

[Design Issues, Volume 18, Number 3 \(July 1, 2002\)](#)

1 [Introduction](#)

Richard Buchanan, Dennis Doordan, Victor Margolin.
Introduction. *Design Issues*, Volume 18, Number 3 (July 1, 2002), pp. 1-2

3 [Designing Product/Service Systems: A Methodological Exploration1](#)

Nicola Morelli. Designing Product/Service Systems: A Methodological Exploration1. *Design Issues*, Volume 18, Number 3 (July 1, 2002), pp. 3-17

18 [Cultures, the Traditional Shadow Play, and Interactive Media Design](#)

Oguzhan Özcan. Cultures, the Traditional Shadow Play, and Interactive Media Design. *Design Issues*, Volume 18, Number 3 (July 1, 2002), pp. 18-26

27 [Characterizing the Inhabitant in Robert Kerr's The Gentleman's House, 1864](#)

William M. Taylor. Characterizing the Inhabitant in Robert Kerr's The Gentleman's House, 1864. *Design Issues*, Volume 18, Number 3 (July 1, 2002), pp. 27-42

43 [Design in Search of Roots: An Indian Experience](#)

Uday Athavankar. Design in Search of Roots: An Indian Experience. *Design Issues*, Volume 18, Number 3 (July 1, 2002), pp. 43-57

58 [HALO Communication Booth1](#)

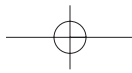
Lance Hosey. HALO Communication Booth1. *Design Issues*, Volume 18, Number 3 (July 1, 2002), pp. 58-61

62 [Interactive Aesthetics](#)

Audrey Bennett. Interactive Aesthetics. *Design Issues*, Volume 18, Number 3 (July 1, 2002), pp. 62-69

70 [Okuwangaala: The Persistent Vitality of the Vernacular](#)

David Stairs. *Okuwangaala: The Persistent Vitality of the Vernacular* *Design Issues*, Volume 18, Number 3 (July 1, 2002), pp. 70-88



Introduction

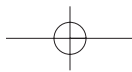
One of the tasks of design studies is to gather, interpret and relate the diverse learnings that emerge from design in local cultural circumstances around the world and explore their significance for broader design theory and better informed design practice. Taken together, the essays in this issue of the journal help us to face that task. They offer novel perspectives on important issues faced by designers and design scholars, alike, as we explore design as a cultural art.

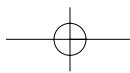
The essays explore three important dimensions of design as a contemporary cultural art. The first dimension is the manner of production, ranging from individual craft production to industrial mass production and mass communication. The second dimension is the diversity of designed products, ranging from graphic communications and artifacts to human interactions and complex human-created systems. The third dimension is the complex interrelation of time in the field of design, ranging from historical investigations of the past, to critical assessments of the present, to speculation about the future. We invite readers to study and compare the articles with these dimensions in mind.

In the opening essay, Nicola Morelli discusses the extension of design methods to treat product and service systems. Morelli notes that such systems have already been widely discussed in the disciplines of management and marketing but that designers are increasingly invited to share their own innovative insights into the problems that such systems are intended to address. This article focuses on a matter that concerns a growing number of designers today.

In the next essay, Turkish designer and design educator Oğuzhan Özcan discusses the world tradition of shadow plays and the possible relevance of that tradition for the design of new interactive media products. His essay reports exploratory educational projects conducted in the interactive design program that he established at Yidiz Technical University in Istanbul. The essay is intriguing in itself, but it also illustrates how a case study in educational practice may be given context in local culture and made accessible and significant for a wider audience.

Contemporary design practice in most branches of the field now recognizes the ethical and practical responsibility of thinking carefully about the intended user of a product. The roots of this recognition in the sphere of domestic living may be traced to diverse works in the nineteenth century. To demonstrate this point,





William Taylor provides close reading of a nineteenth-century book, “The Gentleman’s House.” This book presents a strong and explicit formulation of the role of careful planning in domestic architecture, based on the needs, interests, and behavior of the intended inhabitant. We include this essay because of its insightful use of history to illuminate its proximate subject and the perspective it brings to contemporary design practice in many branches of the field.

The next essay shifts our perspective from nineteenth century England to post-colonial India. Uday Athavankar presents an important account of the development of industrial design in post-colonial India, from the events surrounding independence to the beginnings of the design profession in the 1970s to the issues of globalization that now face the design community. The story is relevant for understanding design not only in India but in other developing nations, particularly those which once were colonies. It ends with some lessons for the global design community.

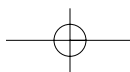
From time to time, the journal publishes visual essays that are of general interest to our readers. The HALO communication booth is such an essay. Lance Hosey briefly discusses the role of glass in design and then presents his entry in the Archinet competition of fall 2001.

In “Interactive Aesthetics,” Audrey Bennett discusses the problem of developing graphic design solutions that cross cultural boundaries, where the visual language of the designer initially may not be understood by an audience from another culture. She offers a method for facilitating remote participation in an evolving graphic design process—in essence, a form of co-designing.

In the final essay, “Okuwangaala,” David Stairs discusses design and the persistence of the vernacular in Uganda. He gives a fascinating portrait of a country that is remote from the consciousness of many in industrially developed countries but where people have found their own way with and without high technology.

We conclude with reviews of three books: *Aluminum by Design*, by Sarah Nichols and colleagues, reviewed by Jeffrey Meikle; *Clean New World: Culture, Politics and Graphic Design*, by Maud Lav-in, reviewed by Teal Triggs; and *Thinking Design* by Singanapali Balaram, reviewed by Adam Kallish.

Richard Buchanan
Dennis Doordan
Victor Margolin



Designing Product/Service Systems: A Methodological Exploration¹

Nicola Morelli

1 Introduction

In this age of globalization and information technology, corporate strategies are more and more challenged to bring production in line with complex demands, which requires a substantial shift from the production of goods to the provision of knowledge-intensive systemic solutions.² Such solutions usually consist in a system of products and services.³ Given their strategic business relevance, such solutions have rightly been widely discussed in the management and marketing disciplines.

In the design discipline, however, the methodological implications of product/service systems rarely have been discussed even though design components play a critical role in the development of PSS.

While it is true that designers' activities usually have focused on material artifacts (whether industrial products, spaces, or architectures), rather than on systemic solutions including services, it also is worth remarking that PSS often are marketed as products,⁴ and several aspects of the development of such systems are related to the discipline of design, from the analysis of technological potentials to the investigation of users' behavior and attitudes with respect to new products, technologies, and services. Above all, a design approach would substantially contribute to the interpretation of emerging cultural and social patterns, and to the translation of such patterns into a consistent and visible set of requirements for the definition of future PSS.

On the other hand the involvement of designers in the development of PSS would require an extension of designers' activities to areas previously covered by different disciplinary domains. Therefore, new methodological tools are required in order to support the design process.

This paper explores the disciplinary domains that may offer methodological suggestions for the design of PSS. The first part of the paper focuses on the design of PSS from a designer's perspective, emphasizing the role of designers in developing innovative PSS. The second part outlines methodological tools that can be used when dealing with specific aspects of the design activity focused on PSS.

-
- 1 This paper is one outcome of the investigation for a research project named TeleCentra funded by the Australian Research Council (ARC) within the Strategic Partnership with Industry, Research and Training (SPIRT) program. The project was coordinated by the author in cooperation with Assistant Professor Liddy Nevile, Melbourne I; CoAsIt; Virtual Moreland; and Motile Pty. Ltd. The author wishes to thank Michael Abdilla, Professor Liddy Nevile, and Andrew Donald for their critical and methodological contributions to this exploration.
- 2 F. Butera, *Il Castello e la Rete*. (Milano: Domus Academy, 1990) Franco Angeli and A. Bucci *L'impresa Guidata dalle Idee*. (Milano: Domus Academy, 1992); E. Manzini, "Il Design dei Servizi. La Progettazione del Prodotto-Servizio," *Design Management 4* (1993): 7-12; D. Pilat, *Innovation and Productivity in Services: State of the Art*. (Innovation and Productivity in Services, Sydney, (2000).
- 3 In this paper, such solutions will be defined as product/service systems or PSS.
- 4 Manzini, "Il Design dei Servizi."



2 Product/Service Systems: A Definition

A definition of the main terms is essential in order to better define the cultural context for the design activity in this area. Product, service, and system refer to large disciplinary perspectives whose extension goes beyond the scope of the present paper. This paper, however, will define them from a particular perspective, which focuses on the logical domain generated by the intersection of design culture with the practice of service management.

According to Goedkoop, et al.,⁵ a PSS is a marketable set of products and services capable of jointly fulfilling a user's need. A better definition of the concept is possible when considering it from different perspectives.

From a traditional marketing perspective, the notion of PSS originates from the shift of marketing focus from products (whose characteristics are related to its material components) to a more complex combination of products and services supporting production and consumption.⁶

From a service marketing perspective, the PSS represents the evolution of traditional generic and standardized services towards targeted and personalized ones.⁷ This perspective reflects the trend away from mass production that characterizes several production sectors.

From a product management perspective, the notion of PSS refers to the extension of the service component around the product for business activities that are traditionally product-oriented or the introduction of a new service component marketed as a product for business activities that are usually service-oriented.⁸

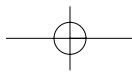
The ratio between product and service components in a PSS varies from case to case, and also over time, due to technological developments, economic optimization, and the changing needs of people. Moreover, different combinations of products and services can fulfill the same needs. However, the common point of those services, Manzini⁹ observes, is that they are conceived and offered as products, which are designed by taking into account a series of economic and technological criteria. This emphasizes the relevance of the designer in the definition of new PSS.

Some specific characteristics of PSS emerge when analyzing the service component in comparison with the usual characteristics of the product component. Such differences, emphasized by several authors,¹⁰ mainly concern the relationship between users, designers, and service providers, production and consumption times, and the material intensity (tangibility, portability) of services. Such characteristics are outlined in the following paragraphs.

Relationship between users, designers, and service providers.

While product manufacturers generally do not have contact with their customers, service providers usually *shape* the service together with users, who, in fact, participate in the production process. This

-
- 5 M. J. Goedkoop, C. J. G. van Halen, H. R. M. te Riele, and P. J. M. Rommens, *Product Service Systems, Ecological and Economic Basics* (Ministry of Housing, Spatial Planning and the Environment Communications Directorate, 1999).
- 6 Manzini, "Il Design dei Servizi."
- 7 Ibid., and K. Albrecht and R. Zemke *Service America!: Doing Business in the New Economy* (Homewood, IL: Dow Jones-Irwin, 1985).
- 8 S. Rocchi, "Towards a New Product-Services Mix: Corporations in the Perspective of Sustainability" *IIIEE* (1997) (Lund, Sweden, University of Lund). And O. Mont, "Product-Service Systems: Shifting Corporate Focus from Selling Products to Selling Product-services: A New Approach to Sustainable Development," Lund, (2000).
- 9 Manzini, "Il Design dei Servizi."
- 10 P. Eiglier and P. Langeard, *Marketing Consumer Services: New Insights by Pierre Eiglier [et al.]* (Cambridge, MA: Marketing Science Institute, 1977), 128; R. Normann, *Service Management: Strategy and Leadership in Service Business* (Chichester, NY: Wiley, 2000); and R. Ramaswamy, *Design and Management of Service Processes* (Reading, MA: Addison-Wesley Pub. Co., 1996).



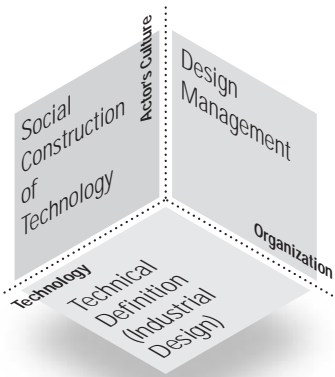


Figure 1
Multidimensional values implied in service design activities.

is particularly evident in *enabling* services, i.e., services in which customers are provided with all of the tools necessary to perform specific functions.¹¹ PSS are socially constructed systems, whose characteristics are determined by the different cultural, social, economic and technological frames of the actors involved in their construction.

Production and consumption times. Products are produced and consumed at different times, while services come into existence at the same moment they are being provided and used. Services are processes developed and delivered over a certain period of time and their configuration varies according to their use. On the other hand, products usually maintain a well-defined configuration (apart from general wear and tear, which usually does not affect their fundamental structure) from the time of manufacture and through the use phase.

Material intensity. While products generally are tangible objects, services are composed of intangible functionalities. Because of their immaterial components, unlike products, services cannot be stored, nor can their ownership be transferred, which happens when products are sold. Another relevant immaterial dimension in PSS is time: while products exist in time and space; services are processes which exist in time only.¹²

3 Implications for Designers

The involvement of designers in the development of PSS implies an extension of the traditional disciplinary domain of design, towards new domains that provide designers with the necessary expertise to manage the particular characteristics of PSS. The design activity is projected on new dimensions; such a redefinition of the design activity has relevant methodological implications.

3.1 New Dimensions for the Design Activity

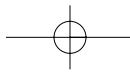
The design of new services is an activity that should be able to link the techno-productive dimension (What is the realm of the possible?) to the social (What are the explicit areas of demand and what the latent ones?) and cultural dimension. (What behavioral structures should one seek to influence? What values and qualitative criteria should we base our judgments on?)¹³

Manzini's definition suggests that the domain of designers' activities be expanded: in the most common view, the core of the design activity is the technological definition of industrial artifacts. The design domain, from this perspective, is described by the designer's technological knowledge and by the organizational aspects of the production and consumption system he/she is working on (see figure 1).

11 The definition of enabling services is borrowed from Normann, who makes a distinction between this category of services and the category of *relieving services*, in which the service provider replaces the customer in a particular function.

12 L. G. Shostack, "How to Design a Service," *European Journal of Marketing* 16:1 (1982): 49-63.

13 Manzini, "Il Design dei Servizi."



Conversely, because users, designers, service providers, and even technological components of a PSS are equally involved in the definition of the final configuration, the design role is projected upon two new domains: the domain of the organizational and design culture and the domain of the social construction of technology.

