:

> *Russ had a pretty good model going in Taipei, I visited once. It was prior to our big push in Korea. I am not sure if he had a counterpart activity in the US however, but he certainly had the right idea. … In 1957 many famed design-*

28 Pulos, *The American Design Adventure,* 236–237. Fleishman, "Design as a Political Force Part 2," 46. The leading figures in those selected design organizations were the members of ASID.

29 Industrial Design, "U.S. Gives Design Aid to Israel," *Industrial Design* 3 (February 1956): 22.

30 Pulos, *The American Design Adventure,* 236.

31 For a detailed review of the exhibit and Wright's approach to his assignment, see "The Designer as Economic Diplomat," *Industrial Design* 4 (August 1956): 68–73.

32 "Korean Crafts Marketed Here," *Industrial Design* 5 (September 1958): 18.

33 "Design Team in Korea," *Industrial Design* 5 (March 1958): 20.

34 The ICA program was trade oriented and did not particularly support industrial design education programs. As will be discussed later in the Turkish case, in the 1960s, educational programs were supported by various governmental and nongovernmental institutions including the successor to the ICA, USAID. Concerning educational projects in the late-'50s, Pulos mentions that the U.S. Information Service contracted IIT Institute of Design for the organization of an exhibition to share American philosophy and methodology in industrial design education with students and teachers in other countries (Pulos, *The American Design Adventure,* 245–246).

35 *Industrial Design,* "Design Team in Korea," 20.

36 Pulos, *The American Design Adventure,* 241.
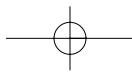
ers toured the world on State Department grants with the predecessor of AID called ICA (International Cooperative Association [sic]). There was a race on to garnish lucrative development contracts and the prestige that went along with them. I was in the thick of things in '57 but my impression of the Müller-Munk is that, for many reasons, it never materialized beyond the survey phase. Many went that way, I remember clearly Iran dried up very fast and I cannot remember the design team at this moment. [37]

At the professional level, on the other hand, the international trade fair program and the ICA development projects made an impact on the ideological identity of the American industrial designer, which was reflected in the discourse of the professional publication of the period, Industrial Design magazine. [38] *The trade fair program not only made the U.S. Government an important client of the design profession; it also charged the designer to be a communicator or "propagandist" of the American way.* [39] [40] *The ICA program reinforced the role of design as a "political force;" it also strengthened the view of designer as "a generalist rather than a specialist,"* [41] *and cast the American designer in the role of an "economic diplomat," a national planner for the economies of entire countries.* [42]

The Turkish Case: The U.S. Involvement in the Development of Industrial Design in Turkey
This section traces U.S. involvement in the development of design in Turkey by presenting a case history of the attempts to start industrial design education at the Middle East Technical University (METU) in Turkey since 1957. A short review of the position of Turkey vis-à-vis the international politics of the Cold War, is imperative to contextualize the activities of the U.S. governmental and nongovernmental institutions in Turkey.

Political and Economic Background in Turkey
in the 1950s and '60s
Just after World War II, Turkey was threatened by the Soviet Union which demanded a cession of several Turkish districts on the Soviet-Turkish frontier, a revision of the 1936 Montreux Convention regarding the Turkish straits. In response, the U.S. warned the Soviet Union that it would protect Turkey. The expansion of American security concerns after the war, and the implementation of containment as the focus of the foreign policy and as a deterrence against Soviet expansionism in the Eastern Mediterranean and the Middle East, made Turkey a cornerstone of the U.S. Cold War strategy. This was implemented through a series of policies: First, through the Truman Doctrine and the Marshall Plan; and secondly,

37 David K. Munro, e-mail to Fatma Korkut, 21 December 2001. It was Dave Chapman's Design Research Inc. that contracted with the ICA for the Iran project; see "Economic Aid Through design," *Design,* no. 107 (November 1957): 71.

38 *Industrial Design* magazine was launched in 1955 by Whitney Publications; see Pulos, *The American Design Adventure,* 201.

39 Mitarachi, "Design as a Political Force," 39.

40 A similar point was raised by Doordan about the role of the U.S.-supported design strategies in postwar Italy. See Dennis P. Doordan, "National Agendas for Italian Design After 1945," *Design, Industry and Government Initiatives: Past, Present and Future,* (11 November 1995) Design History Research Center, University of Brighton, U.K.

41 Industrial Design, "The Designer as Economic Diplomat," 69; Mitarachi, "Design as a Political Force," 39, 54–55; Fleishman, "Design as a Political Force, Part 2," 46.

42 Fleishman, "Design as a Political Force, Part 2," 60.

through the presence of the Sixth Fleet in the Mediterranean; and finally through Turkey's admission to NATO. In this context, the U.S. was granted the use of military bases in Turkey and, in exchange it extended military and economic assistance to Turkey.
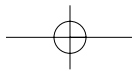
On the domestic front, after World War II, Turkey had to give up its independent, and sometimes isolationist, foreign policy in the face of the Soviet threat, and openly sided with Western Europe and the U.S. This change in foreign policy also coincided with a radical change in the domestic political structure when the first multi-party election was held in 1946. In the 1950 elections, a new party won a majority of the votes and the overwhelming majority of the seats in the Parliament. The new ruling party was politically liberal and populist, and it was supported mainly by rural sections of the society. In the early-1950s, a relatively liberal, trade-driven growth policy was pursued. The Turkish economy predominantly was based on agriculture. The industry was limited to the state-owned enterprises set up in the planned industrialization of 1930s.[43] During the 1950s, the encouragement of private entrepreneurship and the promotion of agriculture for export were recommended and supported by the U.S., which also was actively involved in the Turkish economy through its foreign aid programs.[44] The demand for Turkish agricultural export products such as food and cash crops grew considerably with the start of efforts to rebuild Europe. During the first years of the new economic policy, favorable external and internal conditions enabled Turkey to grow at impressive rates. However, in 1954, when the economic conditions deteriorated, it was deemed necessary to introduce more protectionist trade policies. In the 1950s, the basic infrastructure of the country had been formed, and a national domestic market emerged for industrial goods. The number of private industrial enterprises increased, and they started assembling consumer durable goods under license, which they previously imported. By the late-1950s, the initial stage of modern industrialization already was completed under the protectionist policies pursued since the 1930s.

Following the military coup of May 1960, the industrialization of the country through a planned economy became the primary national objective in Turkey. In the early-1960s, Turkish policy makers' main concern was to establish a wide industrial base behind protective barriers aimed at import substitution. At that time, Turkey was ready for a full scale Import Substituted Industrialization (ISI) policy,[45] having a potentially large domestic market and some experience in manufacturing. Moreover, private capital was eager and strong enough to take part in an ISI policy, even in relatively more capital-intensive industries. The ISI policy continued until the beginning of the 1980s.

43 H. Alpay Er, "The Emergence and Development Patterns of Industrial Design in Newly Industrialised Countries with Particular Reference to Turkey" (Ph.D. dissertation, Institute of Advanced Studies, Manchester Metropolitan University, Manchester, 1994).

44 Kepenek and Yentürk, *Turkish Economy* [in Turkish], (Remzi Kitabevi, 2000).

45 Er, "The Emergence and Development Patterns of Industrial Design in Newly Industrialised Countries with Particular Reference to Turkey."

Figure 3
The production of Anadol by Otosan in 1966 marked a new stage in Import Substituted Industrialization policy in Turkey.
Courtesy of Yapi Kredi Yayinlari.

46 Fleishman, "Design as a Political Force
    Part 2," 48–52; and Pulos, *The American
    Design Adventure,* 236–237.

47 "Peter Müller-Munk Associates announce
    that ...," *Industrial Design* 3 (June 1956):
    26; Fleishman, "Design as a Political
    Force, Part 2," 52; and "Peter Muller-
    Munk Returned to Pittsburgh...,"
    Industrial Design 4 (December 1957): 22.

48 Fleishman, "Design as a Political Force
    Part 2," 50.

49 David K. Munro, "A Rationale and an
    Outline for the Establishment of a
    Department of Industrial Design at the
    Middle East Technical University,
    Ankara" (unpublished report, 23 pages,
    Ankara: METU, October 1971), 4.

50 Ibid., 4-5.

51 Meanwhile, in Istanbul, the School of
    Applied Fine Arts (TGSYO) was founded
    in 1957 as an independent initiative from
    the ICA program. The school comprised
    decorative painting, graphic arts, textile
    arts, ceramics, and furniture-interior
    design departments. It was financed and
    administered by the Ministry of
    Education, and was supported by a group
    of German tutors. However, the industrial
    design program in this institution was
    officially started in the early-1980s. See
    H. Alpay Er and Fatma Korkut, "Industrial
    Design Education and Institutionalization
    in Turkey: Chronological Comments" [in
    Turkish] in *Nesnel I: Türkiye'de Tasarim
    Egitimi,* H. A. Er et al., eds. (Istanbul:
    Endüstriyel Tasarimcilar Meslek Kurulusu
    and Boyut Yayincilik, 1998), 6–9.

The Early U.S. Initiatives in Industrial Design in Turkey
As mentioned earlier, Turkey was among the countries targeted by the ICA to provide assistance in improving its craft products and increasing their market potential in the advanced markets. Since industrial design was one of the means chosen to fulfill this mission, ICA sought the expertise of established design consultancy firms. In 1955, Peter Müller-Munk Associates was assigned by ICA to help Turkey, along with India and Israel, to raise the quality of their craft products.[46] Peter Müller-Munk and designers from his firm visited Turkey several times in 1956 and 1957.[47] In the April 1957 issue of Industrial Design, Fleishman reported that:

> *Turkey will soon be the scene of a Müller-Munk design office aiming to adapt local handicrafts like ceramics, lace, meerschaum and copperware for the world market. Craft skills are at a high level in specialized shops, but most crafts are practiced in cottage industries by entire farm families. Designers Paul Karlen and Robert J. Renaud will tackle major Turkish problems: coordination of scattered production centers, quality control and pricing (to combat poor trade reputation of Turkish goods), and better understanding of Western markets.[48]*

The activities of Müller-Munk Associates in Turkey also were reported in one of the METU reports in the 1970s:

> *Between 1955 and 1957 a team of American industrial designers and marketing experts associated with a major industrial design consulting firm in Chicago came to work in Turkey under the auspices of the ICA (International Cooperation Administration, the forerunner of AID).[49]*

However, this ICA assignment in Turkey—as in the majority of ICA assignments in other developing countries—was not successful.[50] It was, on the other hand, the first known initiative to create an awareness of industrial design in the Turkish context.[51]

The Origins of Industrial Design Education at METU
During this same period, an international project originated and backed by a UN initiative, was underway to establish a new technical university in Ankara. In 1955, through the sponsorship of UNTAA (United Nations Technical Assistance Administration), an advisory committee visited Turkey in connection with the establishment of the Middle East Technical University (METU): Prof. G. Holmes Perkins, Prof. Wilhelm von Moltke, and, Assoc. Prof. Leon Loschetter (all from the University of Pennsylvania's School of Fine Arts). METU was established in Ankara in 1956 with active international support, including that of the U.S. The U.S. aid through ICA
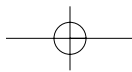
Figure 4
From left to right: Thomas B. A. Godfrey, Acting Dean of the METU Faculty of Architecture (1956–59); Professor G. Holmes Perkins, Dean of the Graduate School of Fine Arts, University of Pennsylvania (1951–71), and the chief advisor to the Turkish government in the establishment of METU; Tevfik Ileri, Minister of Education; Necmi Tanyolaç, Secretary General of METU (circa 1957). Courtesy of METU.

52 Arif T. Payaslioglu, *The History of an Innovation in the Turkish Higher Education: From Barrack to Campus 1954–1964* [in Turkish] (Ankara: METU, 1996), 59. According to the plan, the Faculty of Architecture comprised the departments of architecture, city planning, building construction, industrial design, and commercial art.
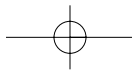
53 Munro, "A Rationale and an Outline," 5.

54 *Industrial Design*, "U.S. Gives Design Aid to Israel," 22.

55 Ibid.

56 Ibid.; Fleishman, "Design as a Political Force, Part 2," 50; Pulos, *The American Design Adventure,* 241.

57 For example, Robert L. Matters, METU internal communication to Dean William E. Cox (ref: Proposed formation of a department of product design), METU, Ankara, 30 September 1959; and Willis R. Woolrich (President), METU internal communication to Dean William E. Cox (ref: Ford Foundation, Rockefeller Foundation), METU, Ankara, 30 December 1959.

(later AID) and some nongovernmental organizations such as the Ford Foundation to the METU project increased significantly from the late-1950s, and continued until the early-1970s.

Professor G. Holmes Perkins, Dean of the Graduate School of Fine Arts, University of Pennsylvania (1951–1971) was assigned by UNTAA to act as the chief advisor to the Turkish Government in the establishment of METU. When Prof. Perkins visited METU for the second time in June–July 1957, he proposed a development plan for the period of 1956-1960 which included a department of industrial design in the Faculty of Architecture.[52] The plan did not specify a time frame, and it appears that he did not propose to launch it in the short run. This was the first official mention of an industrial design program at a university in Turkey.

The proposal for including industrial design within METU programs—which appears to be independent of the first ICA design mission by Peter Müller-Munk—was followed by a second ICA-backed design initiative in Turkey. According to Munro, between 1958 and 1961 another major campaign was launched to build a design center in the METU Faculty of Architecture.[53] The proposal was to set up a design center in cooperation with the Institute of Contemporary Art in Boston, Massachusetts. This proposal was put forward and supported by the Institute of Contemporary Art, William E. Cox (Acting Dean of the METU Faculty of Architecture), Dr. Aksal of the Turkish Ministry of Industry, and Dr. Aptullah Kuran of the METU Faculty of Architecture.

The Institute of Contemporary Art in Boston appears to have been the key proponent of this initiative. The director of the Institute, James S. Plaut, had been a design advisor to the Israeli Government since 1951, and he also signed an agreement with ICA in 1956 for a full-scale design education and assistance program to improve Israel's consumer goods under the "Point Four" Technical Assistance Program.[54] The three-year contract between the Institute of Contemporary Art, Boston and the Technion, Israel's Institute of Technology was in accordance with the U.S. policy of establishing working relationships between schools that would endure beyond the termination of government support.[55] The Institute of Contemporary Art's program for Israel had three major phases: The Institute would formulate an industrial design curriculum at Technion; create a Design Center; and initiate a consumer research program in the U.S. to give direction to the design of Israeli exports.[56]

It appears that the Institute of Contemporary Art tried to set up a design center at METU as part of a program similar to that which they proposed for Israel. The internal communication at METU[57] also indicates that the establishment of an industrial design program was on the agenda of the university's administration in

1959. Apart from ICA, the Ford Foundation and the Rockefeller Foundation also were among the U.S. institutions that were approached for financing the program. Nevertheless, the proposal failed to materialize:

> *The plan, unfortunately, was too unwieldy and demanded too much of too many people and agencies (i.e. Ford foundation, AID) and was so besieged by financial limitations that the project finally foundered.[58]*

Indeed, the proposal involved too many partners: METU, the Turkish Ministry of Industry, ICA, Boston Institute of Contemporary Arts, Ford Foundation, etc. However, the main blow to the plan must have come in the beginning of the 1960s, when two independent developments appear to have paralyzed the partners of the project. First, on 27 May 1960, the Turkish Military took over the administration of the country. They arrested most ministers, and forced many high-ranking bureaucrats to resign, accusing the former government of misconduct and corruption. It was a major disruption for many projects in Turkey. Meanwhile, in the U.S., the Foreign Assistance Act of 1961 abolished the ICA and transferred its functions to the Agency for International Development (AID).[59] Subsequently, no concrete results were achieved in the second U.S.-backed design initiative in Turkey.