The first domain refers to the general attitude and capability to propose the reorganization of some core functions around innovative patterns. Such a domain is close to the discipline of design management, although it often implies a capability to understand and enhance organizational learning capabilities using PSSs as a catalyst for innovation.

The social construction of the technology domain concerns the ability of the social actors to influence innovation processes and to determine the paradigmatic context in which new technologies, products, and services can be accepted or refused. Such a context depends on the capability of the actors to interpret, enhance, and emphasize certain (sometimes weak) innovation signals.¹⁴

3.2 Methodological Implications

The extension of the design activity to include services requires that designers make use of new methodological tools to address the main characteristics of PSS as outlined in section 2. Consequently, the main questions designers have to face are:

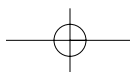
What are the methodological tools available to designers for the purpose of analyzing PSS as social constructions? Designers need tools to explore, understand, and address the needs of different actors. Moreover, they have to take into account the existence of possible friction between the socio-technical frames of different authors participating in the development of a service.¹⁵

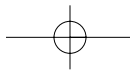
How can designers manage the different phases of design and planning activities? Although a service only comes into existence during the use phase, the various events characterizing the use of the service must be planned in advance in order to anticipate and organize the interaction between clients, providers, and the technological infrastructure. The designer needs to organize the flow of events in a product/service system, and to ensure that any variables are catered for as far as possible.

How can designers represent material and immaterial components of PSS? While products are easily represented through technical drawings, there are not many metaphors and graphical tools available to represent the immaterial component in services and the relationship between material and immaterial elements of a product/service system.

14 This paper does not suggest that the product design activity is concerned only with the technological definition of products, since there are aspects of product design that have relevant social and organizational implications. The distinction proposed in this paper, however, aims at emphasizing the higher social and organizational implications in the design of PSS with respect to the product design activity.

15 The typical example of a problem the designer has to solve when designing services is how to reduce the cognitive friction between complex technologies (such as information technologies) and ordinary users who may be totally unfamiliar with these technologies.





4 Designing PSS: An Interdisciplinary Exploration

The questions arising from the analysis of the methodological implications for the design activity requires an exploration in different disciplinary domains. The questions in the previous section suggest three directions for a methodological exploration:

- Analysis of the system as a social construction
- Management of the design process of a PSS through the various phases before and during the use phase
- Technical representation of PSS in the design process.

Such directions implicitly or explicitly refer to other disciplines, such as social studies, marketing and management, and information science. The following section will describe some of the methodological suggestions coming from such disciplines.

4.1 Analysis of PSS as a Social Construction

A product/service system is the result of the interaction between different actors and technological elements during the use phase. This means that the design activity should emphasize elements of convergence between several social and technological factors, including:

- The social, technological, and cultural frames of the actors participating in the development of the system, and;
- The technological knowledge embedded in the artifacts used for the service.¹⁶

The combination of such a heterogeneous mix of elements (people + cultural frames + technological artifacts) suggests that the designer has the same function as the *engineer-sociologist* described by Callon.¹⁷ In this role, the design activity consists of linking technological artifacts to the attitudes of relevant social groups in order to accept or reject certain products and technologies.

A useful methodological tool to analyze and understand the different technological frames converging in a product/service system is suggested by Bijker,¹⁸ who proposes a set of criteria that describes both the technological culture of the actors and the cultural and social frames embedded in technological artifacts (Table 1).

Bijker's criteria can be used to generate different profiles of the possible users of a service. The generation of such profiles requires the designer to undertake a thorough analysis of users' characteristics based on interviews, surveys, or even by generating hypothetical use cases (see table 2) within workshops held by the service design team.

16 Technological infrastructures often reveal the strong influence of the socio-technical culture of their designers/developers. Severe limitations to the development of certain characteristics of PSS emerge when such characteristics are beyond the socio-technical horizon of the developers of the technological infrastructure. Such limitations are even more evident when the PSS is based on high levels of automation.

17 M. Callon, "Society in the Making, the Study of Technology as a Tool for Sociological Analysis" in W. E. Bijker *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology* (Cambridge, MA: MIT Press, 1989), 83-103.

18 W. E. Bijker, *Of Bicycles, Bakelites, and Bulbs: Toward a Theory of Sociotechnical Change* (Cambridge, MA: MIT Press, 1995).

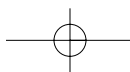


Table I

The set of criteria proposed by Bijker to describe a technological frame.

Criteria	Explanation
Goals	The main needs each group wants to satisfy in relation to specific aspects of their work activities.
Key problems	The main problems to be solved or overcome for each group in order to achieve their goals.
Problem solving strategies	The strategies each group believes to be admissible and effective in solving the main problems.
Requirements to be met by problem-solving strategies	The criteria for admissibility and effectiveness of problem solving strategies.
Current theories	The theoretical knowledge supporting the activity of each group in setting goals, identifying and selecting problems, and proposing admissible problem solving strategies.
Tacit knowledge	The practice based-knowledge, upon which each group relies to set goals, identify and select problems, and propose admissible problem-solving strategies.
Testing procedures	The procedures each group uses to evaluate the effectiveness of each problem-solving strategy.
Design methods and criteria	The methods and parameters used for proposing technological solutions to emerging needs.
Users' practice	The users attitudes towards the existing solutions to the present needs.
Perceived substitution function	The products, services, or sets of functionalities each group believes is to be replaced when proposing or using innovative solutions.
Exemplary artifacts	The products and services that are used as models in developing new solutions. These often are derived from the perceived substitution function.

Technological and cultural frames also are embedded in technological artifacts and infrastructures included in PSS. Such cultural frames are intelligible through the physical and technological characteristics of the artifacts. Such frames are relevant to the development of the service, because they often enhance or limit the potential of the service. (Computers' operating systems, for instance, have a strong influence on how several information-based PSS are organized.) The interpretation and manipulation of cultural, social, and technological values embedded in artifacts are typical characteristics of design activity for which the design discipline already has developed analytical and methodological tools.

4.2 Management of the Design Process of a PSS

Shostack¹⁹ explains the relationship between the pre-use and the use phase of a service with a dichotomy: the pre-use phase represents a *potential* state of the service, in which the service can only be described in hypothetical terms, or as a *blueprint*. The use phase represents the actualization of the service, or *kinetic* state, in which the service takes place.

19 Shostack, "How to Design a Service."

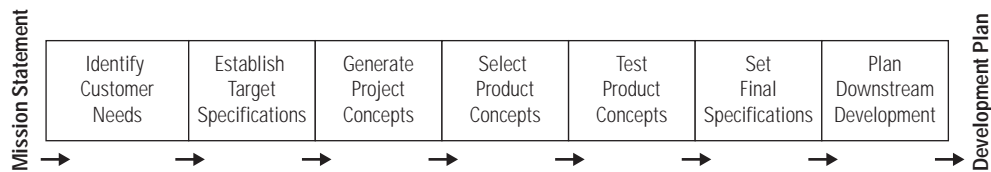


Figure 2
The concept development process in product design and development.

The actualization of a PSS consists in managing the various concurrent elements including technological infrastructure, personnel, marketing, customer relations, and communication. Management issues in this phase are determinant, while the designer's role focuses on specific aspects emerging during the use of the service. However, the designer's role is critical in the potential phase, in which all the potential elements of the system are defined. Interesting contributions to the definition of this phase are coming not only from design management and marketing disciplines, but also from the modeling methods used in the design of information systems.

Design management studies, in particular the disciplinary domain focused on product development, provides suggestions for the definition of the design process. Although the focus of this disciplinary area is on industrial products, a systemic approach is commonly used. Ulrich and Eppinger²⁰ analyze the design activity within the whole planning and development process of a product, from the planning phase through concept development, system level design, detail design, testing and refinement, and production ramp-up.

The phase of concept development presents several analogies with the activity of service design. This phase (outlined in Figure 2) consists in an exploration of the design concept, including phases such as the identification of customers' needs, concept generation and selection, concept testing, and final specification. Such a process would consist in an iteration of exploratory phases (identification of customer needs, selection and test of a concept) alternated with project phases (defining specifications, generating a set of concepts, and defining a final configuration). The iterative process is critical in this phase because it keeps the focus on the basic concepts to be developed in the following phases. The progressive exploration and focusing on the design concept also is a characteristic of the potential phase of the design of a PSS. Therefore, the logical sequences proposed by Ulrich and Eppinger in the concept development phase can be adapted for the design of services.

20 K. T. Ulrich and Steven D. Eppinger, *Product Design and Development* (New York: McGraw-Hill, 2000).

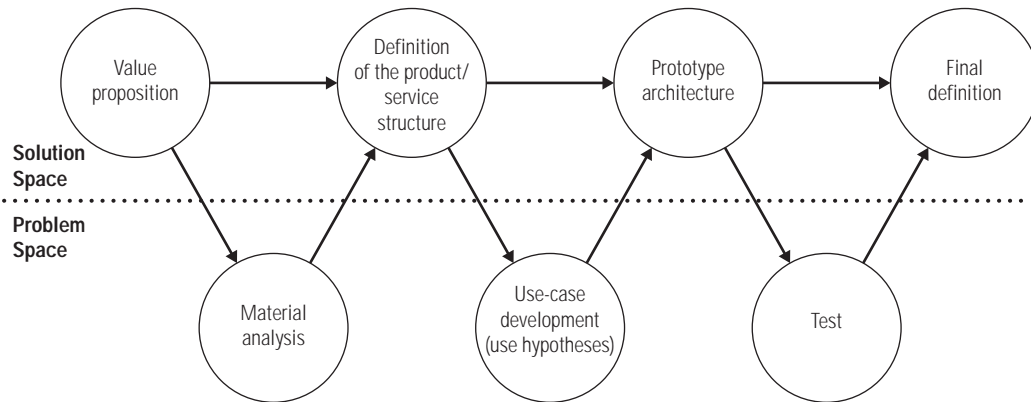


Figure 3

A model of the development of a the pre-use phase of a project (source TeleCentra).

Figure 3 represents the design process followed for the development of a support service for nomadic workers within the TeleCentra research project. The schematic representation of the sequence emphasizes two dimensions (spaces): a problem space, or behavioral space in which functional requirements are explored, and a design space or structure space in which solutions are proposed. Problem phases lead to new solutions which in turn, refocus the problems and prompt new requirements.²¹

Marketing disciplines propose a design approach focused on services. Ramaswamy²² divides the whole design development process of a service into design and management phases (Figure 4). The design phase includes the design of products, facilities, service operation processes, and customer service processes, whereas the management phase includes design implementation, performance measurement, satisfaction assessment, and performance improvement. Ramaswamy thoroughly explores each of the eight phases outlined, using management criteria to select and measure quantitative and qualitative requirements of the service and to select design solutions. The design phase proposed by Ramaswamy synthesizes the main phases proposed by the previously mentioned studies. However, Ramaswamy analyses the whole process of service design as an integrated and iterative process, in which the management phase includes measurements and testing strategies which provide feedback for further improvements.

Ramaswamy's methodology, however, may need a more thorough exploration in the potential phase, especially for cases in which:

The PSS proposed are totally new to the users, therefore their actual use depends on users' capability to recognize and accept the added valued provided by the PSS;

The customers are supposed to use the PSS in complete autonomy; this means that in the prototyping and prelimi-

21 J. Maher, M. L. a. P., "Modelling Design Exploration as Co-evolution" *Microcomputers in Civil Engineering* 11:3 (1996): 195-210; M. I. Maher, Josiah Poon, and Sylvie Boulanger, "Formalising Design Exploration as Co-Evolution: A Combined Gene Approach" in *Advances in Formal Design Methods for CAD* J. S. G. a. F. (Sudweeks, Chapman & Hall, 1996): 1-28.

22 Ramaswamy, *Design and Management of Service Processes*.

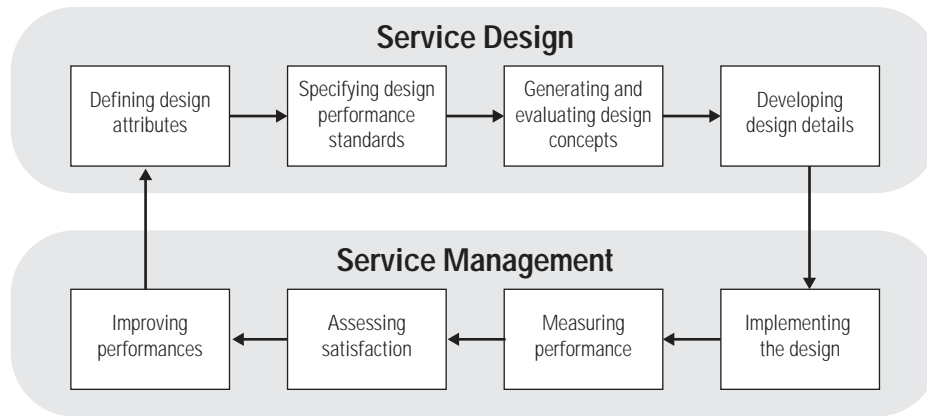


Figure 4
The service design and management model.²³

nary definition phases the largest number of possible ways of using the PSS must be anticipated.

In such cases, some evaluation criteria are missing that would be necessary to support all of the decisions in the service design phase. (It would be difficult, for instance, to specify design attributes and performance standards if service requirements are not clearly stated.) Such criteria would emerge once events and actors of the service are better described.

Information science may provide interesting methodological suggestions to the design activity when such conditions occur. Like services, information systems are a series of events distributed in time, in which users are supposed to interact with a predesigned set of elements. The evaluation of the adequacy of the elements and their structure must be satisfactory before the system is proposed to the customers. This requires an iterative process involving the phases of project planning, analysis, design and implementation,²⁴ such iteration starts before the proposition of the system to the client and continues during the use phase.

Particularly relevant to the design of services are the methodologies needed to investigate the system requirements. The list of requirements for each functional element of a system is generated by the proposition of scenarios, i.e., a description of events (use cases) in which customers are likely to use the system. Use cases are described in a diagrammatic way and with a plain language description of the flow of events, actors involved, pre-and post-condition for each use case, alternative paths, and other relevant elements. The description of use cases usually is based on templates that list the relevant information required for each use case.²⁵ Table 1 is a simplified use case for the requirements of a specific function (organize meetings) for an online diary to be proposed to TeleCentra nomadic users. The example in Table 1 should be completed with the description of alternative use paths.

23 Ibid.

24 J. W. Satzinger, R. B. Jackson, et al. *Systems Analysis and Design in a Changing World* (Cambridge, MA: Course Technology, 2000).

25 D. Leffingwell and D. Widrig, *Managing Software Requirements: A Unified Approach* (Reading, MA, Addison-Wesley, 2000); D. Kulak and E. Guiney, *Use Cases: Requirements in Context* (New York, Boston, London: ACM Press, 2000); Addison-Wesley, J. W. Satzinger, R. B. Jackson, et al., *Systems Analysis and Design in a Changing World* (Cambridge, MA: Course Technology, 2000).

Table I

Simplified description of a use case for the definition of requirements for an online diary (TeleCentra project).

Use Case Name	Organize Meetings	
Actor	Meeting Inviter, Meeting Invitees	
Description	<p>When a user decides to schedule a meeting, s/he can make use of these settings by simply stating the requirements of the meeting, and the system then can use the information in each invitee's calendar to decide on a suitable date and time, where that information is accessible.</p> <p>Where configured as such, the invitees can respond with an alternative proposal that is more suitable. Alternatively, a user can simply send out an invitation with a set date and time, and invitees can manually respond by either accepting or declining the invitation, with or without the option to negotiate the time.</p>	
Preconditions		
Postconditions	1. A meeting is scheduled and recorded in the system (calendar function)	
Normal Course	Actions	Actors
PHASE I: Construct meeting invitation		
	Enter meeting requirements into the system; these should include the intended participants, and any space requirements and timeframe constraints (between certain dates and times). For certain meetings, participants might be listed as optional or compulsory, indicating a level of flexibility in case no time meets every stated requirement.	Meeting Inviter
	Where possible (based on personal calendar settings, UC-04), the system examines the calendars of each meeting invitee in order to advise the meeting inviter of the most suitable meeting time.	Meeting Inviter, Meeting Invitees
PHASE II: Send meeting invitations		
	Once a suitable meeting time has been suggested, the meeting inviter then can choose to send out invitations to the meeting invitees	Meeting Inviter
PHASE III: Renegotiate meeting arrangements		
	The process then enters a negotiation phase, in which any meeting invitee that has his/her calendar configured as such may attempt to reschedule the meeting based on his/her availability (usually only necessary where visibility constraints meant that a suitable time was not chosen at step 2). This process may be repeated several times, and may involve several Invitees.	Meeting Inviter, Meeting Invitees (via the system)
	Once renegotiation is complete, the inviter and invitees are notified of the confirmed meeting time and location.	Meeting Inviter, Meeting Invitees
PHASE IV: Confirm meeting attendance		
	Any meeting invitees who can attend the meeting then accept the invitation (manually or automatically); likewise, any invitees who cannot attend the meeting decline the invitation.	Meeting Invitees

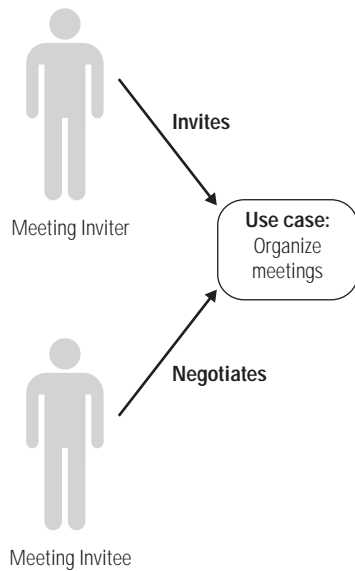


Figure 5
Example of use case diagram used in UML.

4.3 Technical Representation of Product-service Systems

The activity of design consists in the projection of a set of ideas into future configurations. Because of this, the design activity heavily relies on visual representation, which is critical in communicating a project to clients, in verifying the validity of the project, and in generating a plan that can be understood and executed by other actors involved in the design process.

Specific representation techniques have been developed for product design which highlight specific aspects of the product. Product designers are able to produce a blueprint of a product that will be unequivocally interpreted by those who will manufacture and/or buy the product, or will provide some of its components.

The blueprint of a PSS should contain indications about potential functions, interaction between actors, and functionalities and flows of events.

The diagrammatic representation of use cases (see previous section) focuses on the interaction between actors and the system. The most common method of representation used by the Unified Modeling Language (UML) in computer science consists of a simple diagram describing the actors, the use case, and the kind of relationship between them (Figure 5). This kind of representation does not contain indications about the time sequence in which the interaction occurs.

The graphic representation used in some marketing studies includes both the interaction between the elements of the system and the time sequence. In order to represent the time variable in the process, Shostack²⁶ considers process representation systems from different disciplines: the time/motion engineering (used to plan the manufacture and assembly of products), the PERT charting (used in management sciences to conduct time/cost trade off analysis) and the system and software design used in computer science to schedule the tasks in a software program.

The resulting technique suggested by Shostack uses elements of PERT charting (in particular the calculation of critical time), elements of time/motion engineering (in particular the representation of the flow diagram), and elements of computer system design (Figure 6).

A similar system also is proposed by Ramaswamy²⁷ who, in addition, proposes to specify the person or the organization responsible for each phase of the service (See Figure 7). Both of these techniques also make it possible to specify those processes that are directly visible to the customers, as well as those that are managed in the "back office."

The techniques proposed by Shostack and Ramaswamy do not take into account other variables of a PSS, whose specification would provide further information for the design process. In enabling services, for instance, it would be relevant to specify which functions are performed by the users and which by the service

²⁶ Shostack, "How to Design a Service."

²⁷ Ramaswamy *Design and Management of Service Processes*.

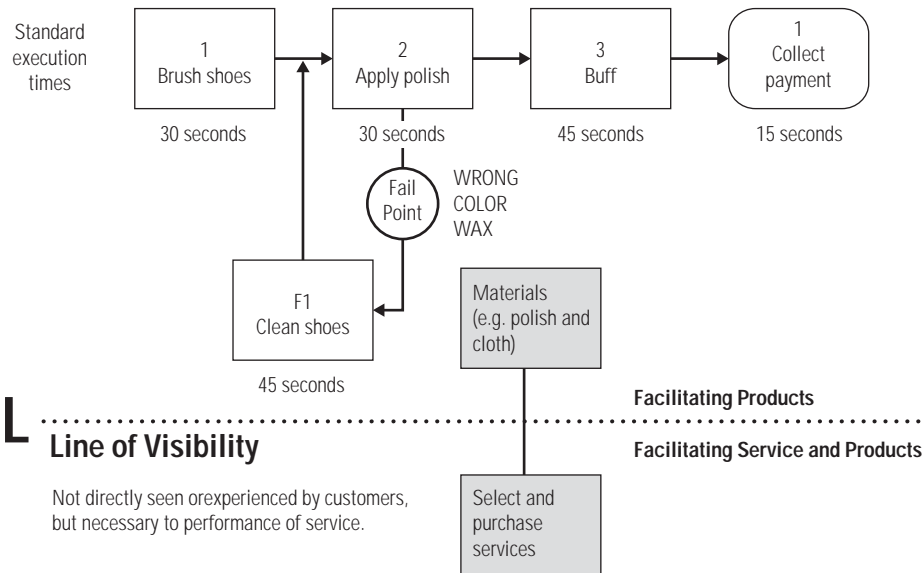


Figure 6
Representation of the flow of events in a sample service (street shoe shine) analyzed by Shostack.

provider, which functions are automated and which rely on human actions, in what kind of (physical and virtual) spaces is the service located and whether actions are based on movement between spaces or are located in a single place.

Figure 8 is the graphic representation developed for some use cases in the TeleCentra project. The project consisted in the development of a PSS (a telecenter) to support nomadic workers. The PSS included both physical spaces (reception and temporary offices) and technological infrastructures (computers, intranet, and Internet). A telecenter is an enabling service in which nomadic workers (i.e., people working away from their traditional office) can perform office-like functions with the support of technical assistance, reception services, and several automated functions.

The representation in Figure 8 includes elements of Shostack's and Ramaswamy's graphics, but also distinguishes spaces, actors performing the functions, automated tasks, and movement actions. Further additions to the representation in Figure 8 could consist in the specification of the time employed by each function, as in Shostack's graphic.

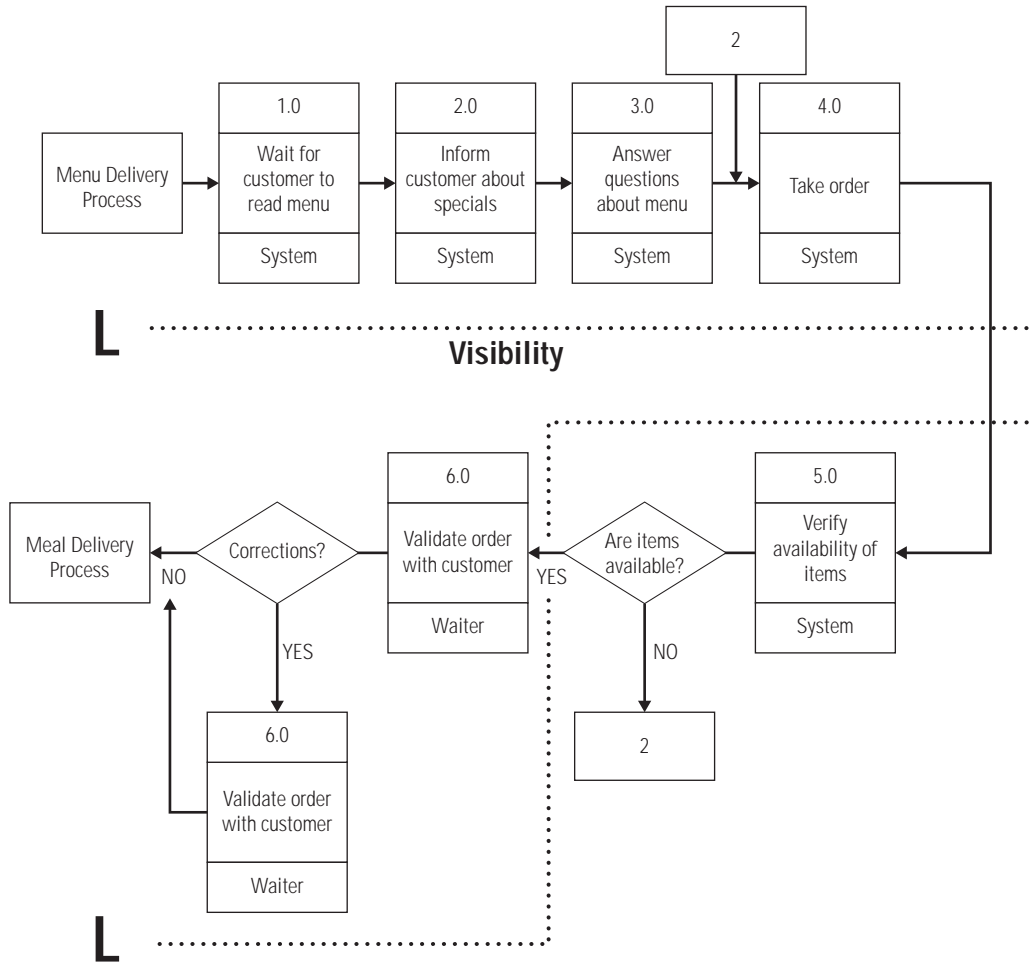


Figure 7
Representation of the process for the order-taking in a restaurant.

Other methods proposed for the graphic representation of PSS are PetriNets, used to model complex systems including the development of a series of transactions in time (proposed by Pacenti²⁸) and other methods borrowed from disciplinary areas that are closer to design such as storyboards (i.e., simple graphic representation of actors and actions happening during the development of a service).²⁹ This method, borrowed from screenplay techniques, would prove useful not only in the design phase, but also in the use phase, to guide the customer to a correct use of the service. However, such methods can be inadequate to represent a flow of events that is not linear, such as feedback loops and multiple options.

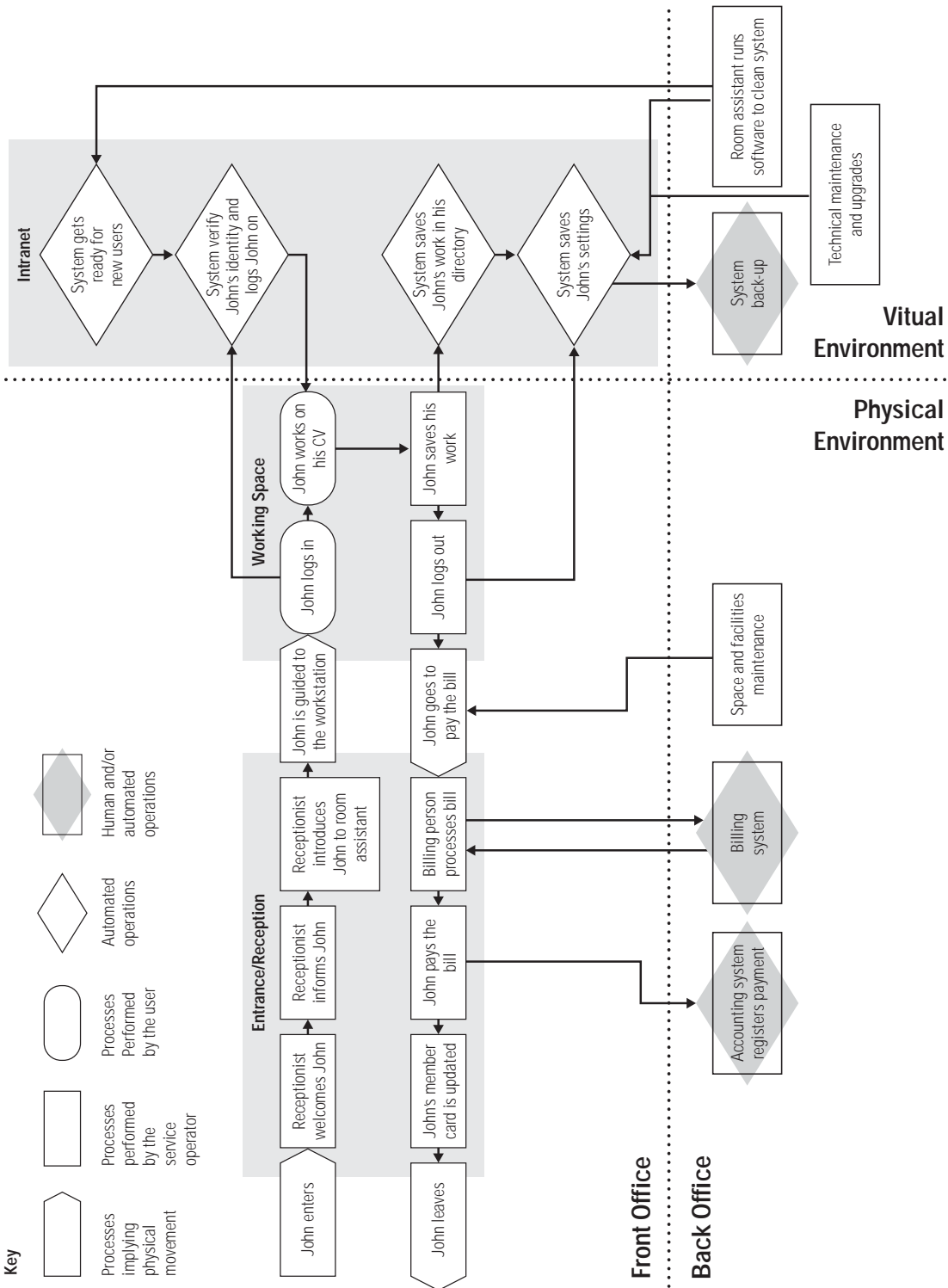
5 Conclusion

The disciplinary contributions contained in this paper cover different aspects of the application of the design discipline to PSS. Although considered as a part of the management and marketing domain, PSSs efficiency, visibility, and usability, are, in fact, heavily reliant on design aspects. More important, the design perspective

28 E. Pacenti, "La Progettazione dei Servizi tra Qualità Ambientale e Qualità Sociale" *Di Tec* (1998) Milano, Politecnico di Milano.