However, the efforts to establish a Department of Industrial Design at METU continued during the early-1960s. In particular, Aptullah Kuran, who later became the Dean of the Faculty of Architecture at METU, was instrumental in keeping the project alive.[60] In autumn of 1964, Raymond Loewy, the famous American industrial designer, visited the Faculty of Architecture at METU. The Dean, Aptullah Kuran introduced him to the students, and he presented and talked about his designs.[61] This is a surprising event, since none of the Turkish or American sources mentions that Raymond Loewy played any role at all in ICA-or AID-funded design assistance programs either in Turkey or in any other developing country. Following his visit to METU, Loewy sent an issue of Industrial Design (March 1963, no. 3) which included an article by Jay Doblin on graduate study at IIT to Kemal Kurdas, President of METU, and Dean Kuran. On the margin of the article, Loewy wrote the following note:

> *President Kurdas, Dean Kuran.*
> *Dear Jay Doblin of the Illinois*
> *Institute of Technology's Institute of*
> *Design was a member of my staff*
> *for 12 years.*
> *[Signature]*
> *Dec. 64*

58 Munro, "A Rationale and an Outline," 5.
59 U.S. Department of State, "Director of the International Cooperation Administration."
60 Munro, "A Rationale and an Outline," 5. According to Munro, in 1965, Kuran published a report on the proposed department of industrial design.
61 The visit of Raymond Loewy was mentioned by Serim Denel in a meeting organized at METU, "Establishment Years of the Department of Industrial Design," 19 April 2001, METU, Ankara.
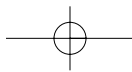
Figure 5
Kemal Kurdas, President of METU (1961-69),
METU Faculty of Architecture, circa 1963.
Courtesy of METU Press.

Figure 6
David K. Munro, Ankara, 1972.
Courtesy of David K. Munro.

62 Kemal Kurdas, *My METU Years: 'The
    Story of a Service'* [in Turkish] (Ankara:
    METU Press, 1998), 155.
63 David K. Munro, letter to Fatma Korkut,
    14 August 2001.
64 Munro, letter, 14 August 2001. Munro,
    e-mail, 21 December 2001.
65 *Industrial Design*, "Design Team in
    Korea," 20; Kyung Won Chung,
    "Strategies for Promoting Korean Design
    Excellence," *Design Issues* 14:2 (1998): 6-
    7; and Munro, letter, 14 August 2001.
66 See Chung, "Strategies for Promoting
    Korean Design Excellence," 6–7.

This note looks like a recommendation "letter" for Jay Doblin. However, it is well known that Doblin did not play any role in industrial design education in Turkey. Thus, the nature of that brief involvement of Loewy in the establishment of the industrial design department at METU still awaits an explanation. However, what is known, is that during the second half of the 1960s, the establishment of an industrial design department at METU with continued support of AID was still on the agenda of the university's administration. In his memoirs, Kemal Kurdas, the President of METU in the 1960s, recalls the case of the industrial design department as follows:

> *In fact, we wanted to establish industrial design as a department. We received foreign aid for this aim, significant foreign aid. We invited a professor who was renowned for being the founder of this field in the world, and used his expertise as a consultant. However, industrial design was kept as an option in our academic program because the circumstances were not ready yet.[62]*

David K. Munro at METU in the Late-1960s
Practically and officially, the beginning of industrial design teaching at METU was marked by the appointment of American industrial designer David K. Munro (IDSA of New York) by AID to implement the establishment of industrial design department in 1969.

David K. Munro was born in Paris, and grew up in France and England. Between 1945 and 1949, he served in the U.S. Navy's 7th Fleet operating in China, Japan, and Southeast Asia. During his military service, he also attended the U.S. Navy Supply School in Illinois. Following his discharge in 1949, he was accepted by the Philadelphia Museum School of Art, and graduated with a BFA in industrial design. He also attended the New School for Social Research in New York, and Temple University in Philadelphia. After his graduation, he worked for Henry Dreyfuss Associates. Later, he moved to Detroit to accept a position with Harley Earl's personal industrial design practice.[63] He then moved to Akron, Ohio to work with Smith, Sherr and McDermott, and became the Director of Foreign Operations there. He primarily was responsible for contract negotiations with the State Department in Washington, and was in charge of pursuing potential international small-scale industry projects.[64]

In 1957, after Smith, Sherr and McDermott was awarded a contract by the ICA for a program in Korea to stimulate the development of native handicrafts and small-scale industries, group of designers including Munro was sent to Korea to set up a demonstration center in Seoul and to teach design and related courses at three local universities.[65] He was the U.S. based director of this project which also initiated the development of industrial design in Korea.[66] While working on the Korean project between 1957 and

1961, he also was assigned to design the U.S. pavilion for an inter-
national fair in Kabul, Afghanistan in 1960. He recalls the Afghan
mission as follows:

> This was a nine months effort under incredibly difficult
> logistical obstacles but the fair was a great success and
> helped keep the Russians at bay in the economic war of the
> region.[67]

During the same period, he also visited Sri Lanka (Ceylon) on a U.S.
State Department grant for a brief period to assess the industrial
potential of the country.[68] Between 1962 and 1964, Munro was
awarded a Fulbright Foundation visiting lecturership in Thailand to
help establish a department of industrial design at the
Chulalongkorn University in Bangkok. Between 1964 and 1967, he
was involved in the project known as "Products of the Alianza," to
help selected South American countries "help themselves." These
countries were Colombia, Peru, Ecuador, and Bolivia.[69] He took part
in the successful establishment of five craft centers in these coun-
tries, and their exportation of crafts products. In 1966, he was
awarded a survey-grant by the U.S. State Department to analyze the
export potentials of products from French-speaking Africa (Senegal,
Niger, Ivory Coast, Gabon, and Dahomey). This was the last mission
that he undertook for Smith, Sherr and McDermott. During 1967
and 68, Munro had been part of an independent project of Litton
Industries on Crete. Before being assigned by AID to the Turkish
mission in 1969, he was briefly in Algeria for a project of General
Electric.[70]

 "It was a fiercely contested opportunity with many interna-
tional designers and educators striving for the prize."[71] This is how
Munro described the AID contract in Turkey. It appears that there
had been an intense competition among several designers and
educators. Arthur J. Pulos (Syracuse University) and Victor Papanek
were among the leading contenders for the contract.[72] The contrac-
tual organization for AID was the Institute for International
Education (IIE) in New York. A consultant from IIE, "a Mr. Bush-
Brown," interviewed Munro at JFK Airport, before his departure to
Ankara, in connection with making the final selection.[73] After a
rigorous screening procedure, Munro was awarded the AID
contract, and appointed to implement the establishment of an
industrial design department in the METU Faculty of Architecture
under the joint auspices of AID and METU.[74]

 Munro went to Ankara, and started working at METU in the
autumn of 1969. His job title was visiting lecturer in industrial
design. Munro summarizes his duties as follows:

> Studied economy, displaceable imports, current
> training/educational resources. Wrote 5 year curriculum.
> Taught same. Assisted U.S. & Turkish agencies and produc-
> ers in design, training, marketing and export.[75]

67   Munro, letter, 14 August 2001.
68   Ibid.
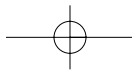69   Ibid.
70   Ibid.
71   Ibid.
72   Munro, e-mail, 21 December 2001; and
   David K. Munro, e-mail to Fatma Korkut,
   22 December 2001.
73   Munro, e-mail, 21 December 2001.
74   In fact, Munro's involvement in Turkey
   goes back further than 1969. He visited
   Turkey in 1957 when he was an agent on
   behalf of Equipment International of
   Akron, OH. In 1960, he worked with
   Director Grant of AID, a marketing firm in
   Istanbul (PEVA), and the Ministry of
   Industry in Ankara in an effort to foster
   industrial design in Turkey (Munro, "A
   Rationale and an Outline," 5).
75   Munro, letter, 14 August 2001.

In October 1970, Munro started two elective courses under the architecture program for third-and fourth-year students, Arch. 361 and Arch. 461 Industrial Design. Another elective course, Arch. 601 Industrial Design, also was started under the existing M.Arch program in the same year.[76] However, Munro's real mission was to establish a graduate industrial design program at METU.[77]

During his stay, Munro wrote several reports for the formation of an industrial design department at METU. His reports provide the reasoning behind and a description of the proposed department. He explained his approach to industrial design and industrial design education in the periphery as follows:

> *We can say that Industrial Design, at its best, is an important social factor. It is moreover, a critical capitalistic tool. It does not really exist for aesthetic and altruistic reasons per se. When lagging industries approached Raymond Loewy, Norman Bel Geddes, and Henry Dreyfuss in the U.S.A. in the late 20s it was because these industries felt that they needed some sort of a competitive edge at the market place—the point of sale.*
> *Industrial design, as an economic and social force, must fit and be geared to the economy in which it performs. The mere transposition of Industrial Design disciplines and attitudes from more advanced economies and technocracies, to Turkey for instance, would be invalid.*
> *The latter is particularly true in the educational sector where essentially there are no checks and balances. It will be imperative for METU, in its proposed Industrial Design curriculum, to constantly consider the specific needs of Turkey's expanding industry as well as her consumer requirements.[78]*

In Munro's opinion, there was no question that Turkey must have trained home-educated industrial designers to perform the vital functions in industry:

> *[T]here is no substitute in any expanding economy for the properly trained industrial designer. In terms of Turkey's future, especially as the world shrinks, an awareness of this is essential…and speedy action upon the implementation of a viable Department of Industrial Design at the Faculty of Architecture, Middle East Technical University, is categorically essential.[79]*

To fulfill its premise to benefit Turkish industry, the proposed department was foreseen to have close relations with industry. Industry support was sought to provide specific projects and financial assistance to the department. For example, Munro wrote a report in the form of an interoffice memorandum in November 1971, explaining his field trip to the Arçelik production plant in

76 According to Munro, these elective courses were open to students in the Faculty of Architecture and the Department of Mechanical Engineering (David K. Munro, METU internal communication to "Those Interested in Industrial Design," METU, Ankara, 26 June 1971).

77 Munro, "A Rationale and an Outline," 9–15.

78 David K. Munro, "An Outline for the Formation of a Department of Industrial Design" (unpublished report, 11 pages, Ankara: METU, June 1971), 11.

79 Ibid.
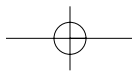
Çayirova, Istanbul (Field trip report to Istanbul, 25 November, 1971) with the aim of seeking industry sponsorship on behalf of the proposed industrial design department.

On the basis of these series of reports, a final report under the title of "A Rationale and an Outline for the Establishment of a Department of Industrial Design at the Middle East Technical University, Ankara" was prepared in October 1971. This report summarized the activities undertaken by Munro and other industrial design-related initiatives by the U.S. Government in Turkey, and provided the proposed program of industrial design education at METU. The "masters in industrial design" program was going to have four semesters, and be open to graduates of various disciplines, as well as to those of the architecture and mechanical engineering departments.[80]

In addition to the support for an industrial design department at METU by institutions including the Ford Foundation and the Fulbright Commission, AID and its office in Ankara was instrumental in the realization of the project, and was widely acknowledged in the reports. Dr. Kenneth M. Kauffman (Deputy Director, AID/Ankara); George D. Thomas (AID); Robert E. Doran, Leonard Pompa, and Kenneth Howe (Educational Division, AID/Ankara) played significant roles during Munro's stay at METU.[81]

The mission led by Munro was described as "an attempt to infuse industrial design as a discipline within Turkey's economy and its academic community." It cost $250,000, including contributions of books and equipment to METU, since the late-1950s.[82] In terms of the additional funding requirements of the proposed department, Munro applied to a number of Turkish, American, and international institutions: the Ford Foundation, the Fulbright Commission, the State Planning Organization of Turkey (DPT), the Organization for Economic Co-operation and Development (OECD), the International Council of Societies of Industrial Design (ICSID), Industrial Designers Society of America (IDSA), leading Turkish manufacturing companies such as Arçelik and Eczacibasi; and United Nations Industrial Development Organization (UNIDO). In particular, the expectation from AID was to provide funding for fellowships for industrial design students to obtain advanced training in the U.S. during the 1971-1972 academic year. Munro also contacted 25 industrial design schools in the U.S. for student fellowships, travel grants, and other expressions of interest in the new department.[83]

In 1972, the American News Center in Ankara and METU organized an industrial design exhibition, which included student projects of the elective industrial design courses by Munro in the METU Department of Architecture.

At the end of his contract, David K. Munro left Turkey in 1972, and AID withdrew its operations from Turkey the same year. However, when Munro left, his original mission was not accom-

80   Munro, "A Rationale and an Outline," 8, 10.
81   Ibid., 6.
82   Ibid., 6.
83   Ibid., 6-8.

plished due to the political unrest of the early-1970s at METU, where the car of the U.S. ambassador to Turkey was burned by protesting students. The Senate of the university postponed many initiatives in this political climate, including the establishment of the Department of Industrial Design.

Industrial design was offered as an elective course in the architecture program during the 1970s. The Department of Industrial Design at METU was established with a BID program in May 1979, two decades after the Perkins' development plan. The academic staff who were actively involved in the industrial design courses initiated by Munro in the early-1970s, most notably Serim Denel, Mehmet Asatekin, and Güner Mutaf, played critical roles in the development of the program and the establishment of the department.

Conclusions

Three main conclusions can be drawn from the study which reflect three viewpoints. First of all, from the viewpoint of the periphery, the attempts at initiating industrial design education in some peripheral countries such as Turkey and Korea in the late-'50s and '60s appear to be a result of aid programs which were instrumental in U.S. foreign policy, which aimed at containing the Soviet threat during the Cold War. The use of industrial design in the service of the U.S. national interests led to the early emergence of industrial design education in some peripheral countries with significant implications for the development pattern of industrial design in the periphery.

Secondly, from the viewpoint of the center, it is evident that, during the Cold War, especially in the second half of the 1950s, the U.S. Government became a major client of American designers and design companies through trade fair and ICA contracts. The American industrial design profession, while serving the political and economic interests of the U.S. within the context of international politics at that time, assumed a new ideological identity and role.

And finally, from a global perspective, the history of industrial design education in Turkey reveals that an analysis of the interactions between the center and the periphery is crucial for a comprehensive understanding of global design history. The role of the American industrial design profession in the U.S. foreign aid programs is a relatively overlooked chapter of the design history in the center. Nevertheless, it had a significant impact on the development of industrial design in the periphery.
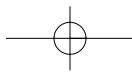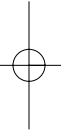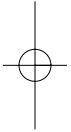
The case presented in this paper reveals a good example of the political dimension of the world design history as part of general world history.[84] It also confirms the interconnectedness of the national design histories of central and peripheral countries.

84   As Margolin states, a world history of design is inherently political because it brings into relation nations that have existed in a political sphere (Margolin, "A World History of Design and the History of the World").

The *Kobu Bijutsu Gakko* and the Beginning of Design Education in Modern Japan
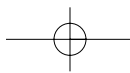Yoshinori Amagai

Introduction

In November 1876, the Kobu Bijutsu Gakko (the Art School of the Ministry of Public Works) was established by the Japanese government and immediately after its opening several Italian artists began teaching elementary theory and practice in painting and sculpture to young Japanese students. Most studies of this school indicate that it was the first government school for orthodox, Western-style fine art in Japan. Today, generally speaking, by 'Bijutsu' we mean "fine art" or "visual art," namely painting and sculpture. However, the question of what Bijutsu meant in the 1870s still is open. And it has a close relation to the beginning of design education in modern Japan.

During the 1870s, after the Meiji Ishin (Meiji Restoration), the Japanese government made efforts to develop communications and industry, as well as military power. Telegraph lines, a postal service, railways, a banking system and national currency, gun foundries, shipyards, mining, model factories for silk reeling and spinning, the production of cement, glass, and brick; the foundations of these were laid and expanded through the introduction of Western technology, institutions, and ideas. To succeed in these ambitious programs of modernization, the government hired a large number of foreign experts and advisers, known as O-Yatoi to serve in Japan. A mission consisting of fifty high-ranking officials was sent to the United States and Europe. It was headed by Iwakura Tomomi, who

Figure 1
The Iwakura Mission. Left to right: Kido Takayoshi, Yamaguchi Naoyoshi, Iwakura Tomomi, Ito Hirobumi, and Okubo Toshimichi.

took Okubo Toshimichi and Ito Hirobumi as deputies accompanied by fifty-nine students, five of whom were women. Although the mission was not successful in its primary aim of revising the unequal treaties, the Meiji leaders themselves inspected the governmental organization, industrial development, trade, and education in the Western world.[1] If the mission was one important project for the study of the West, the participation of Japan in international exhibitions was another. The committee that was sent to the Vienna Exhibition in 1873 consisted of over seventy officials, and some of the most able among them were dispatched to different European countries to study the various scientific subjects bearing on industry.

The 1870s were a time of learning about the West and adopting ideas and customs of Western civilization. It was against this backdrop, expressed in the slogans, Fukoku Kyohei (rich country, strong army), Shokusan Kogyo (increase production, promote industry), and Bunmei Kaika (civilization and enlightenment), that the new Japanese word Bijutsu appeared in 1872. The government institutions adopted the word shortly after. The Kobu Bijutsu Gakko was opened by the Ministry of Public Works under Ito in 1876, and the Bijutsu Kan (Fine Art Gallery) was founded by the Home Ministry under Okubo in 1877.