29 Ibid., and Shostack "How to Design a Service."

Figure 8.
Representation of a use case for the
TeleCentra project.



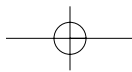


adds critical insights related to specific aspects of the development of PSS.

The involvement of designers in the development of PSS requires the repurposing of methodological tools used in management and marketing disciplines, but also the introduction of new tools derived from other disciplinary domains such as design management and information system design. Such tools would be useful to specify aspects of the design process for PSS that sometimes are considered as complementary in marketing and management disciplines. More specifically the tools introduced by the analysis of services from a design perspective would focus on aspects related to the quality of the environment in which the service takes place, the quality of interaction between actors and technologies and the interaction between different cultural, social, and technological backgrounds derived from the actors' socio-technical frames and from the socio-technical frames embedded in technological infrastructures used in the PSS.

A designer's perspective focuses on how a PSS *takes form* in all of its phases. Indeed, understanding users' technological and cultural frames, modeling their behavior in relation to the service and representing material and immaterial aspects of a service in order to generate a service blueprint are activities that are very close to the design discipline and therefore can take advantage of several aspects of designers' existing methodological approach.

The exploration proposed in this paper, however, still is fragmentary because of the lack of a complete technological framework for the design of PSS. Such a framework should be developed on the basis of the existing contributions from the management and marketing disciplines, and in light of a debate within the design community itself. This paper hopefully provides some useful elements to help fuel such a debate.



Cultures, the Traditional Shadow Play, and Interactive Media Design

Oğuzhan Özcan

Acknowledgment:

I would like to thank Richard Buchanan for encouraging me to write this article; to my wife, Meltem Özcan, for her support; and to Simge Esin for editorial assistance.

1 Introduction

Interactive design in the computer medium is a product of the last half of twentieth century. However, some argue that interactive design has been a part of the human experience much longer.¹ Packer defines interactivity as the ability of the user to manipulate and affect his/her experience of media directly, and to communicate with others through media.² Preece bases his definition of human computer interaction on the visibility and affordance concepts of Norman, who identifies those qualities essential for good interaction with everyday objects.^{3,4}

With respect to the above definitions, the literature shows us that there are many examples of interaction design in the history of art, ranging from literature to cinematography, and from plays to opera.^{5,6} Digital media, as a kind of interaction design, is a form of art. As the two-dimensional and three-dimensional technologies continue to develop in the future, this art will gain, change, and reform itself into new and exciting formats.

In our design education, we try to differentiate between the nonlinear interactive structure of the new media and linear structure of traditional print media and cinematography. We help our students to develop visual, audible, and “clickable” designs within the limits of a computer screen. Because of the attractive possibilities offered by technology, many designers today are using digital media to do their design work.

Actually, throughout history, different cultures had different techniques for the art of interactive performance, in parallel with the available technology. These techniques were quite different from today’s computer screen format and way of looking at interactive design. Perhaps, if we can understand the philosophy behind the techniques of different cultures from different parts of the world, we can produce interactive designs that go beyond the limitations of the current two-dimensional screen.

The challenge is reinterpreting the early performance techniques using today’s technology. If this is possible, we can add new dimensions to our concepts of interactive media design by examining the techniques of the “art of show from past cultures.”

There are many examples in history to answer these questions. One of them is the technique of “shadow play,” which has

- 1 N. Shedroff, “Information Interaction Design: A Unified Field Theory of Design” in *Information Design*, R. Jacobson, ed. (Cambridge, MA: MIT Press, 1999), 269.
- 2 R. Packer and K. Jordan, “Overture” in *Multimedia, From Wagner to Virtual Reality* (London: Norton & Company, Inc., 2001), xxx.
- 3 J. Preece, *Human-Computer Interaction* (New York: Addison-Wesley, 1996), 6.
- 4 D. Norman, *The Design of Everyday Things* (Cambridge, MA: MIT Press, 1999).
- 5 R. Packer and K. Jordan, *Multimedia, From Wagner to Virtual Reality*.
- 6 J. Gasperini, “Structural Ambiguity: An Emerging Interactive Aesthetic” in *Information Design*, R. Jacobson, ed. (Cambridge, MA: MIT Press, 1999), 301–16.

many parallels to interactive media. In this paper, by looking into the typology of the traditional “shadow play,” we will explore the possibilities for developing new concepts for interactive media.

2 Shadow Play and Interactive Design

References shows that the philosophy of the shadow play first appeared in China. When rooms were lit at night, the shadows of the people in the house were projected onto the paper-covered windows. Some time later, people started watching this “show” from outside.⁷

“Ombromanie” or “shadowgraphy,” which once was very well known in Europe and today is mostly a child’s game, is the oldest shadow play in history. In this performance, an artist in front of a light source creates the shadows of people, animals, and objects by using his hands and fingers.

One of the earliest phases of the shadow play was the religious Schaman commemorative ceremony of their ancestors in Asia. In these rituals performed around the fire, the shadow of a puppet created by using a dead person’s skin was projected onto the walls and the ground.⁸

The theatrical shadow play on screen was first found in South East Asia around 1000 B.C. This art, which became quite popular around the seventeenth century, has been handed down through Indonesian (Java and Bali), Malaysian, Siamese, Turkish, and European cultures.⁹

In this kind of shadow play, the performance consisted of a screen, spectators in front of the screen, and a light source and an artist behind the screen. The artist created shadow portraits, which were cast onto the screen. Like a theater play, this show also had a scenario and was performed accordingly (figure 1).

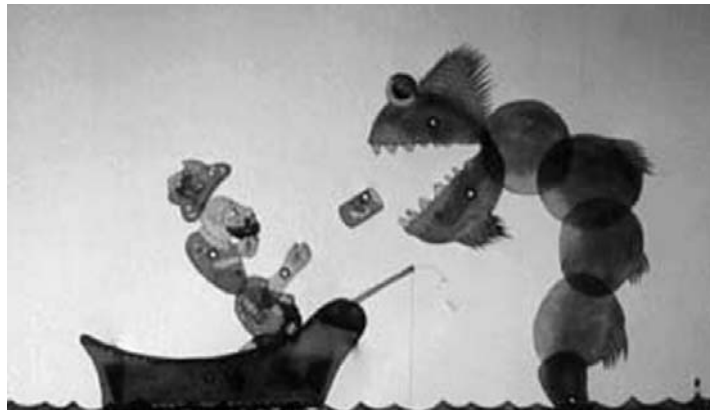


Figure 1
A scene from *Karagoz*, traditional Turkish shadow play © 2001, Cengiz Ozek.

7 Richard Karutz, *Das Schattentheater der Orients*, (Lubeck: Schmidt, 1919), 3.

8 Metin And, “Dunyada ve Bizde Golge Oyunu” (“Shadow Play in the World and in Turkey”) published in Turkish, (Istanbul: Turkiye Is Bankasi Kultur Yayinlari, 1977): 20.

9 *Ibid.*, 221.

Figure 2

A scene from ombromanie performed in a French café concert towards the end of nineteenth century.¹⁰



Like interactive media design, the shadow play also has an interaction between the performance and the spectators. For example, in the art of “ombromanie,” which is based on the formation of the shadows of different figures formed by hands and fingers, the artist and the spectators are in the same place. The spectators also can join the show by creating their own figures. In this way, the spectators’ involvement in the play is at a maximum, and there is continual interaction between the play and the artist-spectator.

In the traditional shadow play, which is performed behind a screen, there is a classical theater tradition that is based on the shape of humans, animals, and objects. The artist can direct the performance with improvisations according to the spectators’ response—demonstrating the essential features of an interactive performance.

From the analyses above, it is possible to understand the historical development of the shadow play under the influences of cross-cultural phenomena, starting from simple shadow figures and leading to contemporary art productions performed by professional puppeteers. However, if we can study the typological development of the shadow play rather than its historical development, it may be possible to evaluate contemporary ideas for interactive media design.

From this point of view, we can classify four different types of performance in the shadow play, which may help us improve the conceptualization of modern, interactive media design:

1 Viewing from both sides of the screen:

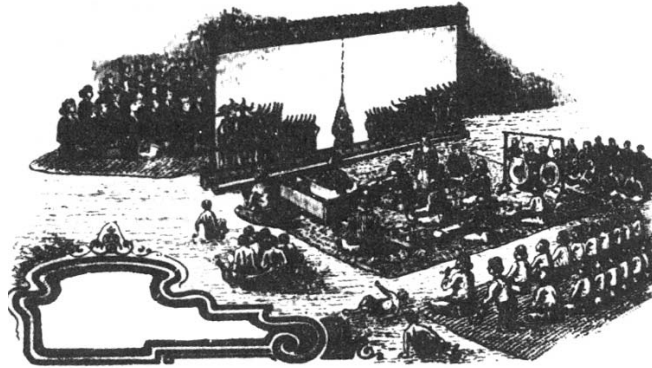
In the traditional Turkish shadow play, most of the spectators chose to watch from behind the screen. The tradition of watching from both sides of the screen mostly comes from the Indonesian *Wajan Koulit* shadow play. In this kind of play, the women used to watch from front and the men watched from behind the screen.¹¹

10 The author is unknown, *The Kingdom of the Shades*
<http://arcanemagazine.free.fr/DossiersMauriceSaltano/RoyaumeDesOmbres/RoyaumeDesOmbres.html> (accessed on 08/24/01).

11 R.L. Mellema, *Wayang Puppets: Carving, Colouring, and Symbolism* (Amsterdam: Royal Tropical Institute, 1954), 58–77.

Figure 3

The way of viewing in the Indonesian *Wajan Koulit* shadow play, © 1977, Metin And.



2 Spatial Viewing:

In ancient times in Asia, some of the techniques of the shadow play were developed during religious ceremonies, during which the participants sat around the fire. The performance was made up of a fire in the middle; the spectators sitting around the fire (who also participated) and a wall, a huge rock, or a tent which served as a screen onto which the shadows were projected.¹²

3 Performing without the screen:

The *Wayang Lamah* shadow play, found in Indonesia-Bali, is performed in daylight and without a screen. The actors carried big, two-dimensional puppets in their hands. In this way, both actors and puppets participated in the show. The shadows of the actors on stage, which were projected onto the ground or the back of the stage, also were a part of the show.¹³

4 The interaction between the actor and the image:

This method, quite widespread in the European theater, was used in some shadow-plays. The shadows of the actors were cast in front of and behind the screen, and the actors physically participated in the show. In recent years, these techniques have been interpreted in a different way. One example is the choreography designed for a British dancing company, DV8, by Lloyd Newson and Liam Steel. In this choreography, a ballet on stage that appeared to be physically touching a water screen was performed by means of a video film of a ballerina projected onto that water screen.¹⁴



Figure 4

A Performance of the *Wayang Lamah* shadow play, © 1977, Metin And.

12 Joan Halifax, *Schaman, The Wounded Healer* (London: Thomson and Hudson, 1994), 89.

13 Colin McPhee and Jane Belo, eds., *The Balinese Wayang Kullit and its Music* (New York: Columbia University Press, 1970), 150–151.

14 DV8 Physical Theater: *Can We Afford This / the Cost of Living*, (Stage production, co-produced by DV8 and the Royal Festival Hall in association with Dance Umbrella. Originally commissioned by Sydney 2000 Olympic Arts Festivals, <http://www.dv8.co.uk>).

The four techniques described above are different from today's digital electronic media, which appear on a computer screen because the performances are spatial. Besides, while using the computer screen is an individualistic action, the shadow play spectators are all together in a theater, where they can physically interact with each other. This shows that the shadow play creates a social environment.



Figure 5
Conceptual work, re-illustrated by Hurol Öztürk, supervised by Oguzhan Özcan.

Figure 6
Conceptual work, re-illustrated by Hurol Öztürk, supervised by Oguzhan Özcan.



3 Conceptual Designs for Interactive Media Based on the Typology of the Shadow Play

After examining the shadow play and its typology, we now can ask: *What kind of ideas can be produced for interactive media design using the typology of shadow play and newly developed digital media technologies?*

First of all, the different screen placements and ways of viewing the shadow play can be analyzed in order to make them more attractive when combining them with today's and tomorrow's techniques.

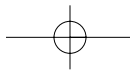
For example, we can assume that the two-dimensional screen is made up of different geometrical parts, and that the screen can move and turn within a definite scenario when the spectator pushes or touches it. In this way, it may be possible for the user to move and change the shape of the screen in addition to having visual, audible, and graphic information shown on it (figure 5).

Beyond this, another idea is that, from two sides of the screen, different images can be arranged and put together in a way in which these images can be seen together or apart from the two sides of the screen. With the help of motion-capture techniques, the spectators or user groups on both sides of the screen can move images on the screen in parallel with their own motions. In this way, different compositions can be designed by the participants using motion-capture and the images they form on the screen. This idea can be developed further by using many two-sided screens within the limitations of the space, and making the interaction much more attractive and richer (figure 6).

Further, we can imagine a three-dimensional screen with which the user can interact with his or her performance, both in or beyond the three-dimensional geometric screen (figure 7).



Figure 7
Conceptual work, re-illustrated by Hurol Öztürk, supervised by Oguzhan Özcan.



We also think that, using “wearable” computers, a person can interact with an image, or with another person or people, without the use of physical screens, and can build up three-dimensional interactive compositions with holographic images in free space.

Although the above scenarios, whether possible or impossible, recall the screen organizations of the shadow plays, it is hard to say if it will have the same effect as the rich cultural visual and audible structure, and mystical atmosphere, of Asia’s shadow play. These techniques, by themselves, will not improve design practice.

Our intention is to explore a new blend in interactive design, using the current technologies together with the typology of the traditional shadow play.

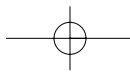
With this objective in mind, we worked with our students on a concept project. In this project, six main factors, developed together with the four types of shadow play performance described above, were:

1. The flickering and the changing pattern of light coming from the fire used in the shadow play.
2. The use of the portraits in the shadow play, that are half transparent, half flue, and blurred on the screen because of the intersection of many shadows merging into each other.
3. The use of the special state of being half mobile and half motionless that can be characteristic of puppets.
4. The reference of the color red used in the traditional Turkish shadow play.
5. The creation of the atmosphere of actors/spectators sitting and chatting, which is a feature of Asian cultures, especially Shamanism.
6. The use of four performance types: *Viewing from both sides of the screen, spatial viewing, performing without the screen, and the interaction between the actor and the image.*
7. The use of the interactive capabilities of digital media.

From these bases, our students developed a conceptual design named “Pool Project.” In this project, they examined and experienced the structure of the shadow play and today’s technology, and also dreamed of new technologies yet to be developed.

Pool Project is a design concept based on a swimming pool. The students used the idea of water, which has the ability to bring people together, chatting and having fun; dating back from ancient Romans and Ottomans, and reaching to today in Anatolia. The students, who were brought up in such a culture, wanted to create an atmosphere of a Roman bath. Above the pool, they put a video camera, which would capture images from inside the pool and project them onto a screen placed perpendicular to the pool (Figure 8).

The students proposed placing a big, two-dimensional puppet in the pool, which was as mobile as the shadow puppets used in Turkish shadow plays. The puppet was conceived as a portrait of a



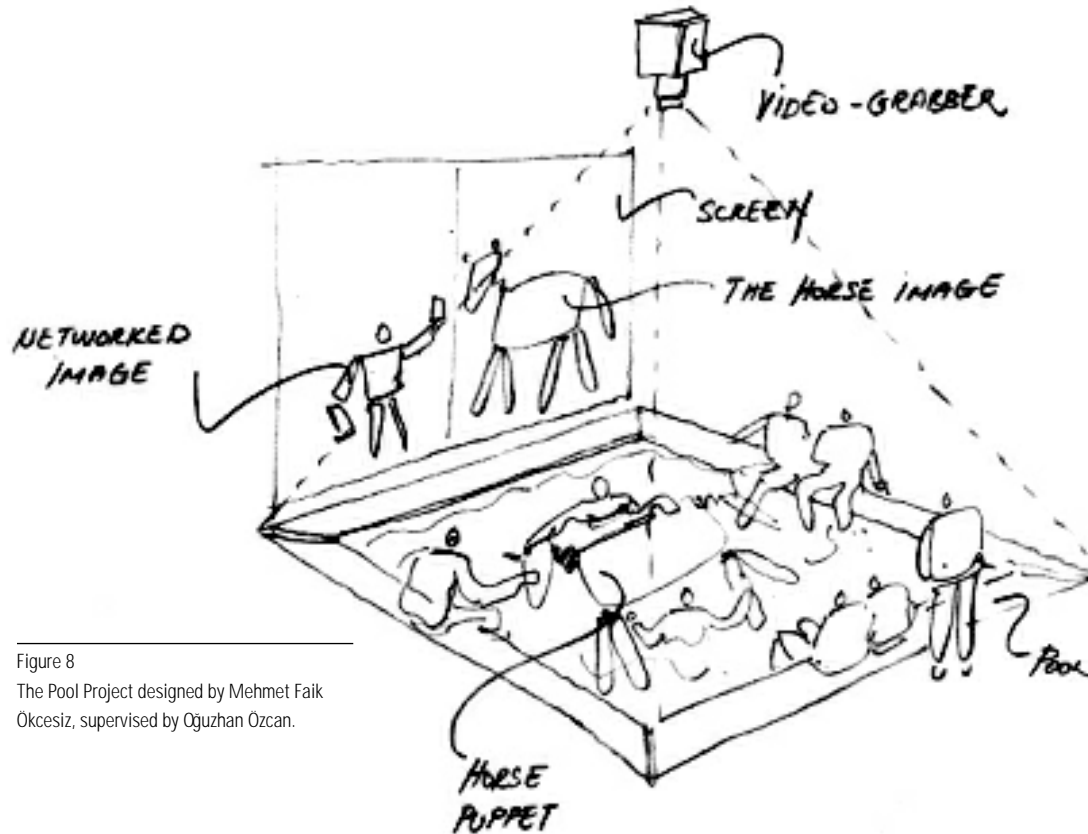


Figure 8
The Pool Project designed by Mehmet Faik Ökcesiz, supervised by Oğuzhan Özcan.

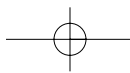
horse. The joints of the horse were to be connected to the body with ropes. The puppet would be made of a buoyant, translucent material. The color would be red like the ones in the Turkish shadow play.

By positioning the light source at the bottom of the pool, the shadow of the horse puppet was projected onto the screen by the video camera. The shadows of the portrait on the screen, the motion of the water, and the shadows that were produced by the refraction of the light source in the water formed a pattern of shadows that was quite similar to those in the Turkish shadow play.

The participants sat around the pool or swam. All of their actions in the water, as well as their interaction with the puppet could be seen on the screen placed near the pool. The people also were able to view their play with the puppet from the screen.

In a similar pool-based concept, two portraits would be projected live onto a screen with a networked system, which was placed perpendicular to the pools. In this way, the participants could see the portraits that each was creating, and they created a play in which two portraits interacted with each other.

The "Pool Project" developed by our students was a kind of experience that involved technology, traditional culture, and the techniques of physical interaction. We believe that these kinds of activities, like the networked communication which developed with



the popular use of the Internet by the end of twentieth century, and merged with social activities in physical space, will improve the communication skills, which today are becoming more individualistic, to become more social. Besides, the traditional culture that seems to be disappearing today will be remembered, thereby enriching our daily lives.

Conclusion

In this article, we discussed what could be done to improve the skills of interactive media design. We explored the possibility of using our traditional culture as a starting point. The typology of the traditional shadow play was examined within the framework of current interactive media.

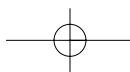
The key to the typology of the traditional shadow play is the arrangement of the screen and actors and spectators, as well as the techniques of puppetry. The ability of the screen to be viewed from both sides, and the play to be a spatial performance, were found to be most significant.

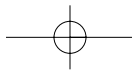
On the other hand, the two-dimensional images of the puppets projected onto the screen are of the primitive cartoon type. It must be seen in a different way so that, in using the structure of the shadow play with limited technology and material, the style of the art comes from the limited motions of the portraits and the pattern that is formed by the reflections of many translucent shadows from the flickering light. Some producers of cartoon films have tried this style in their productions.¹⁵

Actually, with the advent of computer graphic technology, the techniques of playing and the arrangement of screens of the shadow play have been greatly improved. Flat, twistable, and even wearable screens used with motion-capture software can improve this experience. But we think that this will not bring a new dimension to interactive media design, especially for student designers. It is obvious that networked communication, the practice of motion capture, and interactive displays alone cannot replicate the typological applications obtained from the shadow play by themselves, although they may enhance them. However, exercises in which the student is not aided by a computer are important, especially for design students. They teach us that interactive media design is not only composing text, images, and sound, but also questioning the media in a physical environment. This will not only help us to see many points of view, but also aid us in developing new ideas for the use of interactive spaces. Making typological analyses of traditional cultures will help us to understand the performance types of shadow plays and to integrate them with modern technologies.

From this point of view, these practices help us to examine and compare the traditional cultures with contemporary cultures and past techniques with present techniques.

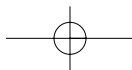
15 Emanuele Luzzatti and Giulio Gianini are two who are known as the masters of cartoon movies. The producers used the technique of "découpage" to produce a style of similar to the shadow play in their movies. See Luzzatti Emanuele ve Gianini Giulio: *Il Flauto Magico* (Export Agent: Atillio Vanenti, Genova, 1999): 45.





The “Pool Project” exercise described above is one of the experiences of interactive art. Yet we can ask this question: Do such projects contribute more to art and art education than to design?

These exercises, without doubt, contribute to interactive design practice directly. We should not forget that interactive media design is part of the whole universe of audio-visual arts, information sciences, and general design theory. Although these exercises may not seem to target interactive media design, they help the designer to create original ideas for the design of info-spaces that are open to the public, such as museums and exhibitions. Especially in a design project serving a public need, the assimilation of traditional culture and the interpretation of its experience will add much more functionality to the design, and help to produce better results. This also is proof that technology does not have a radical point of view, but also can relate with tradition and its typology.

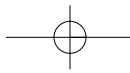


Characterizing the Inhabitant in Robert Kerr's *The Gentleman's House, 1864* William M. Taylor

Any account of design as a unique form of creative practice must acknowledge the varied sources, conceptual frameworks and institutional contexts that have shaped its historical development. This is particularly the case when considering the ethical context arising from various calls in nineteenth century Britain for “good” design to ameliorate the harsher effects of industrialization, to promote national commerce or to improve individual character through better forms of habitation. To a large degree, aspects of this ethical context persist today. Professional liabilities, pedagogic practices, and forms of governance remain dependent upon there being some connection between architecture and spatial manipulation and human betterment. By considering not only the great proponents of nineteenth century design—figures such as Pugin, Morris, and Howard—but also lesser known writers whose works were directed to those most likely to benefit from improvements in the domestic sphere, we find points of reference for recasting issues stemming from contemporary design practices.

With this goal in mind, I begin by stressing the importance of nineteenth century writers of works on domestic architecture and household economy for an understanding of both ethical and practical aspects of design today. This paper details one such work, Robert Kerr's treatise, *The Gentleman's House*. It focuses on Kerr's characterization of the inhabitant—the occupant of the well-formed home and garden—as the key beneficiary of the designer's ministrations and the source for practical methods of effective planning. Through the articulation of its environment, the figure of the inhabitant in Kerr's work became an inherently normalizing aspect of a design process. That is, by invoking the character of the inhabitant as a way of comprehending or communicating plans and spaces, Kerr portrayed design as a distinct form of creative practice, while the experience of space imagined through reference to this figure was, to a certain extent, universalized.

The figure of the inhabitant remains a key feature of contemporary design discourses—particularly architecture and landscape architecture—though it is largely taken for granted given the routines of professional practice and, more likely, its own “ordinariness.” At the drawing board, few designers work without someone in mind: a client perhaps or even more abstract creature: some

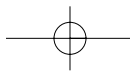


projection of the self or alterego, complete with imagined sensibilities and preconceived responses to space. Similarly, it would not be uncommon for a design student to “walk” someone through a project as a way of explaining its salient points. In such cases, the imaginary figure in a room or landscape comes to share the same space of interpretation as the critic just as a reader might be said to identify with a character in a novel. By addressing Kerr’s use of characterization, however, I intend that this paper raise issues of more than arcane or mere literary interest.

Ultimately, through this brief consideration of Kerr’s treatise, I suggest that the historic constitution of design as a unique form of creative practice and its incorporation of a rhetorical strategy involving the use of characterization, has served as a means for thinking about human identity as it is impacted upon by environmental—architectural and landscape—factors and planning. The inhabitant’s accommodation to its surroundings served to articulate a moral condition through which a state of domesticity became a vehicle for the production of self-knowledge. The several reprints of Kerr’s work and the popularity of similar books on domestic economy, home improvement, and garden design in the second half of the nineteenth century attest to the availability of the category of the domestic as a means for responding to questions relating to individual and national identity.¹ Accordingly, such categories as convenience and comfort, like the terms health and well-being in a biological or medical context, provided material for the exercise of identities endowed with the faculties of choice and will.² Historically, the house and garden came to represent spaces set apart from the office or factory. In retreating from the rigors and demands of the latter into the safe and nurturing shelter of the former, it generally was believed that one found a space in which to be oneself and to exercise a certain “hard-earned” freedom. This is a belief that persists today.