The Program of Vienna Exhibition 1873 and the Word Bijutsu
The word Bijutsu first appeared in the Japanese program of the Vienna Universal Exhibition of 1873, Weltausstellung Wien 1873, published by the Exhibition Committee in February 1872. It was a translation from the original German program of the exhibition, which H. Calice, an Austro-Hungarian diplomat, had handed over to the committee three weeks before. In early spring of 1871, he asked Japan to participate in the Vienna exhibition. In a letter dated 10 May 1871, Calice requested the Japanese government's assistance, so that the great variety of interesting and valuable products of Japanese art, industry, and agriculture could be represented in its entirety at the exhibition.[2] At first, the Meiji government showed little enthusiasm for the international exhibition, after being saddled with debts incurred by the former government, the Tokugawa Bakufu, at the Paris exhibition in 1867. But as soon as Calice had an audience with Emperor Mutsuhito in January 1872, the Exhibition Committee, headed by Okuma Shigenobu, one of the Meiji leaders, was organized.

One of the committee's functions was to translate the German program into Japanese. According to the classifications of the program, exhibits were divided into twenty-six groups. Using the word Bijutsu, the committee translated the titles of Group 22, Group 24, and Group 25. The original German titles are as follows:

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1   Kume Kunitake, the mission scribe, recorded the details of their visit in *Bei-O Kairan Jikki.*

2   The diplomatic documents on the Vienna Exhibition including Calice's letters, and the English, German, and French programs of the Vienna Exhibition are kept in the Diplomatic Record Office of the Ministry of Foreign Affairs.
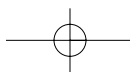
22 Gruppe: Darstellung der wirksamkeit der Kunstgewerbe-
Museen.
24 Gruppe: Objekte der Kunst und Kunstgewerbe früherer Zeiten
25 Gruppe: Die bildende Kunst der Gegenwart.

By "Bijutsu," the committee meant "Kunst" and "Kunstgewerbe," as
well as "bildende Kunst"; therefore, the difference between applied
art and fine art was unclear in the Japanese program. Based on the
classifications, a great number of exhibits sent to Vienna were
collected from all over the country, but there was nothing for Group
22. At the time, Japan had no such institution as the museum, and
knew nothing whatever of fine art applied to industry in the
Western sense. It was to be learned during the Vienna exhibition.

Sano Tsunetami, vice president of the committee, planned to
dispatch some young officials to factories and schools in European
countries to obtain the latest knowledge in all fields, and to import
new tools and machines. With the help of Gottfried Wagener, a
German adviser to the committee, they studied the various fields
bearing on industry. Sano and Wagener had a great interest in
applied art, rather than in fine art. And so Hirayama Eizo, a young
official interpreter of the committee, entered the School of Applied
Arts (Kunstgewerbeschule) in Vienna, instead of the Academy of Fine
Arts (Akademie der bildenden Künste). The school, founded in 1867,
was attached to the Austrian Museum for Art and Industry (das k.k.
österreichische Museum für Kunst und Industrie) in Vienna, and there
he studied applied art under Josef von Storck from 1874 to 1877. In
Hirayama's school days, Austrian industrial art was influenced by
historicism represented by Storck and Rudolf von Eitelberger.

Storck studied ornament and flower painting at the
Academy of Fine Arts in Vienna under the architects Eduard van
der Nüll and August Siccard von Siccardsburg. In 1866, he took the
post of ornament and drawing teacher at the Vienna Polytechnic
Institute. In 1868, he moved to the newly established School of
Applied Arts where he taught architecture. He was director of the
school several times until 1899.

The aim of the School of Applied Arts, was to educate work-
ers to be able to meet the demands of the art industry.[3] Designers
and draftsmen for factories, handicraftsmen, and teachers in techni-
cal and vocational school were to be trained there. Its basic instruc-
tion was in architecture, painting, and sculpture, industrial art being
based upon nothing less than the application of these arts to the
needs of daily life. This was a belief of Rudolf von Eitelberger, the
first director of the Austrian Museum for Art and Industry, for
whom fine art and industrial art were inseparably connected.[4]

Eitelberger, a friend of van der Nüll since the1840s, became
an extraordinary professor of the theory and history of fine art at
Vienna University in 1852, and in the following years he was a
member of numerous commissions including the Austrian Commis-

3   *Das Kaiserlich-Königliche Österreichische*
    Museum und Die Kunstgewerbeschule,
    Festschrift bei Gelegenheit der
    Weltausstellung in Wien. (Vienna:
    Wilhelm Braumüller, 1873).

4   Ulike Scholda, "Die Ausführende Hand
    der Theoretiker," in Peter Nover, ed.,
    Kunst und Industrie, Die Anfänge des
    Museums für Angewandte Kunst in
    Wien, (Wien: MAK-Museum für
    Angewandte Kunst, 2000), 219.

sion for Fine Art. Through his service as observer and judge at the international exhibitions held in Paris in 1855 and London in 1862, he gathered information on the condition of industrial art, and strove to establish the Austrian Museum for Art and Industry. Since the London Great Exhibition held in 1851, Austria had been on the losing side with respect to the design of objects for daily use, and Eitelberger saw a remedy through the activities of the South Kensington Museum. The Austrian Museum for Art and Industry was founded in May 1864, and was the first museum of this kind on the Continent. Eitelberger was director of the museum until 1885.

After returning to Japan, Hirayama promoted and encouraged Japanese industrial art, not as a professional designer, but as a bureaucrat and teacher.

The Vienna exhibition was a classroom and its program a textbook for members of the committee. The fruits of their studies were published after the closing of the exhibition. In their reports, we can find important definitions of and proposals for applied art. In the first official record on the exhibition, Okoku Hakurankai Hikki,[5] published in December 1873, applied art was defined as painting and sculpture applied to industrial products for daily use, and fine art mainly as painting and sculpture displaying skill in technique.

In other reports[6] published in 1875, Sano and Wagener recommended that museums be established in major towns of Japan, and art schools be attached to these museums to encourage industrial art, namely pottery, porcelain, metal work, lacquer, and weaving. Sano and Wagener stressed that painting and sculpture be chiefly taught in art schools, and that periodic exhibitions be held at the museums. Models for these concepts were the South Kensington Museum with the School of Design in London, and the Austrian Museum for Art and Industry with the School of Applied Arts in Vienna. Sano clearly wrote that the organization of the South Kensington Museum undoubtedly was suitable for the needs of Japan.[7]

But Sano and Wagener's ideas were not realized entirely. There was another plan, approved by the government in 1875.

The Kobu Bijutsu Gakko and the Kobu Daigakko
After conversations between Ito Hirobumi and the Italian diplomat Alessandro Fe about the situation of art in Japan, Ito accepted Fe's proposal for Italian leadership in art education in Japan. His plan was to found an art school in Tokyo and employ three Italian artists as instructors in painting, sculpture, and architectural decoration. In November 1876, the Kobu Bijutsu Gakko was opened as a department of the Kobu Daigakko (Imperial College of Engineering). In the same year, the Italian government officially sent three artists: Antonio Fontanesi, Vincenzo Lagusa, and Giovanni Vincenzo Caperreti, alongwith many teaching materials including oil paintings and plaster figures. The school taught three consecutive courses. The Preparatory Course was for beginners during the first three years. The

5   *Okoku Hakuranka Hikki* is kept in the National Diet Library.
6   Hakurannkai Jimukyoku *Okoku Hakurankai Hokokusho, Hakubutsu Kan No Bu,* (Tokyo: Hakurannkai Jimukyoku, 1875). A complete set of *Okoku Hakurankai Hokokusho* is kept in the National Archives of Japan.
7   Ibid.

Figure 2
The main building of the *Kobu Daigakko*.

Figure 3
Drawing Class of the Art School.
(Drawing by Matsuoka Hisashi, 1877).

Figure 4
Fontanesi (third from the left in the front row) and his students, 1878.

Painting Course and Sculpture Course were for students demonstrating a certain degree of competence for the last three years. Fontanesi chiefly instructed in painting, Lagusa in sculpture, and Caperreti in drawing.

In his book, Henry Dyer, then principal of the Imperial College of Engineering, wrote:

> *All the more important foreign Powers were anxious to have a hand in what they were pleased to call the "civilising" of Japan. The Americans were influential in general education, the British in the navy and public works, the French in the military service, and the Germans in medicine. The Engineering College represented the United Kingdom, as we had on our staff graduates of English, Scottish, and Irish universities. The Italians thought that their special sphere was that of art, and they were anxious that there should be a School of Art in which they could*

impart the methods and ideals of European art. To please them the Government established such a school, which was, for convenience, connected with the Engineering College.[8]

The Imperial College of Engineering, originally known as the Kogakko (Technical School), founded in 1871, was established in connection with the Bureau of Engineering in the Ministry of Public Works. In 1877, the college was officially named the Kobu Daigakko. It was not until 1873, when Dyer was employed by the Japanese government, that a solid syllabus for the college was set. When the Iwakura mission went to England at the end of 1872, Dyer was offered the position of principal of the Engineering College. It was Ito Hirobumi's plan that a college be established to train young Japanese men to continue the industrial process by Western methods.

In April 1873, Dyer, accompanied by eight British professors, sailed to Japan with a new idea in engineering education. The training courses, arranged by Dyer, were to meet the needs of Japan. They extended over six years, with the first two years devoted to general training in engineering. The technical courses, taught during the third and fourth years, comprised six branches: civil engineering, mechanical engineering, telegraphy, architecture, chemistry and metallurgy, and mining. The last two years were spent entirely in practical work. Later, the method of combining theory and practice in the training of engineers which Dyer introduced into Japan was named the "sandwich" system of apprenticeship.

The Imperial College of Engineering and its graduates played an important role in the program launched by the Ministry of Public Works, headed by Ito, for the development of railways, machine factories, mining, telegraph lines, lighthouses, and Western architecture. The government organizers of the college were preoccupied with practicality, and this was reflected in the two fundamental purposes of the Art School. First, the Art School should encourage industry by implanting modern Western techniques into old Japanese manufacturing systems. Second, to catch up with the European school of art, and to master the profound principles of art and make up for artistic defects by teaching art starting from elementary theory and practice.

According to its aims, the Art School should instruct in the application of art to industry. In other words, it should be a school of design, because Japan required design education.

In the same year that the art school was established, Japan participated in the international exhibition held in Philadelphia. The preparations were actively entered into at the end of 1874. The exhibition committee was organized in January 1875 as a department of the Home Ministry, which was charged with the promotion of

8   Henry Dyer, *Dai Nippon The Britain of The East* (London: Blackie & Son, 1904), 207.

industry, commerce, and agriculture. Okubo Toshimichi, the Home Minister, was appointed president of the committee. And it was entrusted to these people who, as members of the committee of 1873, had experience with exhibitions in Vienna. They now were able to assist manufacturers, both in the preparation of the necessary designs and in the selection of the goods. Several of the most remarkable pieces of porcelain, bronze casting, and woodcarving had first been designed by artists, and then the drawings were sent to manufacturers to be executed. [9]

Since the Vienna exhibition, the government had directed its attention to the design of Japanese manufactured products and had started organizing the drawing schools. In the Japanese Official Catalogue [10] *of the Philadelphia exhibition, published in 1876, we can clearly see the government's intention to organize a school of design as a means to encourage the progress of industry and manufacturing. It was realized as the Kobu Bijutsu Gakko. Its establishment was the beginning of design education in modern Japan. The results of the Art School were put on view for the general public at the National Exhibition in Tokyo in 1877.*

The National Exhibition in 1877 and After
In July 1876, the government announced that the National Exhibtion would be opened at Ueno Park in Tokyo. The Exhibition Bureau soon was organized as a division of the Home Ministry, and was presided over by Okubo Toshimichi. The government had participated in the Vienna and Philadelphia international exhibitions, and several periodical exhibitions had taken place in Japan, but no attempt had been made to bring together the products of the whole country. It was Okubo's wish that a national exhibition be held to encourage the manufacturing industries. [11] *Based on the experience gained with Iwakura mission in America and Europe, especially in Britain, Okubo strongly believed that Japan needed productive power through manufacturing, and Japanese manufacturing required the patronage and encouragement of the government and its officials. To provide this support was an important task of the Home Ministry.*

The aim of the National Exhibition was to bring together in one place all of the various products of Japanese agriculture and industry for comparison and examination. In order for Japan to make further advances, the merits and defects in manufacture, agriculture, art, and science would be brought to light. For this reason, no exhibits of foreign manufacture were admitted except those found useful for comparison with home-manufactured items.

The preparation followed the example of the Philadelphia exhibition. Central government officials in charge of measures for the promotion of agriculture and industry were sent to each local government. The local authorities were instructed to encourage the people to send as many objects as possible, to assist them in coming

Figure 5
Outside view of the *Bijutsu Kan* at the
National Exhibition, 1877.

Figure 6
Inside view of the *Bijutsu Kan*.

Figure 7
Machinery Department at The National
Exhibition, 1877.

*to Tokyo, and finally, to give all possible financial assistance as well
as advice. The Bureau assisted the exhibitors, as the Philadelphia
Committee had done, both in the preparation of necessary designs
and in the selection of exhibits.*

*The exhibition was a national project. Although a large rebel-
lion had taken place under the leadership of Saigo Takamori,
Okubo's best friend and the most adored Meiji leader, the exhibition
was opened in the summer of 1877 under Okubo's strong leader-
ship.*

*The various products were divided into six main categories:
mining and metallurgy, manufactures, art, machinery, agriculture,
horticulture, and were arranged in seven buildings. The machinery
exhibits, arranged by Dyer, showed machines and appliances made*

at the government factory connected with Dyer's college. The main building was built of brick, and designed to be permanent in the Western style, while the other six were temporary buildings of wood in the Japanese style. It was named the Bijutsu Kan (Fine Art Gallery), where works of art were arranged. The art exhibits consisted of five categories: sculpture, painting, engraving and lithography, photography, and industrial and architectural design. In the official English Catalogue[12] of the exhibition, we can find numerous entries of paintings, sculpture, drawings, and industrial and architectural designs from the Art School (Kobu Bijutsu Gakko). In the official Japanese catalogue,[13] by Bijutsu, the Bureau meant five categories of the art exhibits, and consequently the word Bijutsu incorporated various branches of art and design.

The Art School had really started, and more than fifty students, including six women, studied there. But, toward the end of the 1870s, in spite of its fundamental purpose to encourage industry, the Art School moved away from design education and toward education in the fine arts. Teachers and students had their own artistic interests. Fontanesi was a landscape painter, and his students followed his lead. Wagener wrote in his report[14] on the National Exhibition that he had never seen industrial design at the Exhibition, and that Japanese artists had a dislike for it and would not master it.

In September 1878, Fontanesi was compelled to return to Italy on account of his health. Two months later, more than ten students including Asai Chu, Koyama Shotaro, and Matsuoka Hisasi dropped out of the Art School because of their strong dislike for Fontanesi's successor. They established their own private school of painting. In the same year, Ernest Fenollosa, a Harvard graduate, came to Japan to teach philosophy. He soon became a representative enthusiast of native Japanese art, and deplored what he considered the excesses of Westernization. He thought it wrong to teach Western-style art instead of Japanese-style art in the government school,
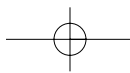
9   After the Exhibition, the drawings were compiled as *Onchizuroku.* A complete set and *Onchizuroku Genko* currently are in the Tokyo National Museum.

10   The Japanese Commission: International Exhibition, 1876. Official Catalogue of the Japanese Section, and Descriptive Notes on the Industry and Agriculture of Japan, (Philadelphia: W.P. Kildare, 1876), 51, 93. The diplomatic documents of the Philadelphia Exhibition are kept in the Diplomatic Record Office of the Ministry of Foreign Affairs.

11   Kunaicho, *Meiji Tenno Ki, Dai 3* (Tokyo: Yoshikawakobunkan, 1969), 697.

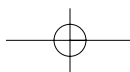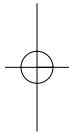Figure 8
The Rokumei Kan.

and encouraged Japanese artists who were painting in the traditional style. Fenollosa's activities were welcomed by Japanese conservatives.