This paper seeks to present design not as an abstract and timeless concept, but as a historically contingent phenomenon, the result of practices aimed at transforming human behavior. Likewise, without wishing to offer a history of the inhabitant as merely an “idea,” but rather to emphasize the importance of this figure for moral philosophers; and social and political theorists as well as commentators on design theory, architecture, and landscape architecture; this paper will elaborate the points raised above through a framework inspired by the work of Michel Foucault. This involves a sensitivity to the manner in which forms of human subjectivity (the “just” or moral citizen, the “gentleman” homeowner, the “good” housewife) are formed through practices associated with the governance of (primarily) urban populations. This perspective is shared by Foucaultian scholars, particularly of the “governmentality” school.³ In general terms, it emphasizes the value of historical circumstance—Foucault’s “discursive formations” with their

-
- 1 Kerr’s *The Gentleman’s House* was published in three editions: 1864, 1865, and 1871. A facsimile edition, published with an introduction by J. Mordaunt Cook, was released in 1972 (New York: Johnson Reprint Co.). Reactions to Kerr’s book were mixed, though generally favorable, as Mordaunt acknowledged. Many of the ideas Kerr expressed in the text were developed further and explained elsewhere, particularly in numerous articles and through his well-attended lectures. Kerr was a respected educator; he was co-founder and first president of the Architectural Association in London; second professor of the Arts and Construction at King’s College, and examiner and councilor at the RIBA.
 - 2 Monica Greco, “Psychosomatic Subjects and the ‘Duty to Be Well’: personal agency within medical rationality,” *Economy and Society* 22:3 (August, 1993).
 - 3 The literature on Foucault and his work is extensive. A key text outlining his theory of governmentality with accompanying critical commentary is Graham Burchell & Colin Gordon, eds., *The Foucault Effect* (London: Harvester Wheatsheaf, 1991).





“surfaces of emergence”—as a means of understanding contemporary practices. Particulars aside, this paper has an additional purpose in applying the work of Foucault to the study of design history in such a manner. It seeks to introduce readers of *Design Issues* to a few social theorists working outside the fields of design theory, architecture, and landscape architecture, whose analyses nonetheless seem relevant. They challenge one to consider how the use of language has placed design firmly at the nexus of relations between knowledge and power.

Robert Kerr maintained that “No room ought to pass muster on the plan until the designer has in imagination occupied it and proved it comfortable.” While one most likely can imagine some dimwitted architect of the 1860s failing Kerr’s test of mental occupation, it is hard to imagine *today* an architect who configures rooms without practical consideration given to the manner in which one moves from one to another or who fails to rely on some measure of convenience, privacy, or accessibility in designing for human well-being. These qualities have long since established norms of habitation, guided the historical development of design practice and education, and continue to underscore the professional status of the architect and landscape architect. In terms of familiar issues and practices—the speculative dimension or ethical context of design, for instance, the play of functional necessity and stylistic expression or the centrality of planning in architectural form-making (to name but a few)—this paper asks the reader to consider how design can be seen to play an important role in representing and forming human desires, needs, and capacities.

The Gentleman’s House

Many books on domestic architecture were written in the second half of the nineteenth century. Robert Kerr’s *The Gentleman’s House* stands out for the author’s strong advocacy and explicit formulation of what today one might consider good planning, but which the author himself termed “Plan.” While one finds earlier treatises in which the careful disposition or *convenience* of rooms was encouraged—particularly in the genre composed of works describing the design of rural cottages and workers’ housing—Kerr’s manner of exposition is worth noting in that he drew upon a series of historic or well-known residences, each carefully delineated, and accompanied by extensive commentary detailing the manner of their arrangement. It is, perhaps, ironic that Kerr’s advocacy of sound planning in architecture over ostentation and issues of style and historic precedent should have relied upon the remains of aristocratic dwellings—many inspired by Palladio and drawn from Colin Campbell’s eighteenth century *Vitruvius Britannicus*—for exemplification, but then these are laid bare, almost always indicated as simply delineated floor plans unaccompanied by elevation or section, or the slightest hint of classical ornament.

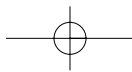




Figure 1
Plate 20 "West Shandon, Dumbartonshire,"
Plate 20 in Robert Kerr, *The Gentleman's
House*, third edition, revised (London: John
Murray, 1871): 59.

The Gentleman's House begins with a history of the evolution of the modern English house. Kerr found two of its three chief attributes—privacy and arrangement—little advanced by the eighteenth century, but the third, the "catalogue of rooms," more in evidence. The differentiation of space into halls, galleries, and various chambers and parlors was evident even earlier—in the noble dwellings of the sixteenth century—but these were "too indefinitely contrived, as regards their precise use and their relation to each other in disposition." Evidently, there was little to be seen of the modern notion of convenience. A work such as *Vitruvius Britannicus*, despite the variety of handsomely illustrated mansions of the period commonly displaying the grand saloon and symmetrical rectangular subdivision of rooms of Palladianism, nonetheless was a catalog of the "waste of space characteristic of the system." It proved to be the "ingenuity of the succeeding generation" of the nineteenth century that made sense of the forms of accommodation housed within the Palladian manor, devising from the inchoate plans of Campbell and his contemporaries, Vanbrugh and William Kent, the "scientific mode of adjustment and arrangement" that was the subject of the book.⁴

For Kerr, the much-cited revivalism of the first half of the nineteenth century arose from a general freedom of thought which challenged the dominance of the Palladian plan, but which "ripened" into an narrow antagonism between the choice of classical or Gothic style. Both classical and Gothic plans were capable of providing suitable domestic comfort, according to Kerr, though the styles themselves did not guarantee it as such. The Manor of West Shandon in Dumbartonshire (figure 1), for instance, completed in 1863 in the year prior to the publication of the first edition of *The Gentleman's House*, was said to have exhibited the peculiarities of the medieval revival in "a manner more than usually characteristic." Though the principal rooms of the house were more or less symmetrical, they had been "purposefully irregular, sometimes eccentrically so." Similarly, were one to indicate lines of thoroughfare passage, they would:

"wander at their own sweet will" in labyrinthine freedom quite beyond the reach of art. The entire composition gives one the idea of a rabbit-warren; you can get from anywhere to everywhere at a jump—provided you know the way. (58–9)

Kerr concluded that both the classical and the Gothic styles could exhibit the qualities of "Plan" and, on the basis of their domestic arrangement, need not be antithetical:

to live in the one would be precisely the same as to live in the other; in a word, one might choose between them by lot (at least such is the intention, whether successfully accomplished or not); and yet this is our argument—that the one exhibits throughout an all-pervading *balance* which need

4 Robert Kerr, *The Gentleman's House*, third edition, revised (London: John Murray, 1871): 45, 49. Subsequent references to Kerr's text will be placed within parentheses in the main body of the paper.

not be constrained, and the other an all-pervading *freedom* which need not be unruly, as two distinct styles of Plan between which there seems to be thus far really no difference of value. (60)

Kerr capitalized the first letter of the terms "Plan" and "Thoroughfare," using them in a singular and indefinite sense to elaborate an a-historical quality of domesticity. This was made manifest, in varying degrees, in a series of specific building plans through the ages, culminating in that most progressive period, the nineteenth century. He reinterpreted the now, well-trodden clash of architectural styles in terms of their being varying means of configuring space. In *The Gentleman's House*, the classical and Gothic appeared as distinct environments, irrespective of which an organic unity of experience was presumed.

Pleasing and Comfortable Landscapes

This sense of habitable environment was reinforced in *The Gentleman's House*, where Kerr's plans were thrown open to the outdoors. Observations on landscape gardening occupy a relatively small section of the book, since the author began by advising the prospective homebuilder to consult with a proper landscape gardener at the earliest possible moment. A portion of this section of the book is occupied with a discussion of style in landscape-gardening which paralleled, in condensed form, his examination of architectural style. A rehearsal of his analysis of classic/Italian and picturesque/English manners of garden design will be deferred here, except to relate that Kerr held a common view that, whereas the picturesque style in architecture was derived from medieval influences, in landscape gardening it was, in fact, modern, derived from new principles of landscape art in the latter part of the eighteenth century. This was one historic instance that supported there being a common perspective for the elaboration of design principles appropriate for both house and garden. Given the legitimacy of both styles of landscape gardening "in the hands of an intelligent and experienced artist," there existed a practical dependence between house and grounds through their design (321-26). This was particularly clear when considering the "artistic connexion (sic) of the House with the ground":

To some extent in the case of even a small residence, but in a degree which increases with its style and magnitude, the building ought to be connected with the surrounding surface of the ground in a way which may be called artistic; and in dealing with mansions of superior class the utmost efforts of the designer have frequently to be called into request to form around the house, as itself only the central object or casket, a carpet of design, which shall spread on every side in the various forms of terrace and court,

parterre, garden, and lawn, until the architectural element is gradually expanded, expended, and exhausted, and the artificial blended insensibly into the natural. (315)

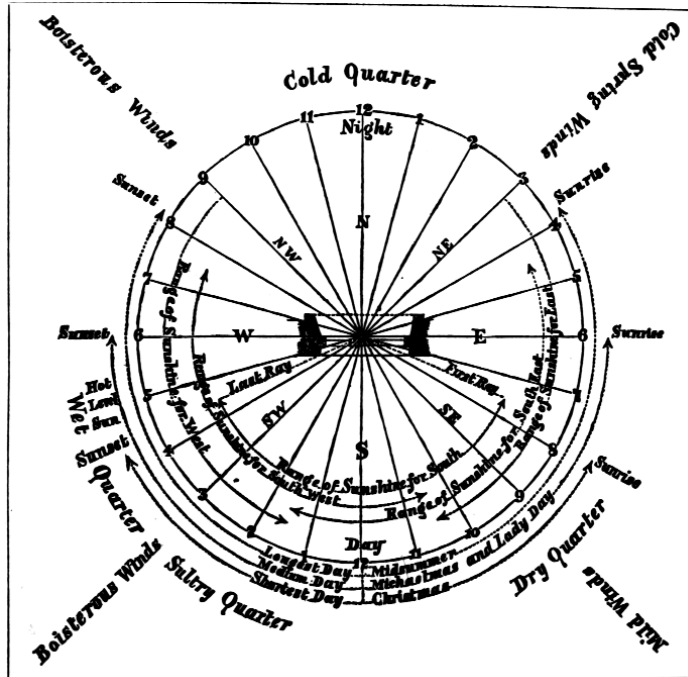
Home and garden were formed into a cohesive entity in a number of ways. First, Kerr's "carpet of design" placed renewed emphasis on the "adjuncts" of the house, the immediate entrances, terraces, and parterres to facilitate the play of classical symmetries and the natural grace of the picturesque, say, or to mediate incongruities between upright and ornamented walls and the plain of green grass around it. The principal of blending the artificial into the natural was to have some curious repercussions such as soil which, when not suitably planted in garden or likewise formed into "a bond of combination," exhibited a "sort of nakedness that cried out to be covered." (315) To the contrary, under the "refining control of art," the irregularity of nature was permitted to approach "almost to the door." (326) Second, in that such compromise and blending was viewed primarily as a matter of planning, designs were carried out in some detail to ensure that the design fabric was fully knitted together. Hence, it was suggested that flowerbeds be introduced in any of the "recesses of plan," though they had to be used judiciously lest a terrace be mistaken for a parterre, that is, lest the overall legibility of the chosen style or the function of an particular element of the design be misconstrued. (332) Thirdly, and perhaps most important, the positioning of a "spot of ground" such as that of an interior apartment so as to maximize its availability for sunlight or shelter, all the while mindful of desirable views and privacy created a distinction Robin Evans observed in the text between spaces one sees and those one inhabits or moves through.⁵ The figure of the inhabitant of both interior and exterior compelled the designer to effect a compromise between both qualities, based on an imagined experience of space. Not only were distant views and immediate exposures significant, ease of movement had to be facilitated requiring careful consideration of ground levels between rooms and adjacent terraces or courts. Conversely, though ease of communication between rooms and terraces could have been facilitated by establishing level ground throughout, stylistic integrity commanded that the latter be visibly distinguished from surrounding lawns through a change of elevation and the provision of either a balustrade or grass slope.

Aspect and Prospect

To negotiate this geography of inner chamber, border terrace, and "further lawn," Kerr's designer came equipped with the author's "Aspect-Compass." This was a means for determining *scientifically* the most suitable relation between a window and its exposure to sunshine and weather (its aspect), and the corresponding room to the surrounding landscape and qualities of light in which the latter

5 Robin Evans, "Figures, Doors and Passages," *Architectural Design* 4 (1978): 267–78.

Figure 2
 "Aspect Compass," illustration in Kerr, *The Gentleman's House*, 81.



ASPECT-COMPASS.

(Note.—Throughout the whole treatise, when questions of aspect are under consideration, this diagram will serve for the illustration of the argument.)

was to be seen (its prospect) (figure 2). The compass, with a schematic plan of a south-facing window at its center, charted the bearings of various climatic phenomena: the hours of sunshine for different exposures, the positions of sunrises and sunsets throughout the seasons and the directions of winds be they boisterous, cold, or mild (314–15).

Despite the desire that the “artificial blend insensibly into the natural” in plan, the inhabitant of this terrain was not so easily accommodated. The effect of aspect upon a room and upon the adjoining landscape did not always correspond as Kerr pointed out. Views from a south-facing window, for instance, could be thwarted by the glare of the sun in the “picture.” Likewise, eastward and westward windows in breakfast room and study, respectively, could permit the warmth of the sun’s rising and falling, but the “charm of a daylight lighted from behind the spectator can never be had.” (83) Likewise, the appreciation of views changed throughout the day and given the prevailing weather of a locality. If one’s desire, “given a certain landscape,” was to turn it to best advantage, then one had to “comprehend the varieties of *chiaro scuro*” presented by the natural environment.

This rather prolonged exegesis of Kerr’s *Gentleman’s House* serves to illustrate how the map of relations between interior and exterior spaces entailed in plans—like the device of his aspect-

compass—assumed a guise of rationality which belied the necessity of compromise based on subjective value. Just as the antagonism between aspect and prospect created spaces within which one either moved or saw things, the inhabitant was cast as a sensible being who not only occupied a particular room or spot of ground physically, but also experienced that precise location visually, acoustically, and even oralfactorily as well. Recourse was made to an imagined experience of space through which such compromises were choreographed. Designing the home, then afforded “opportunity for the exercise of much ingenuity in the disposal of rooms so as to possess the advantages of aspect and prospect together, unconnected and frequently conflicting as their demands must be.” (83–4)

I would suggest that the call for ingenuity here should neither be dismissed as gratuitous, nor be seen to invoke simple cleverness. Rather, it called forth an imaginative process dependent upon a particular way in which the figure of the inhabitant was construed and the plan as a representational technique was deployed. The inhabitant invoked a form of characterization dependent upon the articulation of specific spaces and their relation to an imagined subject through the spaces he or she inhabited, moved through, saw, and felt. Consider for instance, Kerr’s discussion of the necessity of comfort and:

Take, for instance, the case of a Gentleman’s Study of small size; and suppose, when the occupant comes to place his desk in it, he discovers that he must chose between three evils (not an unfrequent case), namely, whether to turn his back to the fire, or to the door, or to the window. He will be told, perhaps, that the reason of this awkwardness lies in the conflicting claims of a neighbouring apartment; or that is the fault of the access, or the chimney-breast, or the prospect, or what not; but the simple fact is that it is the fault of the architect—the room has never been *planned*. It is true, it would be dangerous to assert that the architect is bound to provide for each individual apartment an arrangement as perfect and complete as if itself alone were the subject of design; questions of compromise must continually arise, and often they will prove hard of solution; but the skill of the designer has its chief task here, in reducing every compromise, by sheer patience of contrivance, to a minimum; and the plan can never be considered perfect whilst anything of the sort is so left as to provoke the perception of a radical defect or even a serious discomfort. (70–71)

Comfort was a measure of the accommodation of the occupant to its immediate environment. Involving a passive response to the perception of spatial attributes and sensation of environmental qualities, it was inherently normalizing. It was related to, though



distinguished from convenience, which resulted from a suitable arrangement of component parts as “shall enable all the uses and purposes of the establishment to be carried on in perfect harmony.”

Robin Evans described the significance of *The Gentleman's House* as a nineteenth century landmark in the gradual emergence of a new kind of inhabiting subject in architectural discourse. In the earlier plans and paintings of Renaissance architects and artists such as Alberti, Palladio, and Raphael, he discerned a polyvalent figure, free to move from room to room via multiple doors, free from the restrictions of serviced rooms and auxiliary passages: a figure of chance encounters and animated carnality who remains unrestrained by an exact and conforming architecture—much less so the position of furnishings. To the contrary and foreshadowing modern patterns of domestic life, Evans found various norms of habitation emerging from the increasing differentiation of domestic spaces, the criticism of “thoroughfare rooms” as “inconvenient,” and repeated concerns for privacy expressed in treatises on domestic architecture by the middle of the nineteenth century.⁶

Reading Character

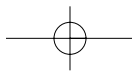
Coincident with the sense of increasing domestic individuation evident in *The Gentleman's House*, Ian Hunter has described how, in the nineteenth century, the literary construct denoted by the term “character” became an object of moral reflection—in his terms, a “projection or correlate of the reader's moral self and personality.” Certain techniques and practices allowed readers to project their own interiority into a work of literature, the purpose of which was moral transformation or—in Foucaultian terms—the production of knowledge via disciplinary individuation.⁷

Extending Hunter's frame of reference to include architecture and design, similar techniques and practices came to invoke the figure of the inhabitant through an imaginative reading of characters *in space*. These included, first, nineteenth century discourses on comfort. Reminiscent of earlier practices of Christian pastoralism though given secularized form, the manipulation of space came to facilitate the adjustment of an individual's style of life to his or her own sense of well-being and moral integrity. The chief goal of this accommodation was the restoration of motivational energies in a world of labor. The emphasis here was not only on the attributes of particular character-types—the “soft” nature of the retiring woman, the vulnerability of children, the ribald character of bachelors, and so forth—but on the settings for the actions of these figures and the extent to which these settings could be manipulated so that decent habits were imbued. Kerr, for instance, detailing the spatial qualities essential to a comfortable life, described how spaciousness induced a sense of well-being in the inhabitant in the following scene:

There are many otherwise good houses in which the sense of contractedness is positively oppressive; you experience a

⁶ Ibid., 272-73.

⁷ Ian Hunter, “Reading Character,” *Southern Review* 16:2 (July, 1983): 230-34.



constant fear of overturning something, a sense of being in somebody's way; you speak in a subdued voice, lest you should be heard outside, or upstairs, or in the kitchen; you breathe as if the place were musty; you instinctively stoop to pass through a doorway; you sit contractedly in your chair, and begin even to lie contractedly in bed; and to step out into the open garden, or even upon the footpath of a street, seems an act of leaping into free space! And there are others, perhaps of much less aggregate size and importance, where the mind and body, the spirits and even the self-esteem of a man, seem to expand and acquire vigour under the simple influence of elbow-room. (74)

Second, certain techniques—notably the use of grammatical tense in the preceding illustration—allowed the reader to share the same psychological space as the inhabitant. In the end, it was *you*, the reader, who was oppressed by a sense of claustrophobia, *you* worried about upsetting the furniture, *you* sat cramped in a chair or lay awkwardly in bed. Conversely, when “amplitude of space is made the rule” as in larger or more dignified houses, we had the difficult task of “keeping it all together.” Furthermore, Kerr’s language was anything but plain as he would have had one believe, but rather incorporated a set of specific meanings which both inhabitant and reader were intended to understand. Accordingly, plans acquired an “extended and straggling character,” and corridors seemed “interminable,” while spaces were “wasted.” The reader was invited to experience the spaces indicated and thereby acquire a knowledge of what these terms meant when they were applied to architectural or landscape configurations.

Thirdly, the technique of reader—identification was furthered by invoking norms of physical habitation. Kerr’s *Gentleman’s House* rendered the experience of dwelling a matter of convenience, emphasizing actions of passage and relations of proximity. The idealized inhabitant was one who had to mediate the demands of spaces he or she moved through and those in which he or she observed things. The reader was meant to share in these domestic perambulations and visions. In an earlier example of this practice, in the equally popular *Suburban Gardener and Villa Companion* of 1838, John Claudius Loudon elaborated the design of his own home and garden which was to:

...have some pretensions to architectural design; being, at the same time, *calculated for invalids*, and, therefore, furnished with verandas extending nearly round the whole building for taking exercise in during inclement weather.⁸

Like Kerr’s terraces and parterres, Loudon’s verandas negotiated the transition from interior space to exterior environment (figures 3 and 4). Their plans did not suggest the quality of the space they

8 The emphasis here is mine. John Claudius Loudon, *The Suburban Gardener and Villa Companion* (New York: Garland Publishing, 1982, originally published in London, 1838): 325.

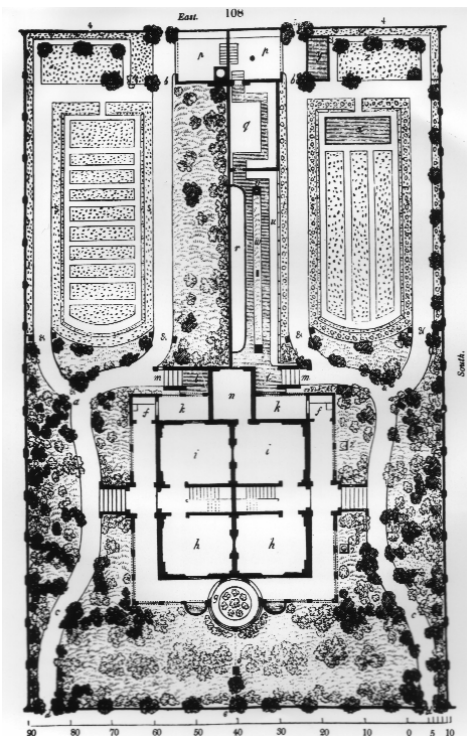


Figure 3, above

"A double-detached suburban villa plan in Porchester Terrace, Bayswater," Figure 108 in John C. Loudon, *The Suburban Gardener and Villa Companion* (London: Longman, Orme, Brown, Green, and Longmans, 1838), 326.

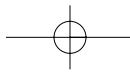


Figure 4, above right

The "double-detached suburban villa" that served as John Loudon's own home in Bayswater, London. Photo by the author.

enclosed nor were these and adjacent rooms governed by principles of proportion. They comprised, rather, diagrams of relationships between spaces designed for a very specific purpose: ease of movement. In the case of Loudon's design, convenience was moderated based on the character-type of the invalid. Relations of proportion were supplanted by those of proximity and interconnection. The initialing of all interior rooms and adjacent exterior spaces was keyed to respective purposes, while visible character, consequently, was rendered problematic since it was the effect of some other quality, namely, functional coherency.

In both Kerr's house for a gentleman and Loudon's home for an invalid, the use of plans was inherently normalizing. That is, they invoked standard ways of using—moving through, visualizing, and obtaining comfort from—the spaces they represented. This raises a fourth and final point regarding the role that plans played in further distinguishing the figure of the inhabitant. Plans and associated commentary provided the basis for a knowledge of habitation by functionally differentiating between rooms and by specifying modes of relation between them. This facilitated an overlap between the fully integrated building and the morally integrated life. There followed the need that compromises be minimized, that plans be rendered compact, and that space not be dissipated. It is not surprising that the many works of domestic economy of the latter half of the nineteenth century brought together a concern for



space with a concern that effort not be wasted in the home. Such appeals to “economize space” and such terms as “mechanism” (74–76) to describe the convenient plan reflected not only the transference of terms from classical physics and economics to such fields as architecture, but the more general and powerful deployment of positive science to explain inherently social phenomena. That a literary construct such as character should be so central in obtaining the most “scientific form” of integrity possible is remarkable in works of self-help such as the 1888 manual *How She Did It or Comfort on \$150 a Year*. In a preface to the reader, the author:

wishes to say, as strongly and impressively as words can express it, that its story is not merely founded on fact, but is an actual portrayal, step by step, of her own experience, her own wonderful success in carrying out a long-cherished theory of comfortable economy.⁹

Given her claim that “The every-day life described is not a poetically imagined affair, but one that she has absolutely lived and gloried in,” the author nonetheless relied on a fictional creation, Faith Arden, in “solving one of the difficult and perplexing social problems of the day.” Through the ensuing monologue, the reader followed the book’s heroine as she took on the task of fashioning a house so that she could live on restricted financial resources. Mindful of unwarranted extravagance and meriting the determination her name suggests, she confronted more fashion-conscious critics:

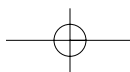
I will have a house, the plan of which I have carefully studied out, in which housekeeping shall become a practical delight, with no wearying or repulsive details. I will settle down to a life of pure enjoyment, into which the grosser elements of everyday existence shall have little place. I shall have every comfort, unalloyed by household anxiety; and the bread of contentment will be sweeter to me than the richest feast you have every spread before your guest in your own houses.¹⁰

Before concluding, a final word is in order regarding the environments in which the inhabitants of the preceding examples found themselves. Foucault’s concept of disciplinary individuation arose as knowledge of the human body—its physical operation, psychological attributes and capacity for productivity—informed techniques for normalizing relations between individuals and their social milieu. The aforementioned works are notable for contributing to various pedagogic formations (relying on manuals of residential architecture, gardens, and domestic economy) that effected the technical connection between the rhetorical analysis of character and scene and the “machinery for the construction of moral selves or good personal character.”¹¹ The figure of the inhabitant appeared during a period in which the biological sciences highlighted the

9 Mary Cruger, *How She Did It or Comfort on \$150 a Year* (New York: D. Appleton & Co., 1888).

10 *Ibid.*, 9.

11 Hunter, “Reading Character,” 233.



impact of environments upon the body and described *life* as that force which was guided by evolution and adaptation, modes of accommodation, and norms of adjustment. A work such as Alexander Bain's *The Senses and the Intellect* of 1855, for instance, contributed to an emerging awareness that knowledge was formed through experience, dependent upon an individual's actions, and not that defined philosophically. One implication of his work was the link that came to be established between the sensation of spatial qualities such as light, warmth, or sound and the inhabitant's occupation of space and movement through it. Environmental qualities became the product of the inhabitant's temporal existence, available to narrativization and not simply the character intrinsic to objects and spaces.¹²

Interesting, one also finds in the nineteenth century a form of moral psychology emerge with a similar environmental cast, reinvigorating what had previously served as caricature. By way of explanation, we find in *The Gentleman's House* several senses of the term "comfort." First and foremost, it indicated an absence of such evils as "drafts, smoky chimneys, kitchen smells, damp, vermin, noise, and dust; summer sultriness and winter cold; dark corners, blind passages, and musty rooms." In broader terms, it also suggested the idea that each room in the house should be planned according to its purpose, that it was "free from awkwardness, inconvenience, and inappropriateness." Expounding upon a popular theme, Kerr introduces another sense of the term, that of a style of living. Hence, we find that "indoor comfort is essentially a more Northern idea, as contrasted with a sort of outdoor enjoyment which is equally a more Southern idea, and Oriental." Similarly, the French were motivated by certain habits that connected them to the ancient Romans, while the English were related to certain Gothic traits "by direct inheritance through the Saxons." These claims of descendency invoked the familiar nationalist theme of "blood and soil," though these were rendered entirely relative due to peculiarities of climate, domestic habits, social distinctions, and material wealth (69–70). Just as the concept of the organic structure of living beings redefined the basis of biological knowledge by the latter half of the nineteenth century, the organic structure of society was given an environmentally derived form, allowing the figure of the inhabitant to move between various homes depending on his or her ethnic character.

Conclusion

By way of concluding, I'd like to shed a slightly different light on the figure of the inhabitant and briefly suggest how the discourses of comfort, techniques of reader-identification, and practices of reading plans confined him or her within a complex web of obligations. First, the desire for comfort was accompanied by the need for a great many *things*, not only the quality of spaciousness and a room

¹² Alexander Bain, *The Senses and the Intellect* (London: John Parker & Sons, 1885) cited in Robert Young, *Mind, Brain and Adaptation in the Nineteenth Century* (Oxford: Oxford University Press, 1970), 121.

for every activity, but furniture to fill them with, windows to see through, but not be seen, servants who formed their own thriving “community” behind their own shut doors, soil that cried out to be covered and lawns to be weeded and mowed. The nineteenth century discourse on comfort was built upon a burgeoning material culture and a system of production and consumption that afforded it. This point seems so obvious as little more need be added here. One may imagine, nonetheless, the inhabitant being drawn from the web of legal obligations associated with property ownership tying him or her with lines of credit, rents, and mortgages, paternity and inheritance, and employment and servitude, all strung between the rafters of the home.