On the attempts to introduce Western art into Japan, Okakura Kakuzo (Tenshin), Fenollosa's student and colleague, wrote:

> That eagerness and profound admiration for Western knowledge which confounded beauty with science, and culture with industry, did not hesitate to welcome the meanest chromos as specimens of great art ideals. The art which reached us was European at its lowest ebb—before the Fin-de-siecle aestheticism had redeemed its atrocities, before Delacroix had uplifted the veil of hardened academic chiaro-oscuro, before Millet and the Barbizons brought their message of light and colour, before Ruskin had interpreted the purity of pre-Raphaelite nobleness. Thus the Japanese attempt at Western imitation which was inaugurated in the Government School of Art, where Italian teachers were appointed to teach, grovelled in darkness from its infancy, and yet succeeded, even at its inception, imposing that hard crust of mannerism which impedes its progress to the present day.[15]

12 The Exhibition Bureau, *Official Catalogue of the national Exhibition of Japan,* (Tokyo: Kobun Kan 1877).
The official documents on the *Naikoku Kangyo Hakurankai* (National Exhibition) are kept in the National Archives of Japan.

13 Hakurannkai Jimukyoku, *Meiji Junen Naikoku Kangyo Hakurankai Shuppin Mokuroku,* (Tokyo: Hakurannkai Jimukyoku, 1877).

14 Gottfried Wagener *Meiji Junen Naikoku Kangyo Hakurankai Hokokusho* (Tokyo: Hakurannkai Jimukyoku 1877).

15 Kakasu Okakura, The Ideals of the East with Special Reference to the Art of Japan (London: John Murray, 1903), 226.

16 Kunaicho *Meiji Tenno Ki, Dai 6,* (Tokyo: Yoshikawakobunkan, 1971), 432–3.

17 For more on this chapter on Japanese design education see: Haruhiko Fujita, "Notomi Kaijiro: An Industrial Art Pioneer and the First Design Educator of Modern Japan" *Design Issues* 17:2 (Spring 2001):17–31.

In 1883, the Rokumei Kan social center, designed by Josiah Conder, the English architect and a professor at Dyer's college, was established as a site for Western-style social events attended by prominent Japanese and foreigners. It disgusted not only the Japanese but also Westerners. By the 1880s, the excesses of Westernization under the leadership of Ito had begun to arouse a nationalistic reaction.[16] Consequently, the government decided to close the Art School. And so Western-style art and design education disappeared from Japan. It was not until 1890s that the government started Western-style art and design education again.[17]

# Design as Meaning Making: From Making Things to the Design of Thinking

Elzbieta T. Kazmierczak

Overview

This paper redefines design based on the realization that communication design, first and foremost, concerns meaning. It distinguishes between intended, constructed, and received or re-constructed meaning. Design is the activity that directs the process, and enables the correspondence between the three. By focusing on received meaning, it shifts design paradigm, from a preoccupation with designing objects for certain uses to focusing on the cognitive processes that underlie the reception of those designs. It defines designs as cognitive interfaces that enable reconstruction of intended meanings. Its approach stresses the semiotic relations between perception and meaning construction to explain the perceptual and cultural codes involved in communication.

The position presented here redirects the perceived ground for design away from objects themselves, as independent from mind, toward the conceptual characteristics these objects embody as a means of communication. It redefines designs from finite, fixed objects of aesthetic and practical consideration to semiotic interfaces enabling the reconstruction of meaning by receivers. It challenges the fixation of designs on aesthetic justification by shifting attention to the semiotic functions of cognitive interfaces. Thus, design is approached as a semiotic phenomenon, which is dependent on cognitive and developmental processes, and which coexists with cultural codifications comprising collective and individual environments.

Design draws upon the concept of diagrammatic reasoning, and proposes that all designs be regarded as diagrams of mental maps of individual and collective cultures. Its focus on the diagrammatic nature of knowledge presentation necessitates the emergence of intelligent design as informed by a rational selection and a combining of visual syntax to induce specific inferences followed by subsequent behaviors. Communication designers historically have not had adequate rational tools to bridge the gap between meaning and design decisions at the level of design form manipulation. The reliance on aesthetics and style is symptomatic of this gap. This paper demonstrates the possibility of bridging that gap.
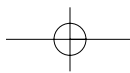
From Data to Information

Such statisticians as Tufte, Tukey, Karsten, and Bertin brought statistical terminology to design. As a result, the notion of data has come to the core of graphic presentation. It generally has been accepted that "graphics reveal data."[1] Such a view implies that the data has a meaning, and that the task of design is merely to make it available. Indeed, this view is shared by a majority of design community. However, this judgment must be reexamined by addressing the distinction between data and information. Data per se is meaningless. It merely is a collection of symbols/interfaces, which have been acquired as a result of an inquiry. To answer specific queries and become meaningful information, data must be organized.

The core of design or graphic presentation is not data per se, but information, that is, "what the graphics are doing or saying."[2] This distinction stresses the fact that the essence of graphics lies not somewhere outside design, that is in data, but in the design itself. What designers do is to create relationships among singular symbols. They define and interpret conceptual relations by virtue of selecting and organizing data. It is these conceptual relations that the data is being used to communicate, which are the core of graphic presentation. Namely, it is information.

So what is information? How can we define "what the graphics are doing or saying"? Is it the same as the content of a design? Is the content of a design the same as the meaning of a design? In design literature, content is interchangeably referred to as "information," "data," "message," "subject," and "meaning." The differences in names are the result of differences between terminologies specific to the domains from which these terms were borrowed. Although the names might differ, the approach to them remains the same. They all share the same implication: content is viewed as static and predetermined. The designer's role is to provide the form needed to make a predefined content/ information/data/meaning, and message perceptually accessible in other words, to translate from one form to another.

The content is thought of as separate from form, and multiple designs are seen as equivalent in terms of content. In this view, any design of content is considered an expression of the designer's "creativity." Designers and clients often share this view. That is why designers commonly are perceived as form providers, or incarnates of contents. Although designers feel that their role in the communication process entails more than mere shaping, they lack both the vocabulary and theoretical guidance to justify that claim. Therefore, we continue our inadequate discourses about clients providing contents and designers providing appearances.

For instance, the International Institute for Information Design describes information design as "the defining, planning, and shaping of the contents of a message, and the environments in which it is presented, with the intention of achieving particular

1   Edward R. Tufte, *The Visual Display of Quantitative Information* (Cheshire, UK: Graphics Press, 1983), 14.
2   Peter Storkerson, *Diagrams and Narrative* (A lecture delivered at the Institute of Design, Chicago, IL: Illinois Institute of Technology, 1996), online publication (http://home.tiac.net/~pstork).
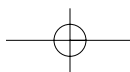
objectives in relation to the needs of users."[3] This definition, as well others using the same approach, does not consider the essential influence of the designer on the content. In other words, by not dealing with the relationship between form and content, it over-looks the impact of formal or sensory dimension on semantics. Design needs to be freed from the preoccupation with appearances, and advance to an alternative theoretical model, which relates phys-ical form to cognition and comprehension.

Design as Meaning-Making
This paper proposes such a model for design by borrowing from cognitive semiotics. There are two reasons why cognitive semiotics offers potentially good results. First, it is focused on bridging the gap between form and meaning making or comprehension. Thus, its method of inquiry makes it well equipped for a discussion of symbolic-cognitive human phenomena such as communication. Second, it is compatible with the concerns of design regarding the construction of communications. Cognitive semiotics is a study of signs, which are considered mental activities, or the essential units of thought and meaning. The notion of "semiotic" (function or aspect) is defined here as a cognitive phenomenon operating symbolically to generate meaning. It may be a matter of preferences to define communication in semiotic terms "by force of being consti-tuted and regulated by systems of signs,"[4] while the broadly respected approach to design is based on rhetoric, by virtue of persuasiveness of speech and apparent effectiveness of tropes. We apply the cognitive-semiotic model because it not only allows for a corporeal and cognitively grounded intelligibility of form, but it also embraces rhetoric. "The whole of human experience, without excep-tion, is an interpretive structure mediated and sustained by signs."[5] Signs are designs are cognitive interfaces. So defined designs imply and require the participation of the receiver. By stressing the cogni-tive nature of the design's mediating function, we are bridging physical form and comprehension. In the extreme, this position implies that designs are not designs unless there is a receiver.

Having said that, let us conceive of design as a trigger, and not as an object. Let us approach design as an interface for meaning making, or simply the design of meaning. "Meaning" stands for a thought induced in the receiver, which is originated by the contact with a design. Designs can be simple or complex in their material and conceptual structure but, as wholes, they are interfaces. Why is this so? Let us look at what actually happens when the receiver infers meaning from the design. When the receiver faces a reasoning task, such as the reconstruction of the meaning of a design, she/he organizes—consciously or not—the physical patterns into patterns of relations. So it is in the patterns of relations, or in "gestalts," that the receiver finds the meaning, and not in individual signs for and in themselves.

3   Peter Simlinger, ed., "IIID News, Newsletter of the International Institute for Information Design" (No. 3, March 1996, Vienna): 4.

4   Richard Lanigan, *Phenomenology of Communication: Merleau-Ponty's Thematics in Communicology and Semiology* (Pittsburgh, PA: Duquesne University Press, 1988), 176.

5   John Deely, "A Context for Narrative Universals, or Semiology as a Pars Semiotica," *American Journal of Semiotics,* 4: 3–4 (1986): 57.
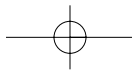
*The consequences of defining design as the receiver's mean-
ing- making are enormous. It forces a paradigm shift from focusing
on designing things to focusing on designing thoughts or infer-
ences. Those thoughts are interpretive, and they result in subse-
quent behavior. This behavior can be empirically tested to provide
insights about the effectiveness of designs. For example, empirical
studies can be conducted to measure the meaning of designs, and
thus build a body of knowledge that supports the practice of design.
In this model, which is geared toward understanding the cognitive
processes that drive meaning making, comprehension and remem-
bering of designs is measured and evaluated. The concept formation
model of communication[6] has been shown to be successful in testing
cognitive processes involved in communication design. It is based
on the premise that, by testing what receivers remember about the
designs, we can gain insight into how receivers comprehend them.*

*The content of a design no is longer sought in the artifact
itself. It becomes a receiver's thought, which is constructed through
the receiver's contact with a design. As such, it is created and own-
ed by the receiver. Without the receiver's inferring the meaning,
there would be no content, nor a design. This meaning owned by
the receiver is not necessarily equivalent to the content as sent. The
design becomes an interface, which triggers the emergence of such
content in the receiver's mind. This model empowers the role of the
receiver by acknowledging her/his essential participation in a
communication process. Once again, it defines design through the
receiver's (cognitive and intellectual) act of reasoning.*

*We can think of a meaning as the product of a dynamic and
a dialectic process, which interrelates and binds three agents: a
designer, a design, and a receiver, as an individual and a collective.
Meaning undergoes three stages of development. At the first stage,
there is an intended meaning, which is encoded into the design
itself. The designer defines intended meaning. The received mean-
ing is not developed until the receiver comes into play. Technically
speaking, there are as many proper meanings of the design as there
are reconstructions of it, but they share a certain denominator
common to all receivers. That holds true for effective designs. The
reconstructed meaning is developed at this final stage of the semi-
otic-cognitive sequence. This mental construct in a receiver's mind
is what we call the meaning or content of design. It is created and
owned by the receiver and is multiplied with every interpretation of
the design.*

*But the receiver is not in full or arbitrary control of meaning.
It is induced in the receiver, by the design and specified by its struc-
ture. The more strategically successful the design is, the more accu-
rately and consistently does it trigger similar thoughts in different
receivers. These thoughts, in turn, cause the receiver to respond to
the design in a certain way, and thus define its effectiveness. Unless
the receiver comprehends the design as projected, the design is*

6   Peter Storkerson, *Information and
     Concept Formation,* IIID Expert Forum
     for Financial Services, (New York, April
     2002), online article
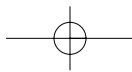   (http://home.tiac.net/~pstork).

unsuccessful or ineffective. Therefore, the designer shares responsibility with the receiver for the proper meaning, although it is created and owned by the receiver.

Thus, the static notion of a content that is literally and explicitly expressed in the design is replaced by the dynamic notion of design as inducing and guiding cognitive processes in the receiver. Content, as conceived within the frame of the static paradigm, becomes a dynamic result of mental processes. It is as dynamic as is the dialectic mutuality of the exchange between a design and a receiver. In this semiotic-cognitive model, the design content changes from an object to a cognitive process. That is exactly what must happen if design is to succeed as a profession in the service of human communication. Building a meaning-based model of design removes the fixation on produced things, and focuses attention on the human cognitive processes of communication. Consequently, the physical products of design such as mailers, books, packages, manuals, diagrams, and machine or computer interfaces all can be seen as interfaces that enable and guide the receiver in creating his/her own inferences and subsequent behaviors, as triggered by contact with the design.

The concept of design as an interface has gained prominence in the multimedia and virtual reality fields, but has not been accepted yet by the rest of the design world. In a semiotic-cognitive model, designers are enablers providing interfaces, no matter what material shape they may take. Anything that is designed is a semiotic interface, because it is a sign that triggers responses in receivers. Designers' design interfaces as bridges enabling the receiver's transition from one or any of a number of mental states into other ones. The designer takes responsibility for the effectiveness of the design when she/he employs strategic thinking and planning to construct cues to its meaning in the receiver. This model stresses the importance of the rational and cognitive foundations of the design. It seeks verifiable answers to the following questions: What sensory-cognitive mechanisms enable transitions from the physical to the mental, and from the mental to the physical? What can serve as guides for the designer in choosing the sensory cues for triggering the appropriate mental states in a receiver? And finally, what kind of a semiotic structure does the design produce?

Design as Diagrammatic Modeling
Our connection with the environment is cognitive, therefore it is determined by the capacities of cognitive faculties, corporeality, and the interactive nature of the relation. During the evolutionary and developmental process of individuation, humans have developed models for cognitive and functional connection with the world. That is to say, the mapping of the sensory experience develops in accord to perceptual, intellectual, and operational schemas. They are "schematic structures that constantly are operating in our percep-

tion, bodily movement through space, and physical manipulation of objects."[7] Those schemas, including image-schemas, are preconceptual plans or patterns of our expectations, anticipations, and conceptualizations of our interaction with environment. We can think of them as dynamic models for our organizing of perception and experience, which allows us to make the world intelligible. The modeling entails relating otherwise unrelated things, events, or states. Cognitive theory enables us to view mental schemas as plans for conceptualization of past experience, which determine rational entailments described propositionally, and provide cognitive plans for interaction with the environment.

"A schema consists of a small number of parts and relations, by virtue of which it can structure indefinitely many perceptions, images, and events."[8] That is to say, there are basic units of information/meaning which are constituted by relations. These schemas operate diagrammatically. They are internal or mental diagrams that are general and abstract enough to allow us to make connections among the richness and the variety of particular and concrete things, events, and states in the world. They are mental maps of our thinking. In order to communicate and to expand these models in some ways, we have developed external diagrams as modes of representation such as mental, acoustic, graphic, or mixed.

The meaning-making strategies, or the ways that we make sense of our experiences, largely are unconscious processes of mapping "sensory experience onto the inner world of cognition via metaphor."[9] The metaphoric nature of that process refers to the "understanding and experiencing one kind of thing in terms of another."[10] It describes the parallel (metaphoric) nature of the modeling process. For designers, the entailments of this mapping are intimately, if only intuitively, known. For example, the metaphor of navigation through the virtual space is taken from our experience of sailing. Going through the pages of what actually are screen presentations derives from the experience with printed books. High or low impact of a design on a client is marked by experience of throwing objects. "Mood is an environmental state (as in 'I'm feeling under the weather')."[11] The challenge is to turn intuitive knowing into the analytical and rational knowledge of visualization and meaning-making in order to produce predictable results, and thus to ensure the effectiveness of design.

Mental models can undertake different forms, such as iconicity, indexicality, and symbolicity. For instance, "perfumes are artificial icons of animal smells indicating sexual arousal or interest."[12] Perfumes symbolize elegance and femininity as well. Designs as external diagrams may acquire any modeling form. Consequently, designs vary on the scale of degrees of diagrammatic schematization. That schematization varies depending on the design purpose,

7   Mark Johnson, *The Body in the Mind: The Bodily Basis of Meaning, Imagination, and Reason* (Chicago: The University of Chicago Press, 1987), 23.
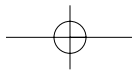
8   Ibid., 29.

9   Marcel Danesi, *Messages and Meanings: An Introduction to Semiotics* (Toronto: Canadian Scholars' Press Inc., 1993), 121.

10   George Lakoff and Mark Johnson, *Metaphors We Live By* (Chicago: University of Chicago Press, 1980), 5.

11   Marcel Danesi, *Messages and Meanings*, 121.

12   Ibid., 26

medium, and the subject matter. It also varies with regard to the taxonomy of semiotic space in which they participate. For instance, geographic maps are indices. As indexical diagrams, they are designated by the correspondence between the proximities of actual geographic locations and their graphic signifiers.

In Neisser's view, the origin of concept maps is in orientation:[13] the concept map represents a gestalt of which only a fraction is perceived at any one time. For instance, knowing where one is entails a sense of what is around the corner. Cognitive mapping applies equally to concrete or spatial-temporal, and abstract realms. Thus, the correspondence between the mental pattern or a cognitive map (internal diagram) and its representation (external diagram) defines different forms of expression, including different degrees of schematization and abstraction, such as "pictorial, hieroglyphic, alphabetic, schematic and, ultimately, algebraic."[14]

Artifacts express mental models. They reflect knowledge in a given point in time and space.[15] Namely, they were created and shaped by designers to communicate specific ideas and/or to perform specific functions. To no small extent, they are limited by the historicity of designers, and of the design goals and technologies with which they were intended as interface. Design relies on the selection and schematization of sensory characteristics in order to enable receivers to conceive of something quite beyond what is actually seen. Thus, the design is a diagrammatic guide for the imaginal construction of a meaning: concept or entity. Design is mapping in the diagrammatic sense (figure 3).

Consequently, design develops diagrammatic representations of mental maps. In other words, the design process is the process of actualization of mental (internal) diagrams that takes place on two planes: on a mental plane of thought-shaping, and on the material plane of its sensory (external) counterpart. Design brings into existence mental diagrams of our conceptualizations about objects and events. These planes constitute the two modes of the diagrammatic modeling of thinking. They define the two aspects of the meaning-making process, which entails diagrammatic reasoning and its representation. We can think of a reasoning itself, which involves making conceptual relations by spatial means, as of "'mapping' in its hypothetical sense."[16] Correspondingly, the design is the mapping in its actual sense. Therefore, it is a process of representing conceptual relations by spatial means in a graphic or other medium. For instance, in figure 1, a concept of social contrast, opposition, and race is mapped onto a material plane of the design as a juxtaposition of silhouettes.

13   Ulric Neisser. *Cognition and Reality: Principles and Implications of Cognitive Psychology* (San Francisco: W. H. Freeman and Co., 1976), 111.

14   Floyd Merrell, "Model, World, Semiotic Reality," in *On Semiotic Modeling,* M. Anderson and F. Merrell, eds. (Berlin and New York: Mouton Gruyter, 1991), 263.

15   Fernande Saint-Martin, *Semiotics of Visual Language* (Bloomington: Indiana University Press, 1987), 111.

16   C. W. Spinks, "Diagrammatic Thinking and The Portraiture of Thought," in *On Semiotic Modeling,* M. Anderson and F. Merrell, eds. (Berlin and New York: Mouton Gruyter, 1991), 446.
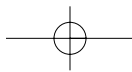
Figure 1
A Woman in the Land of Dixie, designer,
Elzbieta Kazmierczak, 1999, front (a) and the
back (b) of the book cover.

Designs as Shortcuts to Meaning
Designs are shortcuts through and to meaning. They rely on the mutual reinforcement of pictorial and textual components, which takes advantage of cognitive differentiation between the processing of different types of sensory information. They "show" what is meant, and thus benefit from the efficiency with which humans process visual information. Linguistic messages are processed more slowly, since they require sole intellectual processing which takes longer. Graphic diagrams represent the way humans think, and therefore they are comprehended quickly. Not surprisingly, they are well-suited to different learning styles.

Designs do not represent objects as they are in and for themselves. They are schematics. Designers strategically bring into designs only those aspects of the object that are essential to the design objective. Thus, the design process is driven by the dichotomy of chosen versus rejected characteristics of an object. Consequently, designs do not rely on lengthy descriptions or specifications, as do textual communications. Instead, they provide selections of sensory cues necessary for the immediate grasping of an adequate interpretation. Graphic diagrams provide a geographical overview of relationships among corresponding relevant concepts. They are sensory schemas for the comprehension of conceptual relations.

For example, in figure 1, the relationship between two genders was reduced to a partial representation of the faces. This synecdochical substitution of a part for a whole conveys an almost intimate closeness of the modeled relationship. As such, it represents all that is needed to convey the dichotomy between the two opposite elements. The designer has developed a schematic picture of the face in order to provide a diagrammatic model of the female-to-female relationship. There also is an overtone of a possible reading that the two profiles might be male ones as well. That does not impair the design. On the contrary, it supports it because a male
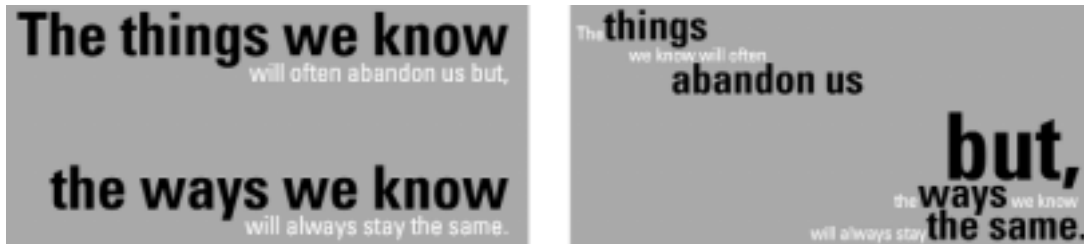
1

Figure 2 (a) and (b)
Design maps of a sentence. Different spatial arrangements trigger different reconstructed meanings in a receiver. Author Peter Storkerson, 1999, designer, Elzbieta Kazmierczak, reprinted with the author's permission, © Copyright 1999.

counterpart also plays a role in the text of the book. Thus, the front cover shows the two women, reduced to the visual representation of significant parts of schematic profiles. On the other hand, the differences in the placement of the profiles define their relationship. On the front cover, the two profiles are in opposition, perhaps even in confrontational opposition, while on the back cover, they are placed right next to each other. The change of placement from polarized and adversarial to the same side of the composition is geared toward inducing a specific response in the viewer. The receiver is to infer that the significant change of the relationship between heroines has occurred during the course of the book.

To make the development of the diagrammatic model function successfully as a graphic shortcut requires that the designer employ strategic thinking and planning. It frequently is overlooked that the very selectiveness of mental mapping requires intellectual discipline and reductive reasoning. Consequently, viewing the design process as an extension or result of diagrammatic reasoning allows us to emphasize the importance of the rational foundations of that process. It is not only the construction of the meaning by the designer that requires the use of logic, but also its reconstruction by the viewer. The design lends itself to the viewer's participation in the meaning-making process as he/she "reads" the diagram. The viewer navigates through the arrangement guided by its visual hierarchy. The viewer's reading of the diagram always is nonlinear, associative, and abductive, which makes it different from the linguistic comprehension. It is the dynamic relation of mutual determination between the syntactic rules for assembling points, lines, and figures and their linguistic discourse, that determines the reading of diagrams.

Pictorial elements, especially those with a high degree of generalization, require linguistic support to specify referents. In this sense, diagrams are conceived as open to different readings, but those readings are limited by the logical possibilities afforded by visual syntax. The designer's strategy is to make "an intentional organization of its field of possibilities"[17] to guide the receiver. At the heart of diagrammatic models are visual relations as ways of thinking. The linguistic elements specify referents. The pictorial/graphic elements specify relations. The same applies for pictorial elements with a low degree of generalization, and a low degree of

17   Umberto Eco, *The Open Work* (Cambridge: Harvard University Press, 1989), 100.

Figure 3
Example showing Gestalt law of visual group-
ing. In arrangements we look for simplest
shapes. Thus, we interpret this arrangement
as two partially overlapping squares, and not
as a square and an irregular figure.

*schematization, such as realistic images or photographs. For in-
stance, different titles specify different referents and, thus, different
readings of the same picture. Mona Lisa will "read" differently, in an
art history book, in a costume design book, or in a teenage girls
magazine as an example of poor makeup.*

Perception and Thinking
*Unlike many objects in life which exist for themselves (trees or
animals), artifacts are objects produced for communication. As
physical entities, they provide sensory stimuli for cognition. Artists
create objects of aesthetic contemplation, while designers create
objects with a certain functional value. Design creates objects to be
experienced in particular ways (tools, books, and computer screen
trash can icons). Once their identity is understood by receivers,
objects of design are "seen as," and they are "expected" to "behave"
in certain ways. "Seeing an object 'X' is to see that it may behave in
the ways we know 'Xs' do behave: if the object's behavior does not
accord with what we expect of 'Xs' we may be blocked from seeing
it as a straight forward 'X' any longer."* [18]

*In a general sense, perception always is guided and filtered
by attention/motivation, which guides comprehension. Meaning is
embedded in the praxis of experience.[19] It is a derivative of our
connection with the environment. Comprehension is guided not
only by preconceptual, perceptual schemas, but also by cultural
models. By virtue of defining objects in life, humans define frames
of expectations of design objects. Depending on the filter or the
frame of reference, the same object may play different part in differ-
ent conceptual relations. Thus, it may acquire different meanings in
the receiver. Depending on the situation and expectations defined
by the designer, some aspects of the object may be left out unno-
ticed, while others may be emphasized. At the extreme, when a re-
ceiver is confused by contradictory or unclear guidelines for
comprehension, she/he can perceive an object as something other
than intended by the designer. These are situations in which re-
ceivers use designs in the "wrong" way. It is the designer's role to
provide a receiver with proper guidelines for the comprehension of
a design. In other words, the designer creates, simulates, or repre-
sents an intelligible object of design by presenting qualities that will
cause and fulfill certain expectations. This also applies to the design
of processes and behaviors.*

*Design creates objects to be understood in particular ways.
Competent receivers know this, especially in media-savvy cultures.
Receivers are methodically reading the designs with the expectation
that these designs were meant to be read, and that they were
intended to have a significance or "content" that is greater than, and
different from, the subject matter presented. The problem for a de-
signer is to trigger an appropriate contextual frame in the receiver
for constructing meaning. Certainly, part of this process can be*

18 Norwood Hanson, *Patterns of Discovery:
    An Inquiry Into the Conceptual
    Foundations of Science* (Cambridge:
    Cambridge University Press, 1965), 22.
19 Charles Sanders Peirce, *Collected Papers*
    Charles Hartshorne and Paul Weiss, eds.
    (Cambridge: Harvard University Press,
    1931–35), vol. 5, 402.
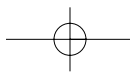
handled by social conventions such as genres, but much of the process must be handled in ways that there are perceptual and intuitive, such as visualization.

There are two aspects of graphic diagrams that are important to visualization of conceptual structures. First, the logic of visual syntax (formal relations) guides the sequence of the reading of a diagram. Second, diagrams are gestalts and, as such, fall under the laws of visual perception. In other words, besides being objects for communication, diagrams are objects for cognition. As spatial models, they create sensorial configurations which operate semiotically to communicate conceptual relations. Therefore, graphic diagrams operate through visual cognition.

Gestalt psychology describes the laws of visual grouping, explaining that the whole of the visual arrangement determines the perception and comprehension of its components. Perceptual processes operating according to perceptual schemas orient us to physical reality and function consistently across cultures. For example, in figure 3, one square appears behind the other. Once we grasp a configuration, that comprehension encompasses and specifies the structural relations inside it. Thus, we perceive gestalts top-down or general-to-specific. Graphic diagrams are holistic and synoptic, like any other sensory arrangement, in the sense that they are always perceived as wholes or gestalts. A receiver looks for a familiar pattern to decide about the relations within it. Specifically, the receiver looks for the meaning of the design elements upon comprehending the whole first. Gestalt psychology explains why diagrams enable top-down comprehension of unfamiliar content and support the remembering of complex relations. When applied as teaching or learning aids, diagrams are excellent tools for facilitating meaningful learning and remembering of the unknown material.[20] Graphic diagrams provide spatial models of conceptual structures, and thus facilitate understanding and the remembering of otherwise difficult to grasp concepts.

Graphic diagrams accomplish so much because they materialize the spatial and temporal ways in which we think. In graphic diagrams, "the spatial relations between their tokens share logical properties with relations between denoted objects."[21] That is to say, there is a direct mapping between conceptual relations and relations shown in graphic diagrams. As a result, in diagrams, "certain inferences are somehow more immediate, or even are automatic," and "conclusions appear 'for free,' as compared with textual systems where a logical inference must be made to produce the conclusion."[22] In figure 4, we see the most rudimental diagrammatic notations of basic conceptual relations: connection, overlap, mutual causation, clustering, and inclusion. Once again, they show us what they mean. They operate not by resemblance to appearances. They are visual representations of diagrammatic reasoning, operating according to the rules of visual logic guided by perceptual schemas.

20 Charles D. Holley and Donald F. Dansereau, eds., *Spatial Learning Strategies: Techniques Applications and Related Issues* (Academic Press Inc. Harcourt Brace Jovanovich Publishers, 1984), 14.

21 Corin Gurr, "Combining Semantic and Cognitive Accounts of Diagrams," in *Diagrammatic Representation and Reasoning,* Michael Anderson, Bernd Meyer, and Patrick Olivier, eds. (London: Springer-Verlag London Limited, 2002), 128.
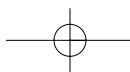
22 Ibid., 131.

Figure 4
Concept diagram of mental relations: connection, overlap, mutual causation, clustering, and inclusion.

Figure 5
Directional nature of an arrow.

Figure 6
Directional nature of a triangle.

Therefore, in spite of the theoretically unlimited possibilities of assigning meaning to abstract shapes, an arrow lends itself for use in those situations in which the logic of the syntax of an arrow is applicable. In short, an arrow always implies a specific direction, motion and, thus, possibility for transition (figure 5).

It is important for a communication designer to be acutely aware of the semantic entailments of graphic shaping. She/he must keep in mind that the changes in the sensory organization of gestalts create different patterns for recognition. Different sensory configurations are recognized as different signs (diagrams), which may involve different interpretations, or inferences. For instance, a change in the position of the same triangle always changes its indexical function. It points toward a different direction every time it is turned (figure 6).

Our comprehension of external diagrams via sensory perception is grounded in corporeality. We observe this in both linguistic metaphors describing pictorial arrangements, and in their connotative interpretations. For instance, a vertical line is linked with motion "up" or "down." The upward movement is positive, while down movement is negative. The former is linked with organic growth and advancement, the latter with organic decay and decline. A horizontal line is referred to as the ground. Due to our experience of walking on the surface, it is perceived as static. Conversely, a diagonal line is active and unstable. Once again, meaning is embedded in the praxis of experience.

A Family of Graphic Diagrams
The graphic page itself is diagrammatic. The spatial coordinates of height and width define it. This plane maps our position in the world, which is mapped in relation to our orientation within four directions. Geographic directions—north, south, east, or west—or corporeal directions—forward, backward, right, or left are mapped onto the plane of a graphic page as up, down, right, and left. In this context, it is easier to see the diagrammatic nature of text layouts, which are diagrams as well.

The "meridian" poster (figure 7) is a concept diagram for connecting fragments of information on a topic. It uses the code of symbolic representation by integrating text as if it were an image. The complexity of the architecture causes the viewer to consider syntactic relationships as guides to semantic associations of texts.
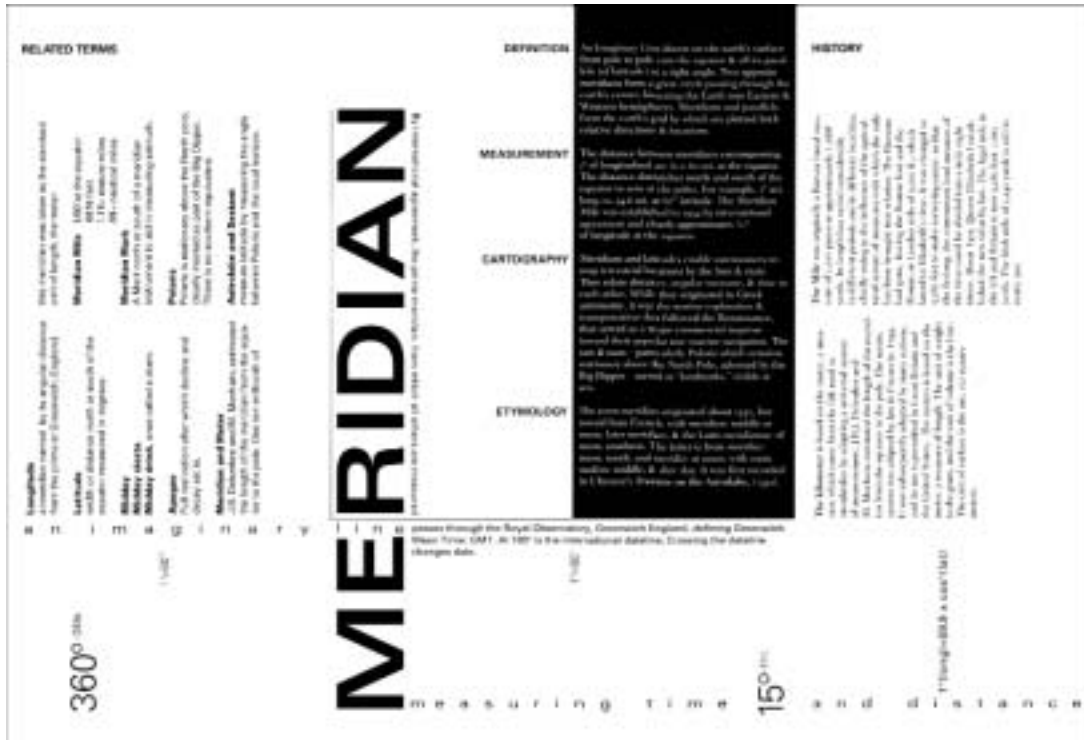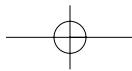
Figure 7
Concept diagram: *Meridian,* designer, Peter Storkerson, 1993, 12" x 18," is reprinted with the designer's permission, © Copyright 1993..

Figure 8
Indexical diagram: street map.

The viewer is guided to make conclusions about conceptual relations using cues from visual syntax or composition. That is because sensory proximity and perceptual dynamics determine what we link together. Whatever we link sensorially, we can link conceptually. Height and width correspond to the surface of the earth. The visual syntax leads the viewer to combine texts and, in doing so, to build a semantic field or topic. The rules for reading texts are not explicitly stated. Instead, they are indicated by a complex logical layering of information according to proximity and directionality.

Figure 8 is an indexical diagram. This diagram is indexical by virtue of having a one-to-one mapping with referents: road crossings. The value of this diagram is not in its resemblance to the appearance of the urban landscape, but as a guide to the schematic patterns of connections among streets and routes that can be inferred. Figure 9 is another indexical diagram. It mixes different projections, which show different points of view. These polar projections are developed for different purposes. Both are accurate, but from different frames of reference. Thus, what looks distant in one projection looks adjacent in another. It is a concise synopsis which provides two different points of view simultaneously.

Illustrations are diagrams in disguise. They may not look like diagrams, but they work diagrammatically. Figure 10 is an illustrative diagram. It uses the convention of realistic representation of mechanical projection of photography. This is not a portrait of a
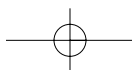
Figure 9
Indexical diagram: projection of the South Pole in a global context.

man. This is a diagram in which certain aspects are emphasized to make clear the structural relationship between the top of the plastic bag and the smile. It is a depiction of structural relations informing us about the conceptual relation between the man's desire and the cake.

A frequently used practice in diagrammatic modeling is to bring together mutually excluding viewpoints such as, for instance, in polar projections (figure 9), or in the editorial illustration in figure 11. Here the receiver is confronted not with a portrait of a man, but with the diagrammatic representation of the personality shattere d by the addiction. The pulling of the contradictory forces inside the head is visualized literally by the strings hooked to the head. There also is a blend of mutually excluding viewpoints. The image simul- taneously shows the views of the outside and the inside of the head of an addict. Once again, illustrative diagrams do not portray anything we see in reality. They use a "lifelike" way to communi- cate diagrammatically.

Another illustrative diagram, (figure 12), an assemblage art, relies on our knowledge of physical relations—shapes, movement,

Figure 10
Illustrative diagram: *Man and Desire*, artist, Peter Storkerson, 2002, 12" x 9". Reprinted with the artist's permission, © Copyright 2002

Figure 11
Illustrative diagram. *Addicted,* illustrator, Steve Mayse, 1996, cover illustration for *Physician Magazine,* mixed media, 30" x 22" x 8". Photographed by Randy Jacobson, Kansas City.

Figure 12
Illustrative diagram: *Night of Hope,* artist,
Steve Mayse, 1998, 60" x 40" x 10".
Photographed by Randy Jacobson, Kansas
City.

and support—to build symbolic relations. For example, the wooden lattice makes "hope" a ladder leading to the hand, which supports and balances "the night." In a synoptic overview, the design forms an upward arrow. The linguistic component "a night of hope" provides the referent for the ladder, thus, giving the receiver the cues for the referential meaning of the arrangement. The richness of this type of image design stems from the dual nature o fits elements, which are simultaneously physical and symbolic. This promotes in the viewer, alternative readings—symbolic and mimetic—in dialectic alternation.

To summarize the experience of designing diagrams, let us gather the designer's "tenets" of diagrammatic modeling:

1 *Designs vary on the scale of degrees of diagrammatic schematization. That schematization varies depending on the design purpose, the subject matter, and the medium used.*

2 *Designs vary with regard to the taxonomy of semiotic space in which they participate. Thus, the correspondence between mental diagrams and their graphic representations motivates different forms of diagrammatic expression such as indexical, illustrative, flow chart, and concept.*

3 *In a reductive, condensed, and synoptic way, they show only those features and aspects of objects or events which guide the receiver's involvement.*

4 *Graphic diagrams: (1) depict relations and schemas, not appearances; (2) reveal underlying conceptual relations and behaviors; (3) provide new conclusions or statements that convey points of view; and (4) represent conceptual relations by spatial and temporal means.*

Cultural Considerations: Arabic Calligraphy and Latin Typography
Sherry Blankenship

Lively motion and massive solidity are clearly opposites. One animates and the other remains static. They exist in a tension with one horizontal, the other vertical; one connected, the other separate. East and West Arabic calligraphy and Latin typography. These op–positions offer an opportunity not for privilege, but for an encounter without judgment or preconception.

The purpose of this article is not to discuss possible practical ways that Arabic and Latin typefaces can be used harmoniously together side by side, top to bottom, back to front, or in any other polar relationship. Designers have found ways to select typefaces, weights and styles so that the two languages appear compatible. They have configured layouts to allow the languages to operate individually while juxtaposed. Strides have been made toward im–proving the technical aspects of non-Latin typefaces and, in partic-ular, the problems created by the calligraphic aspects of Arabic.[1]

Instead, the purpose here is to explore the underlying ideas that contribute to the aesthetics and thinking behind these two languages in order to find new approaches to their application and use. Typography is more than legibility, and more than aesthetics. It is the search for greater power in the written word. It is the embod-iment of a culture's identity. It is the celebration of humanity.

"...During the nineteenth and twentieth centuries an as–sumption had been made that the Orient and everything in it was, if not patently inferior to, then in need of corrective study by the West."[2] This vision of reality promoted the differences between the familiar (the West) and the strange (the East) that then resulted in a polarization and the limitation of the human interaction between different cultures including their writing systems.

In order to work effectively within these writing systems, it is necessary to understand and accept their differences. Personal predilections and prejudices may interfere with the understanding of the perspectives of their respective practitioners. Only through an understanding of their richness and recognition of the benefits of their differences and variations, can we appreciate these writing systems.

The East and West hold different worldviews. The West is deeply committed to the idea that the real world is external to the observer and that knowledge consists of recording and classifying data as accurately as possible. The East has retained the belief that

1   Huda Smitshuijzen AbiFares, *Arabic Typography: A Comprehensive Sourcebook* (London: Saqi Books, 2001), 202–203.

2   Edward Said, *Orientalism: Western Conceptions of the Orient* (London: Penguin Books, 1995), 40–41.
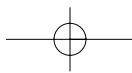
the real world is almost totally internal to the observer. Arab artists do not imitate the forms of the world that surround them, but instead express an idea in the mind; an ideal to become manifest; and a concept in which complexity, symmetry, and perfection are superior to nature.[3] Each of these orientations of the world permeates the respective languages and the forms in which they are written.

Languages themselves reflect their cultures and histories. Since Arabic has a sustained calligraphic tradition, predominantly used for religious purposes, its forms can be characterized as linear, musical, rhythmic, fluid, dynamic, decorative, individualistic, contemplative, mystical, and asymmetric.

Arabic calligraphy expresses the significance of timelessness with a marked sense of rhythm, and with endless repetitions and decorative patterns. The primary purpose of the pattern is to transform matter so that it loses its solidity and heaviness. The abstract nature of the designs is more significant than the material aspect.[4] Complexity is created to hold the reader's attention. Contemplation is encouraged; the reader delights in the intricacy. The illusion extends to infinity and the surface is seemingly dissolved. The surface of a page can have a transcendent quality which achieves a desired spiritual essence. The beauty of the world is ephemeral; and ornamentation is used to define and emphasize the functional which links the inside and outside.

Latin letters can be perceived as formal, impersonal, rigid, separate, symmetrical, static, grey, geometric, vertical and mechanical. Most of these characteristics complement technology and its more commercial applications. On the other hand Arabic calligraphy can be traced through an unbroken chain of masters each of whom labored countless hours in patient imitation of their predecessors.[5] The resulting elegance comes through this repetition in which a nearly mystical attachment binds the writing to the religion of Islam despite distances and cultures. Latin instead reflects Western thinking, with an emphasis on the individual, and with rewards for innovation and diversification, as well as concerns about efficiency, progress, profit, and production. It is concerned with legibility and clear communication. It was not until the early twentieth-century that Latin typography began to be used as a means of expression in which letters served as images and forms, independent of their linguistics.

Arabic uses letters as forms of great beauty, but also to communicate meaning. The formal content takes precedence over the meaning of language in such a way that distortions of the letterforms rarely effect legibility. In Arabic, the reader understands first, and then reads.

The real differences between the two scripts are in their technical and cultural developments in relationship to visual communication. Latin type made a clear separation from its calligraphic

3   Raphael Patai, *The Arab Mind* (New York: Charles Scribner and Sons, 1983), 68–70.

4   Jonas Lehrman, *Earthly Paradise: Gardens and Courtyards in Islam* (Los Angeles: University of California Press, 1980), 23.

5   Yanni Petsopoulos, *Tulips, Arabesques and Turbans: Decorative Arts from the Ottoman Empire* (New York: Abbeville Press, 1982), 169.
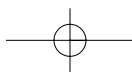
Figure 1
The meme logo was designed by George Deeb and Joanne Maouad for the end-of-year exhibition of the graduating graphic design students at Notre Dame University, Zouk Mosbeh, Lebanon in 2000. The intention was to combine the two languages which the students use daily, and which they decided was a *meme* of their culture. Since *meme* begins as an unfamiliar word to most people, the students took the liberty to integrate the Latin and Arabic. The Arabic equivalent of m is substituted for the Latin e, combining the two alphabets to create this logo. A series of posters, signage etc. also substituted the Arabic m for the Latin e to help the public to read and understand the play of letters, which literally would then be mmmm.
Reprinted with kind permission of George Deeb and Joanne Maouad. © Copyright 2000.

Figure 2
Sayyev was the logo for the Lebanese American University (Byblos Campus) created by Mia Baz for the graphic design exhibition in 2002. Here the students are playing on their idiosyncratic pronunciation of "save." They emphasize the vowel that is similar to a long e, and which reflects the way they say the word. In order to preserve readability, they kept the spelling of "save" the same as the English, but added the "ya." If this type combination were continued, it might evolve to eventually eliminate the silent letters such as the ending "e."
Reprinted with kind permission of Lebanese American University, Byblos. © Copyright 2002.

Figure 3
This is a very convincing combination of the two languages that are read in both directions simultaneously. It reads CNN in Arabic. Because the logo is recognizable as such, it does not take viewers any time to decode the Latin, thus enabling complete comprehension at once. ® 2003 Cable News Network LP, LLLP. An AOL Time Warner Company. All rights reserved.

The CNN Arabic logo developed by TBWA/RAAD Middle East/ Dibai under the art direction of James Rammal.
Reprinted with kind permission of CNN Arabic.com. © Copyright 2002.

Figure 4
Wadi is a display face designed by Halim Choueiry of Lebanon for the magazine *Comma*. He used aspects of an existing Arabic typeface as the basis for the Latin, which intentionally retains its Oriental influence. Reprinted with the kind permission of Halim Choueiry. © Copyright 2000.

tradition that permitted typography to develop on its own, along with the technological advancements of each era. Arabic calligraphy however, did not evolve into typography. Due to continued resistance, the spirit of creative experimentation has been ignored. Technical and aesthetic developments have been minimal and slow, resulting in Arabic typography as a mechanized version of calligraphy.[6] These contrary traditions could serve as obstacles that dictate that Arabic must follow the technical development used by the Latin or they might suggest freeing them from one another in order to allow them to work together in new ways to accommodate the needs of today's society—a society of mass consumption and commercialism.

Examples (figures 1-4) of recent work that were used in Lebanon illustrate fresh ways that Latin and Arabic can begin to in–tegrate English and Arabic in interesting directions. Obviously, these are not useful for all applications but they offer some innovative directions that could begin to liberate us from our self-imposed limitations.

6   Huda Smitshuijzen AbiFarcs, "Multicultural Trends in Typographic Design?" *Comma* Quarter 1 (January 2003): 8–13.

Bibliography

Huda Smitshuijzen AbiFarés, "Arabic Type in the New Millennium" www.arabictypography.com, May 10, 2002.

Lewis Blackwell, *20th Century Type: Remix* (London: Laurence King, 1998).

Werner Blaser, *West Meets East: Mies van der Rohe* (Basel: Birkhauser, 1996).

Robert Bringhurst, *The Elements of Typographic Style* (Vancouver: Hartley & Marks, 1996).

Arabic Calligraphy in Architecture, Islamic monument Inscriptions in the city of Tripoli during the Mamaluk period (Tripoli, Amini Bizii,1999.)

Johanna Drucker, *The Alphabetic Labyrinth* (London: Thames and Hudson, 1995).

Edward Hall, *Silent Language* (New York: Anchor Books, 1990).

Abdelkebir Khatibi and Mohammed Sijelmassi, *The Splendor of Islamic Calligraphy* (New York: Tanah, 1994).

Yasin Hamid Safadi, *Islamic Calligraphy* (New York: Thames and Hudson, 1978).

Annemarie Schimmel, *Calligraphy and Islamic Culture* (New York: New York University Press, 1984).

Users' Creative Responses and Designers' Roles
Kin Wai Michael Siu

The user-oriented approach, highly valued these days as a panacea for a successful design, still produces user-unfit designs. One reason for this is that user needs often are not seriously researched and addressed. Designers dealing with design problems related to the "public interest," such as public space and the furniture installed in it, tend to set up restrictive standards that may not meet the actual needs and preferences of the users. Moreover, designs related to public interest, are generally difficult to alter. Also, unlike product designs for individual uses, users of public space cannot exercise more choice in selecting products (in fact, they sometimes have no choice). Therefore, our objective should be designs with a high degree of "userfitness."

By borrowing the ideas of "reader-response theory" originally applied in literary studies, and using some empirical examples of user-modified designs, I will attempt to argue in this paper that users have their own preferences and their own creative ways (or tactics) for dealing with user-unfit designs. Instead of trying to foster "one-size-fits-all" designs on users, designers, especially those who generate designs for public use, should reconceptualize their role and see themselves as facilitators to allow more flexibility and opportunity for users to actualize designs and participate in the decision process.

The Designer as the Only Expert?
In Precisions on the Present State of Architecture and City Planning, Le Corbusier clearly demonstrates early modernist thinking about planning and design: "We all have the same limbs, in number, form, and size; if on this last point there are differences, an average dimension is easy to find. Standard functions, standard needs, standard objects, standard dimensions."[1] Besides categorizing all users as "average people," he also considers them to be donkeys who do not know where to go or what is good. He sees planning/design as an active force and the only means of distributing the benefits of the modern age to all. Thus, he claims: "My task, my search, is to try to save these men of today from misfortune, from catastrophes, to establish them in conditions of happiness, of everyday happiness, of harmony."[2] It is obvious that Le Corbusier sees planners as experts, and sometimes as the only experts who can provide true order in

1   Le Corbusier, *Precisions on the Present State of Architecture and City Planning* (Cambridge, MA, and London: The MIT Press, 1991), 108.
2   Ibid., vii.

cities. In short, he builds his ideal city, an ordered city, according to his physical construction, his configuration, his sense, and of course, his social values.

We cannot deny that Le Corbusier's modernist assumptions seem today to have been circumscribed by the limited perspectives of his own time, and some people have questioned the humanity of his concepts of planning and design. More and more designers have begun to consider the diversity of users.[3] However, is it enough for designers only to remember that they should design for diverse users? Unfortunately, many programs still train design students to work in a way that makes them the decision-makers. Users, especially those with little education, seldom have an opportunity to participate in the decision process. In other words, although one may regret Le Corbusier's modernist thinking and agree with the existence of human diversity, in the design process, the prevalent focus still is on designers. Quite a large number of designers still expect and believe that they are able to predict users' ways of operating, predetermine users' likes and dislikes, and then produce appropriate designs. However, the facts tell us that designers today still find that their ability falls short of their ambition. They cannot generate a design, especially a design for public use, to suit a broad range of users. The most discouraging thing to designers is that users' needs and wants continuously change.

Reader Response
The reader-response concept, which was advocated in literary studies in the late 1960s, give us a new perspective on users' preferences and, in turn, allows us to rethink the role of designers. According to "reader-response theory," a literary work is not an object which stands by itself and offers the same view to each reader in each period. Reading, like "using" in design practice, is not an identical process for everyone.[4] On the contrary, reading always is situated within specific conditions, and a rereading will actualize a different work.

Unlike traditional thinking in which the reader is passive, in reader-response theory, the reader is considered both an active participant in the text and a detached spectator of it. The reader has his or her subjectivity of individual interpretation. Although the text is produced by the author, neither author nor text can fully control the reader's response. It is the reader who brings the text to life, and thus brings the work into existence. Or rather, it is in the act of reading that meaning is realized. Reader-response shifts the formalist view of the text as a static, timeless, piece of language to the dynamic, temporal, and subjective stance of the responding reader.

A New Way to See Users' Ways of Operating
Although the idea of reader-response originally was used in literary research, the arguments provide us with valuable insight into how users interact with designers and designs. In fact, more designers

3   Pat Jordan and William Green, *Human Factors in Product Design: Current Practice and Future Trends* (London; Philadelphia, PA.: Taylor and Francis, 1999); Molley F. Story, James L. Mueller and Ronald L. Mace, *The Universal Design File: Designing for People of All Ages and Abilities* (North Carolina: North Carolina State University, 1998); Larry E. Wood, *User Interface Design: Bridging the Gap from User Requirements to Design* (Boca Raton, FL.: CRC Press, 1998).

4   Elizabeth Freund, *The Return of the Reader: Reader-Response Criticism* (London; New York: Methuen, 1987); Wolfgang Iser, *The Act of Reading: A Theory of Aesthetic Response* (London: Routledge & Kegan Paul, 1978); Hans R. Jauss, *Aesthetic Experience and Literary Hermeneutics* (Minneapolis: University of Minnesota Press, 1982); Walter J. Slatoff, *With Respect to Readers: Dimensions of Literary Response* (Ithaca, NY: Cornell University Press, 1970); John Storey, *Cultural Consumption and Everyday Life* (London, New York: Arnold; Co-published by Oxford University Press, 1999).
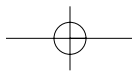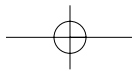
and scholars have considered the "user" in a similar way to that in which the reader is interpreted in reader-response theory, although the term is not explicitly quoted. For instance, in Good City Form, Kevin Lynch considers the user(s) as a person or group of persons experiencing a work of architecture or city design in his, her or their own way.[5] In The Condition of Postmodernity, David Harvey sees the user of a built environment as an "escapee" whose practices are not completely determined by the built form.[6] In The Design of Everyday Things and The Practice of Everyday Life: Living & Cooking, Donald Norman and de Certeau, et al. also remind us of users' diverse and individual practices, and ways of interpreting designs.[7]

Similar to the idea of the incompleteness of a text, we can say that a design has no real existence until it is used. Thus, it is the participation of the individual user that gives a design its meaning. In other words, a user may be seen as a design's true producer, who actualizes the design by filling in its gaps or indeterminacies of meaning. This kind of user creation and participation can be called an act of production.

An example is the footbridges in Hong Kong which were designed only for pedestrian traffic. However, the fact is many of these bridges have been redefined as social gathering places by housewives, as resting places by older people, as business places by hawkers, as playgrounds by skateboarders, as a scribble-canvas by youngsters, as homes by beggars, and so on. All of these people produce and redefine the meanings and functions of the footbridges when they use them. Some people do not even care about their original predetermined/assigned meanings and functions, and in some cases, such as when salesmen set up temporary booths on the bridges to promote their products, their new defined meanings and functions go against the original intentions of the designers.

As another example, in order to promote Chinese traditions and healthy habits, and to discourage card games and gambling in public places, the Hong Kong government has built many concrete chess tables in the city's parks and playgrounds since the 1980s. However, the fact is that many older persons continue to play cards (gambling a small amount of money) in the parks and playgrounds, as before. Although these tables are used, their meanings and functions are different from those intended by the designers and policy-makers. The tables only provide the older people with more available and convenient places to gather and play cards.

The use of new exercise facilities in parks and playgrounds is another good example illustrating users' responses. Originally, the government imported the facilities (including, racks, bars, slides, and frames), as well as the objectives behind them, from foreign countries in order to promote a healthy life-style for Hong Kong residents by encouraging daily exercise. However, these kinds of facilities are not used as planned all the time, and eventually some of them have become racks for people to sun-dry their quilts, winter

5   Kevin Lynch, *Good City Form* (Cambridge, MA; London: The MIT Press, 1981).

6   David Harvey, *The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change* (Oxford, New York: Blackwell, 1989).

7   Donald A. Norman, *The Design of Everyday Things* (London: The MIT Press, 1998); Michel de Certeau, Luce Giard, and Pierre Mayol, *The Practice of Everyday Life: Volume 2: Living & Cooking* (Minneapolis, London: University of Minnesota Press, 1998).
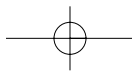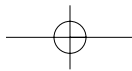
Figure 1
A small sitting-out area in Hong Kong. In public space, sitting is not only a physical activity, but also a social activity. People like to use street furniture in their own ways. (All photographs courtesy of the author.)
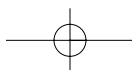

Figure 2
A children's playground in Hong Kong. We can always see many older people doing their morning exercises like this. They climb on benches, play-structures and sometimes steep slopes. They like to invent obstacles to their own liking for excitement.

Figure 3
An underground walkway in a new town of Hong Kong. In planning, subways are only designed for circulation. However, many homeless people like to use these places as their homes, drug-takers as their havens, young people as their graffiti studios, and hawkers as places to earn their living.
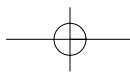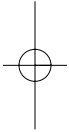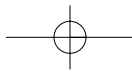
Figure 4a
An old market street in Hong Kong. Some small stalls (metal-shell pitches) were built along the sidewalks and the roadway in the 1970s. The stall owners liked to extend their areas, sometimes even blocking the movement of the trams. (Source: Hong Kong Urban Council)


Figure 4b
The traffic of the street is relatively busier today and the government has cleared away some of the stalls as part of its plans for urban redevelopment. The stall owners still like to use the roadway not only as a place to earn their living but also as their home. They use chairs collected from garbage collection points to construct their own boundaries, and are able to invite their neighbors to sit down and chat for a while.
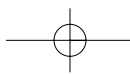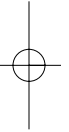
Figures 5a-c
Chinese people traditionally believe that sun-drying quilts and winter clothes is the best way to kill germs. At every change of season in Hong Kong, many playgrounds on public housing estates look like laundry places rather than places for ball games. On sunny days, instead of using the facilities for exercise, many people (especially in public housing estates) like to use them to sun-dry their quilts, clothes (even underwear) and sometimes salt-fish, dried food, herbs and Chinese medicine.
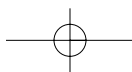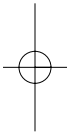
clothes, and sometimes even salted fish. (Chinese people tradition-
ally believe that sun-drying quilts and winter clothes is the best way
to kill germs. Even though many laundries nowadays offer quilt-
washing and other such services, many housewives and older
people still like to dry their quilts and clothes in the sun, particu-
larly in the period of transition between the seasons.) Today, since
this kind of drying practice is widespread and almost impossible to
stop, some of the housing management offices have compromised
by allowing specific timeslots for people to dry their quilts and
clothes on these facilities. Therefore, at every change of season in
Hong Kong, many playgrounds on public housing estates look like
laundry places more than places for ball games.

     In short, all of the designs mentioned above redefined by the
active participants (users) in ways that were different from those of
the designers, planners, or policy-makers.

     It should be noted that the object of this paper is not to
devalue either professional designers or their designs. However, it
should be noted that users expect and act differently, and sometimes
contradictorily, to designers' expectations and decisions. When we
review current designs and plans, particularly those claimed to be
designed and planned in the public interest, professional designers
and public officials frequently employ various strategies to get users
to follow the predetermined modes of practice. However, on the
contrary, users do not always follow exactly what the professionals
decide and expect. This kind of response in de Certeau's words, is a
"reception," "tactic," or "creative act." This means that users, partic-
ularly deprived groups and poor people, seldom act directly against
the policies given, defined, and designed by the professionals. Most
of the time, it's just that users' ways of interacting with the provided
designs are simply difficult to predict.[8]

A New Perspective on Designers' Roles
As mentioned at the beginning of this paper, more and more design-
ers are recognizing the diversity of users' needs and wants.
However, I question whether or not users' needs and wants can be
satisfied without understanding how they operate. Thus, this paper
proposes that we shift our attention from the designer and the
design to the user. This shift of attention is not intended to devalue
design, since designers still need to play an important role. Nor
does this shift of attention only mean recognizing the diversity of
users' needs and wants.

     First, designers must recognize that they should not, and are
not able to, make decisions for users. This means that they should
not impose their value judgments on users. Most major products are
tested extensively these days. Manufacturers also heavily invest in
market research to discover what consumers want, like, and need,
and develop new products accordingly. Similarly, many designs of
products and systems, especially those used in the public environ-

8   Kin Wai Michael Siu, *The Practice of
     Everyday Space: The Reception of
     Planned Open Space in Hong Kong* (Ann
     Arbor, MI: UMI, 2001).

ment, such as urban plans and street furniture, must incorporate users' diverse individual and cultural needs. Policy-makers, planners, and designers should make decisions only after careful and serious consideration of the particular needs and preferences of different user groups, particularly those of the minority groups.

Second, in parallel with recognizing that they should not and cannot make arbitrary decisions for users, designers also should recognize that users have the right to actualize and modify designs to make them more suitable, to their needs and desires.

Based on these two recognitions, there are two alternatives which designers should seriously consider: (a) allowing more "gaps" for users to fill in, and (b) encourage user-participation in developing designs. Allowing more gaps means that designs should offer more flexibility, and encourage users to modify them. For instance, in designing a community park, or public space furniture, the design with the highest degree of userfitness is the one which allows and encourages residents to voice their preferences, and to make modifications to fit their community and individual needs.

However, even providing more gaps for users to fill still puts them in a somewhat passive role, since the degree of user influence still depends on the designers' decision and providence. How then should the design process change to become more user-autonomous? Among the various design approaches and processes, "user participation" (also known as "participatory design") is one of the best. As its name suggests, user participation allows users to engage in the design decision-making process. This opportunity to participate not only results in better user-fit solutions, but also an increased sense of having influenced the design decision-making process, as well as an increased awareness of the consequences of the decision made.[9] This is not very obvious if the design is just a product for a small number of people in a particular group or social class. However, it is very significant if the design involves a more diverse and greater number of users. Moreover, in some designs related to the public interest, such as the design of a playground or a set of street furniture for a public housing complex, user participation also promotes a sense of community by bringing together people who share common goals. To designers, participatory design provides more relevant and up-to-date information. Creating a methodological framework enables the use of rational decision-making methods without affecting the creative process.[10] In short, user-participatory design means different things to different users, and even to the same users, depending on the issue, its timing, and the environment (physical, cultural, social, political, and also religious) in which it takes place.

According to Henry Sanoff, we can categorize user participation in seven major forms: representation, questionnaires, regionalism, dialogue, alternative, co-decision, and self-decision.[11] Representation is a form of design in which the designer represents the

9   Randolph T. Hester, *Community Design Primer* (Mendocino, CA: Ridge Times Press, 1983); Henry Sanoff, *Integrating Programming, Evaluation and Participation in Design: A Theory Z Approach* (Aldershot, Hampshire: Avenbury, 1992).

10   Henry Sanoff, *Community Participation Methods in Design and Planning* (New York, Toronto, Singapore: John Wiley & Sons, Inc., 2000).

11   Henry Sanoff, *Integrating Programming, Evaluation and Participation in Design: A Theory Z Approach* (Aldershot, Hampshire: Avenbury, 1992), 61–62.

anonymous user through a personal and subjective interpretation of the user's situation. The use of questionnaires consists of the statistical gathering of a user group's requirements, and is an indirect form of participation by an anonymous group of people. Distinct from questionnaires, regionalism considers the specific cultural heritage within a geographically limited area, such that this form of participation directs itself towards the symbolic qualities of a group of users (for instance, a specific community). Dialogue (also called consultation) is based on the concept of using users' knowledge as a source of information, and asking users to comment on the designer's proposal while the design is in progress. It can be considered as a form of two-way communication between user and designer. Most of the time, in this form of participation, the designer reserves the right to make the final decisions. The alternative is a form of participation that goes a step further in involving the user in the design process with the designers. It is based on a process whereby users are given the choice of several alternatives within a fixed set of boundaries. Co-decision is a method of participation that involves participation in a balanced decision-making situation. It involves the population from the beginning of the design process, and aims at the direct and active participation by users. As its name indicates, self-decision is when a decision is made by the users themselves.[12] Obviously, if a design with a high degree of userfitness is desired, co-decision and self-decision should be the forms of user participation most often used by designers.

Third, a high degree of user participation does not imply that designers do not need to do anything or should be ignored. In fact, this misconception also is one of the reasons why so many designers still expect to retain the exclusive right to make decisions. On the contrary, in user-participation design, designers should adopt two important roles actively. The first is as coordinators, gathering together different interested groups and professionals, and then as facilitators, assisting users in participating, modifying, experiencing, creating, producing, and actualizing the design.[13] We should note that advocating increased user participation, as well as considering users' responses, does not intend to disregard design and the professional role and responsibility of designers. In fact, users (especially those with little education) generally are passive when it comes to voicing their opinions at the outset, cannot be relied upon to initiate and coordinate any movement to improve the designs that affect their lives. Therefore, designers should work closely with the various interested and potentially impacted groups (users and professionals such as social workers, landscape architects, and product engineers), and facilitate a supportive environment for working together. During the participation process, designers should give users the opportunity to (a) identify their needs and preferences, (b) set goals, (c) voice their ideas and opinions, (d) make decisions, (e)

12   Ibid.
13   Ann M. Gibson, *'If Only They'd Asked Us!'—Achieving Effective Participation in the Design Process* (London: National Federation of Housing Associations, 1990); Chu-joe Hsia, "Urban Process, Urban Policy, and Participatory Urban Design," in *Space, History and Society,* Chu-joe Hsia, ed., (Taipei: Taiwan Social Research Studies—03, 1993); Stanley King, *Co-Design: A Process of Design Participation* (New York: Van Nostrand Reinhold, 1989).

be involved in the implementation (if possible), (f) evaluate the outcomes, and (g) set up a mechanism to follow up on post-occupancy conditions.

The second role of designers is to explore the diverse backgrounds, beliefs, needs, wants, preferences, and satisfactions of people, since this kind of feedback can help them to better understand users and, in turn, enhance their participation.[14] Designers can no longer hide themselves in studios. They need to conduct more empirical research. For instance, it is impossible to understand users' responses to a living environment simply by conversing with them in an office. Even users themselves often do not know how to articulate their dynamic, temporal, and subjective feelings on a designed object, and the needs, hopes, and fantasies of their everyday lives. Therefore, besides reviewing documents and talking with users, understanding users' responses in a design environment also should be based on in-depth observations and an analysis of the users environment. Users and their behaviors are the long-term products of their evolution and culture.

The designer's job no longer is to produce finished and unchangeable solutions, but to develop solutions from continuous two-way communication with those who will use his or her work. The energy and imagination of the designer should be directed towards raising users' level of awareness about design choices. This means that the final design should arise from the exchanges between designers and users: (a) the designers provide opinions, professional advice, and discuss the consequences of various alternatives, and (b) users give their opinions, and contribute their practical experience.

In summary, this paper attempts to show that user-oriented design is successful only when designers do not think of themselves as the only experts, and when they do not impose their mandatory designs on others. They should respect the value of users' input to the design process. The main concern of designers should be what actually happens when someone uses their design, for that is the ultimate measure of every design's worth.

Acknowledgements

14   Kin Wai Michael Siu, "A New Focus in Design Education: Providing a New Perspective for Students to See 'Users,'" in *International Conference Proceedings: Re-inventing Design Education in the University* (Dec 11–13, 2000), edited by Cal Swann and Ellen Young (Perth: School of Design, Curtin University of Technology, 2000), 335–340.

Rememberances of Philip B. Meggs

Upon learning of the death of Phil Meggs and, after the initial shock had passed, I was moved to recollect memories about him and the special times we shared together over the years. Looking back, I ask myself what qualities were special about him and what words best characterize him:

He was a consummate scholar and master teacher to all who knew him.

I have always felt a special connection to Phil as our careers were parallel in teaching and in the sharing of our common passion for knowing and interpreting the history of our field.

He was always unselfishly ready and willing to contribute his knowledge in any setting.

I remember his enthusiasm in participating in our RIT design history symposium in 1983 and how much his presence added to the program.

He helped to make graphic design a recognized profession by creating the first and most comprehensive history of the field.

I remember the excitement when I first learned that, at last, there would be a definitive book which would detail the history of graphic design.

He wholeheartedly supported design history initiatives by others.

I recall the joy we shared at the 1983 RIT Design History Symposium when Phil proudly brought his freshly printed first edition of A History of Graphic Design. His timing was flawless. I use this book every day.

He believed in the importance of graphic design history for students, teachers, and practitioners.

For me, when teaching courses in design history, it is nearly impossible not to mention Phil and his work, not to quote him or not to recommend A History of Graphic Design. Like a select few other historians Phil, through his work and teaching, became an important part of the emerging history of graphic design himself a "legend in his own time" and, as it were, he deserved it.

He was a pioneer in graphic design education, giving all of us an historical resource of immense value.

At the founding of the fledgling Graphic Design Education Association, I remember how honored I was to be sitting beside him at the early board meetings and how I looked forward to learning from him and working with him in that setting.

He was a leader and a visionary well ahead of his time; in what he did, he had no equal.

I have felt that Phil's great knowledge of design history gave legitimacy to the endeavor of studying the history of graphic design.

He was a role model for professionalism.

I have long felt that his exceptional work supported advocacy for graphic design as a profession.

*He was an individual who exuded integrity in everything he touched.*

Phil's very presence added to any collegial dialogue. When he spoke something substantive was contributed.

He was my idea of the true Southern gentleman.

The last time I saw Phil was several years ago when I was asked to visit VCU and do a lecture there. Phil made me feel very much at home as we shared common anecdotes. Especially vivid in my memory were the warm welcome, the brunch with the Meggs family, the pleasant camaraderie of the day and the feeling of being among kindred souls.

In my own work, when interviewing many design pioneers, I always conclude by asking them how they would like to be remembered. Consistently this question brings forth dramatic and even poetic replies. For example, Paul Rand's answer was impressive because all he said was, "I want to be remembered as someone who did good work." Since Phil was of a younger generation, I never asked him this question but, if permitted here, I can speculate on what kind of answer he would have offered. He might have said..."I want to be remembered as a good teacher who knew his stuff."

R. Roger Remington
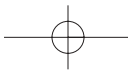
Hybrid Form
Kostas Terzidis

Morphing is a term used to describe a process in which an object changes its form gradually in order to obtain another form markedly different in appearance, character, condition, or function.[1] Familiar to most people as a cinematic device, in the movies morphing involves screen-based apparent rather than actual or substantive changes on the form itself. However, the significance of morphing for contemporary design discourse is not confined to cinematic special effects. Morphing is a powerful formal device that embodies one of architecture's most existential struggles: to express and identify itself through its own form. A distinctive characteristic of architecture is that it is both dynamic and static. It is dynamic when viewed as the design process which has its roots in historical precedents of culture and the arts, and which manipulates entities, that typically are of an elastic character. It becomes static when it has to freeze at a certain state so that it may be built. In other words, architecture is static when viewed through individual buildings. It is dynamic when these buildings are viewed as instances of a continuum, which derives from the past and projects into the future. In its dynamic stage, morphing involves transition, progress, continuity, interpolation, and evolution. In its static stage, it involves expression, connotation, mixing, combination, and bonding. Surprisingly, in architecture, morphing is not about change, but instead about a particular moment in time when the past and the future overlap within the same form. It involves transitional continuity and dynamic stasis. The identifiable characteristics of morphing are both unified multiplicity and intermediate distinctiveness. The architectural implementation of morphing suggests geometrical and topological transitions. Such processes involve operations that affect the geometry of a form, while preserving its topology. Morphing is the interconnection between seemingly disparate entities. In its dynamic stage, it is the struggle to connect the unconnected, dissimilar, unrelated, and unalike. In its static stage, morphing is the bond between the past and the present. It embodies a formal definition of reminiscence in its most primitive and primordial state.

The process of morphing differs from the biological process of metamorphosis. While metamorphosis is the change in the form, and often function, of an animal during normal development after the embryonic stage, morphing is a man-made, artificial process of mapping between often unrelated entities. The transformation of a maggot into an adult fly, or a tadpole into a frog, follows natural biological laws. In contrast, morphing follows artificial rules. It is

1   An extensive introduction to morphing and warping for computer graphics is given by Jonas Gomez, ed. *Warping and Morphing of Graphical Objects* (San Francisco: Morgan Kaufmann Publishers, 1997).
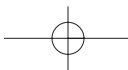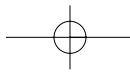
the simulation of a mathematical interpolation. Thus, it appears to be a process of magic or sorcery, and the effects often may look strange, awkward, or surprising.

Recent theories of form in architecture have focused on topological geometry. They refer to "smooth spaces described by continuous yet differentiated systems resulting from curvilinear sensibilities that are capable of complex deformations in response to programmatic structural, economic, aesthetic, political, and contextual influences." [2] *A topological transformation, or a homeomorphism, of one figure into another is described as a bi-univocal and bi-continuous correspondence between the points of the respective figures maintaining the connection and vicinity of the points of the figure.* [3] *Topological operations involve folding, stretching, and compressing, but not tearing or cutting. Topology may be regarded as the unifying force that preserves the integrity of an indefinitely changing geometry.*

In this context, architectural morphing preserves the topological integrity of the objects involved, that is, an object changes into another object as a single entity. A cube, for instance, may be gradually transformed into a pyramid. From the viewer's point of view, there are always two objects: the "original" (or source), to which the transformation is applied, and the "destination object" (or target), which is the object one will get at the final step of the transformation. However, theoretically, there is only one object, which is transformed from one state (original) into another (destination). This object combines characteristics of both parent objects, which are involved in the transformation and is called the "hybrid object." This object actually is composed of the topology of the one object and the geometry of the other. It is an object in disguise. Although it is topologically identical to the one parent, it resembles the geometry of the other parent.

Interpolation is a method for estimating values that lie between two known values. The hybrid object derives its structure from its parents through formal interpolations. While it is easy to derive hybrid children from isomorphic parents, a challenge arises for heteromorphic parents. In an isomorphic transformation, a one-to-one correspondence applies between the elements of the two parent sets such that the result of an operation on elements of one set corresponds to the result of the analogous operation on their images in the other set. In the case of heteromorphism, the lack of homogeneity among the parents necessarily leads to a selective process of omissions and inclusions of elements between the two sets. The guiding principle in this mapping process is the preservation of the topological and geometrical properties of the hybrid object. For instance, in the case of a square mapped to a triangle, the addition of a fourth point to the triangle preserves the topology of the square and yet, its disguised location, preserves the geometrical appearance of the triangle.

2   This is Greg Lynn's interpretation of Gilles Deleuze's *The Fold: Leibniz and the Baroque* and Rene Thom's catastrophe diagrams. See Gregg Lynn, "Architectural Curvilinearity" in G. Di Cristina, ed., *Architecture and Science,* (Chichester: Wiley Academy, 2001), 27.

3   See G. Di Cristina, "The Topological Tendency in Architecture" in G. Di Cristina, ed., *Architecture and Science,* 7.
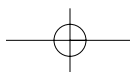
Figure 1

In the case of a square mapped to a triangle, the addition of a fourth point to the triangle preserves the topology of the square and yet, its disguised location, preserves the geometrical appearance of the triangle.

What makes morphing problematic for architects is that they have maintained an ethos of accumulative progression during the design process. Because of the artificial nature of design, architects traditionally follow an additive build-up approach. By contrast, morphing is a process of homogeneous transition. No elements are added or subtracted from the scene. Hybrid design is an alternative to the incremental design approach, which starts with components and builds towards increasing complexity as, for instance, building blocks. Instead, it starts with complex models or constructs, which get compared and transformed from one into the other. This allows an architect to impose a new condition or configuration on an existing design, create an evolution from one design to another, or explore the implications of contrasting design positions.

Traditionally, in architecture, skeletal shapes are used as abstract organizational schemes for the analysis or synthesis of buildings. These gestalt shapes are commonly known as "partis." They are symbolic configurations or patterns of elements so unified as a whole that their properties cannot be derived from a simple summation of their parts. The formal value of these shapes is tremendous since they not only describe the organizational structure of the building but also express in diagrammatic terms certain archetypal ideas and values associated with the theme of the building.[4] In partis, enclosure, balance, direction, rhythm, hierarchy, and symmetry are depicted through the use of Euclidean shapes and geometrical configurations. A parti is not only a descriptive underlay, but also a symbolic manifestation. As the hybrid form strives to express itself through its parents' identity, a challenge arises in the selection of the parents. If partis are used as parents, then hybridization will occur between these archetypal shapes. The process of interpolation becomes the connecting bridge between interpretations. For instance, morphing a foursquare parti into a circle is not about four shapes that merge into one, but rather about the concept of hard, sharp, and equilateral changing into the soft, smooth, and concentric. The more the contrast between the parents, the higher the chances are for the hybrid form to juxtapose, cross-pollinate, and emerge.

One of the main differences of morphing, as it compares to deformation, is in the duality of its identity. Deformation is understood as change relative to an initial state. As a point of reference, an archetype is needed to assess the degree of deformation. However, as the deformation persists, form reaches a threshold beyond which it becomes "unrecognizable," meaning that it is impossible to asso-

4   Handbooks such as Francis D.K. Ching's *Architecture: Form, Space and Order* (New York: Van Nostrand Reinhold Publishing, 1979) and R. Clarke and M. Pause, *Precedents in Architecture* (New York: Van Nostrand Reinhold, 1985) are also useful sources for establishing a foundation of architectural abstraction, a foundation, like all foundations, to build upon, and to exceed. Also see Rudolph Arnheim, *The Dynamics of Architectural Form* (Berkeley: University of California Press, 1977).

ciate it with its pivotal archetype. That is not the case in morphing. In fact, as the interpolation persists, the hybrid form oscillates between the identifiable shapes of its parents, allowing comparisons to be made at any point. This formal atavistic property is very important, because it becomes a means of expressing change through form itself, and not through juxtaposition. The duality of its identity is a unique compositional and unifying theme of the hybrid form.

In the interpolation process, a mapping applies between the elements of the two parent sets such that, the elements of the one set correspond to their images in the other set. Practically, multiple mappings can be constructed between the elements of the two sets. For every element in one set, any element of the image set can be mapped. While certain mappings appear to be more "natural" than others, every mapping is a valid transformation between the two parent sets. A "mutation" is an unexpected alteration to the hybrid's structure resulting in the creation of a new character or trait not found in the parental type. Mutation is an alteration that occurs during the creation process, and certainly not after. Since the creation of hybrid forms involves parents and mappings, a mutation may be defined as an "abnormal" mapping. The value of mutation is important since it represents a deviation from the ordinary, the common, and the predicted. It is about the exploration of alternatives, missing links, and new traits. A mutation has a high formal value, because it is associated with controversial interpretations. What appears to be a monster also may be worshipped as a god.
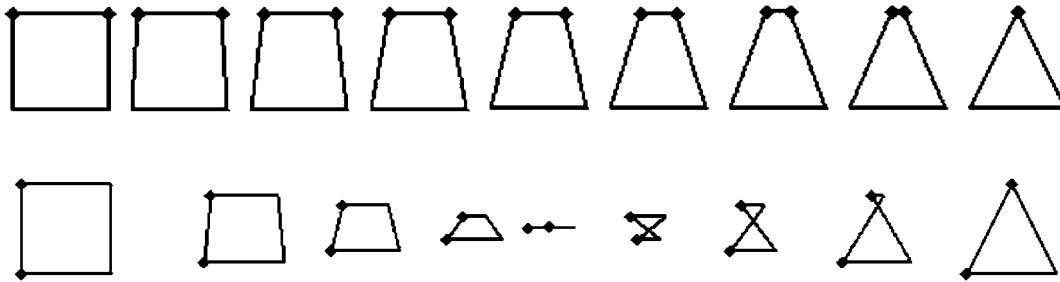
Figure 2
A "normal" (above) and an "abnormal" mapping (below).

The term "extrapolation" is used to describe the method of inferring or estimating by extending or projecting known information. By assuming that estimated values follow logically from known values, extrapolation estimates values outside a known range from values within a known range. Extrapolation is similar to interpolation. The method is the same, except the range of jurisdiction is antithetical. Because extrapolation is a logical extension of a known process, its formal value is not instantly understood. While interpolation is about middle ground, average, transition, and oscillation, extrapolation is about inversion, reversion, extension, and extremeness. Extrapolation represents a gateway to infinity. It is the starting point of inverted logic, in which the one parent is present
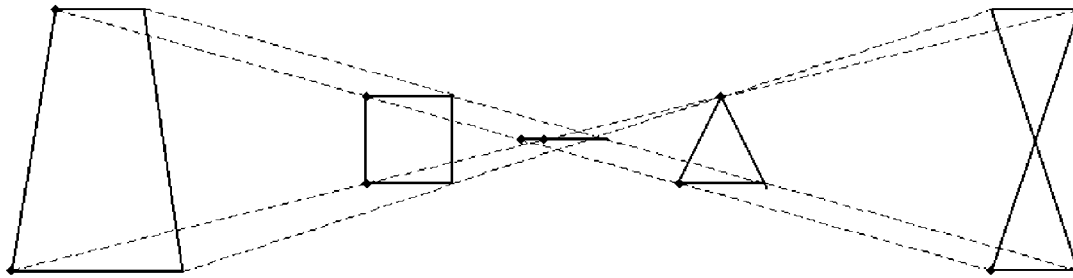
through its mirror image. The extrapolated form still is a hybrid. It may appear awkward, and yet it is perfectly consistent within the morphing scheme. In fact, the child of two extrapolated parents is identical to that of two normal parents.

If architecture is to approach morphing as an alternative de–sign method, its design technologies also should incorporate factors of time and change. The power of computation is in its ability to extend the human mind, and set the stage for experimentation into the unknown. The processes of interpolation and extrapolation are essentially mathematical processes and, as such, they can get codified into quantitative methods. In contrast, manipulations, evaluations, and combinations of these processes are qualitative processes and, as such, can be handled by the architect.

As a design tool, the process of morphing can be implemented within existing computer-aided design systems. "Orchestration" is a term used to describe the actions of selecting, assigning, directing, and evaluating the performance of objects which participate in the morphing process. Transformations can happen concurrently or at a different pace. The result is a truly dynamic design space, the behavior of which becomes the responsibility of the architect. As in an orchestral performance, the architect/composer selects a number of objects to participate, assigns the proper paths and momentum for each one, and then directs the performance through time, form, and color.[5]

A challenging point is the fact that this new aesthetics is about the unknown, the unpredictable, and the unforeseeable. It requires the cooperation of two brains: that of the human and the computer because without one another it is impossible to plan or execute the hybrid objects. Most important of all, they lead to the creation of computational schemes, which are available for experimentation, analysis, or play across disciplines. The hybrid object contributes to our understanding of aesthetics, and creates a new dimension of how it may change our perception. It also brings up a social point: who is the creator? How will it change our perception if science and mathematics can be merged into the creative process?

[5] One of the first attempts to use morphing in architecture was reported by Terzidis in 1989. Its intention was to introduce the hybrid object as an architectural parti. It is worth noting that the word "morphing" was invented later. See K. Terzidis, "Transformational Design," *ACADIA Proceedings* (1989).