Secondly, as the curator of this museum of materialism, the inhabitant was defined in part by a need to manage its contents and appliances. He, though more likely *she*, had to constantly distinguish between functional necessity and ostentatious ornament, negotiate the breach between home and garden, and equip the last wasted space. Acquiring a knowledge of the attributes of the home brought, not so much its mastery, but a transformation of behavior as one sought to remedy its deficiencies. The goal of “domestic economy” was not only regulation, but also the ever more precise specification of the factors that impinged upon human comfort and well-being.

In illustration of this, it is worth considering for a moment a work published in the same year as *The Gentleman’s House* titled *Our House and Garden: What We See, and What We Do Not See in Them*, in which the author brought the advances of science to the attention of the average homeowner.¹³ He described, among other phenomena, the reasons why one felt cold upon arising for bed, discerned the freshness of the air, the dampness of different materials from which linen and bedclothes were made, the porosity of walls and the watertightness of masonry; the composition of the air, its movement and closeness, and the smells of objects within confined spaces. The author equated an ever greater scrutiny of the home with travel, since the former proved to be equally beneficial to mind and body. What united home and garden proved to be a knowledge of biology, the natural sciences, and even meteorology:

When we leave our house and enter our garden, a new class of phenomena, other abounding marvels, are ready to greet us. Of these, many are apparent to our senses—we might remark them at the first glance, if we but *think* a little—many other wonders belong to the unseen movements of the vegetable world. We have recourse, therefore, to the chemical philosopher to explain to us in some degree hidden mysteries that we can otherwise only known by the results they produce.¹⁴

13 Cuthbert Johnson, *Our House and Garden: What We See, and What We Do Not See in Them* (London: William Ridgeway, 1864).

14 *Ibid.*, 144.

The effort to discern the workings of such “hidden mysteries” to capitalize on their ameliorative potential or to minimize their more deleterious effects, brought together homeowner and housewife and their fictional counterparts and scenes depicted in the works discussed here into an pedagogic apparatus. This entailed a particular way of thinking *through* space aided by these literary devices and by representational forms such as plans, perspectives, planting guides, and sections. These devices and graphic tools further bound the inhabitant by obliging him or her to decipher their meanings.

Ironically, these various constraints of possession, management, and interpretation persisted alongside an overarching rhetoric of domestic freedom. Kerr described the home as the Englishman’s “most cherished possession,” inhabited by a species that inherently wished to “avoid obtrusiveness” (69). From such claims, echoed in numerous tracts of the period, the figure of the inhabitant assumed the guise of the retiring homeowner. The freedoms entailed in human health and well-being were freedoms from both drafts and fetid air, the dampness of walls and linen, dark, cramped spaces, but also from unwarranted physical and visual contact. In the realm of governance, the logical and contemporary correlatives of aspect and prospect perhaps are “skyrights” and “visual privacy.” These may not have been fully realized in planning and building regulations enacted by the date of publication of Kerr’s *Gentleman’s House*, but the basis for their elaboration—the figure of the inhabitant subject to both domestic obligation and right to domestic space—was being established. Given the moral discourses on labor through which space was linked to opportunity—construed not only in biological terms, but as a natural right—then truly a home required plenty of “elbowroom.”

One also should also note here that, in configuring the home, the use of characterization coincided with a change in relations between designers and their clients. Kerr’s dual vocation as an architect and educator accounted for the importance he placed on the elaboration of a method for designing home and garden more scientifically. It also justified his insistence on communicating to prospective homeowners the qualities of a true gentleman’s house. In some ways, this realignment of relations between designer and client paralleled shifts which occurred late in the eighteenth century between doctors and their patients which marked a significant transformation in bio-medical discourses. In broad social terms, the consequence of such a reformation of the architectural profession was perhaps not as great as it was given the heightened prestige afforded to doctors and other health professionals.¹⁵ Still, I would argue that the use of characterization and attendant design practices were important in defining the professional parameters of architecture and landscape architecture.

In this sense, the value of pastoralism underlying professional design practice entailed not so much a relationship of power

15 Nikolas Rose, *The Psychological Complex* (London: Routledge & Kegan Paul, 1985) and Michel Foucault, *The Birth of the Clinic* (London: Tavistock Press, 1973): Chapter Six.

in which authority was ensured on the basis of a specialized knowledge—the authority, say, of a medical specialist with a detailed knowledge of human physiology and disease. Rather, it served to articulate and to represent to the occupant a “psychopathology” of the home.¹⁶ Based on the model of contagious disease, this psychopathology depended upon the individual’s self-conscious experience and interpretation of his or her surroundings. It resulted in a moral imperative being placed on the inhabitant to remedy the diverse and environmentally situated causes of stress.¹⁷

Accordingly, the categories of convenience and comfort, so central to Kerr’s *Gentleman’s House*, were not states imposed upon the individual by a particular environment, configuration of rooms and corridors or relation of aspect and prospect. Rather, they were dependent upon a particular kind of inhabiting subject, one endowed with freedom of choice and a readiness to assume a lifestyle productive of health and well-being, familial cohesion, and emotional stability. This desire for domestic integrity, like the “duty to be well” in the contexts of biology or medicine, depended upon visible signs of “initiative, adaptability, balance, and strength of will.”¹⁸ As a result, the domestic environment became typecast as a series of scenes for the enactment of one’s moral life as techniques of government mediated between powers of domination and techniques of the self.¹⁹

As a domain for actions of various sorts, both freely chosen and legally binding, the home continues to accommodate the range of activities constituting domestic life. It defines a spatial domain in which connection between forms of subjectification and subjection in their varying degrees of “looseness” can be defined. To alter slightly a previous observation, the home provides an arena for various techniques of the body, forms of genetic and social relation, and modes of expression, which, though connected to the world of labor, informs disciplines which escape total determination by that world. The family home indeed may be thought to be a site for the analysis of power at a microphysical level, the site, say, where medical, psychiatric, and educational discourses articulate a range of bodily and building practices. One must be mindful, however, that likewise it is the site for imagining the lingering allure of individuality, autonomy, and personal freedom constitutive of the self. Accordingly, when evaluating the calls for “good” design evinced by reformers and treatise writers in nineteenth century Britain—both visionaries such as Pugin and Morris, and “practical” figures including Kerr—one should be mindful of the politics of identity with which their works engaged. Through something called design and the increasingly common use of a kind of rhetorical strategy involving characterization, their works became a means for thinking about human identity as it could be accommodated and transformed through sound architecture and planning.

16 Anthony Vidler, “Psychopathologies of Modern Space: Metropolitan Fear from Agoraphobia to Estrangement” in Michel Roth, ed., *Rediscovering History: Culture, Politics, and the Psyche* (Stanford: Stanford University Press, 1994).

17 Greco, “Psychosomatic Subjects,” 359–360.

18 *Ibid.*, 369.

19 Grahame Burchell, “Liberal government and the Techniques of the Self,” *Economy and Society* 22:3 (August, 1993), 268.

Design in Search of Roots: An Indian Experience

Uday Athavankar

This paper is a substantially updated version of the two recent papers (1) "The Challenges of the Desperate Extremes" presented in the plenary session of the ICSID 2001, Seoul, South Korea on October 8, 2001; and (2) Meeting the Challenges of Globalization: Some Pointers to Design in the Developing World," presented as the keynote address in the "Importance of Design in the Creation of an African Renaissance," conference in Durban, South Africa, on November 8, 2001.

This is a story of the struggle of a young design profession to establish itself and search for a meaningful role in the post-colonial era. The story is based in India, but similarities with other developing nations which once were colonies cannot be ruled out. The last three decades, from the seventies when the first industrial design graduates entered the field, to the nineties, is a long enough period to look back and reflect on these nascent years. As a teacher and a design consultant in India, these three decades gave me ample opportunities to witness the changing trends, and to share my optimistic, and sometimes pessimistic, reactions with my professional colleagues and students. Looking back, it appears that, in responding to the changing political thinking and policies in these decades, the young profession seems to be rediscovering itself continuously. In a way, I am narrating the story of this process of discovery.

Recent political events that have aggressively pushed the removal of the national trade barriers and globalization make these reflections even more timely. The economic as well as the socio-cultural effects of the globalization process on the developing world are too conspicuous to be missed. I plan to present this three-part story of the struggle using the relationship between cultural diversities and economic disparities as a background.

In the first section, I will present an overview of the events up to, and immediately after, independence and reflect on their impact on the emergence of asymmetry in the cultural diversities. I then will look at the exciting beginning of the design profession in the seventies and its search for roots during the first two decades. In the second section, I plan to focus on barrier-free trade and globalization and how these international events in the nineties have prompted Indian designers to develop their own business models to meet the new challenges.

In the concluding section, I will shift to the nagging question that designers in most traditional societies have to face. In pursuing the win-win economic scenario projected by the advocates of globalization, will the traditional culture sustain the onslaught of modernity? As a backdrop, the story uses the efforts of the design profession to find its roots in the conflicts between the two key issues. First, to promote rapid economic development to tackle the extreme economic disparities, and second, to minimize the effects of development on the cultural diversities. Fortunately, in India, much

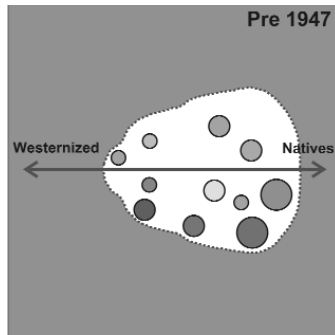


Figure 1

The colonial rule associated higher social status with the “progressive and superior (?)” colonial cultural practices, labeling the traditional practices as “native.”

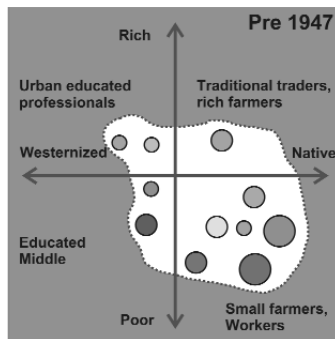


Figure 2

Superimposing the economic dimension gives an overview of divisions in society.

of the tradition and cultural practices remain visible even now, but I am not sure if we will be able to retain this rich cultural resource for long. As in the case of biodiversity, it would be sad if we would be required to create campaigns and organize missions to consciously sustain the remnants of cultural diversity.

The story ends with the lessons that this conflict has for the global design community. It is clear that, as the world globalizes further, responding to the multicultural and multi-ethnic diversities will be the important challenge most of the world design community will have to face in the new millennium.

1.0 Emergence of a Nation-State

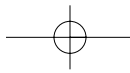
The conflict between the import of new products and technologies, and the consequent effects on the cultural diversities, had started long before globalization, at least in the nations which were colonies earlier. However, it did not become a topic of debate until the colonies got their voices back after independence. Because of the sheer pace and intensity with which the concept of barrier-free trade is being pushed now, this conflict has reached a critical level, but its roots are in the colonial era.

Colonial rule brought exposure to the Western world, education, ideas, thinking and more important to us, the products, the technologies and the ideas of industrialization. Colonial architecture, products, dress, costumes and advertising added to the already existing diverse cultural legacies left behind by the several empires that had ruled India earlier. Some of it was a direct transplant; others attempted synthesis with the local traditions.¹ The colonial rule also planted the notions of superiority associated with colonial ideas, objects, and cultural practices. People could aspire for a higher social status by adopting the British objects and following their cultural practice. It created an asymmetry, in which the “progressive and superior (?)” colonial practices served as a standard against which the “native” practices were compared. Figure 1 shows a diagrammatic view of the asymmetry prevailing in this scenario. Superimposing the economic dimension on the diagram provides an overview of the divisions in the society. (See figure 2)

Asymmetry was really the first challenge to the prevailing cultural traditions and diversities, until the freedom movement took root. The nationalistic ideology challenged the colonial import of products and technologies, as well as their cultural influences in the later period of colonial rule. Though we were not part of the freedom movement, most of my generation grew up coming to terms with the lingering conflict between the notions of “superior” Western products and cultural practices and the nationalistic ideology of self-reliance.

In a way, the freedom movement and the idea of nationhood also were an indirect challenge to the cultural diversities. Nationalism that supported a new dream of a nation-state had an implied

1 U. A. Athavankar, “Cultural Identity and Design: Challenges to Designers in Traditional Cultures,” *Formdiskurs, Journal of Design & Design Theory* 3:11 (1997): 68–81; and also U. A. Athavankar, “Objects and Cultural Notions” in *Proceedings of the Third International Conference on Design Education in Developing Countries* (Pretoria, South Africa, March 25–27, 1997).



association with cultural uniformity and social unity. The idea of the nation-state was in conflict with the richness of diversity. Post-independence political authorities recognized this enormous diversity as a resource and made it a part of the idea of the nation based on “unity in diversity,” but the inherent conflict could not be swept under the carpet. The geo-cultural boundaries conflicted with the new political map of the nation. The size of the nation was too large and the cultural practices too diverse for the citizens to perceive it as a community to which they belonged. Should the existing plurality of cultural tradition be subordinated to the need for monolithic and homogeneous national culture? The question remained unanswered as newer issues such as economic development and raising of the standards of living dominated the post-independence policies and politics.

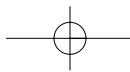
1.1 Design and Post-Independence India

Colonial rulers had set up industries and had started developing local manufacturing capabilities mainly to produce, sell, and export products under licenses from parent companies in their own country. With the focus on manufacturing, such issues as local design or technology development capabilities were not a high priority. These product and technology development capability gaps became glaringly visible after independence. Governmental policies favored the quick development of core industries and infrastructure, resulting in large government investments in importing technologies for core economic sectors including steel, mining, shipping, and water resources. The consumer products and durables were left to private industry to produce. Without an entrepreneurial history, private Indian companies chose to collaborate with foreign companies to continue to import products and technologies, and focused on production. The development of design capabilities remained low on their list of priorities.

In spite of the initial focus on infrastructure industries and development issues, the post-independence political vision of a modern India did have design on its agenda. It is significant that the then Prime Minister Javaharlal Nehru had invited Le Corbusier to design Chandigarh. Similarly, Charles and Ray Eames were invited to research and write the “India Report,” which led to the first steps in initiating design, particularly industrial design, in the early sixties. No developing nation could have conceived of a better beginning. Yet, looking back now, the current design landscape in India seems to be far removed from the vision that the early thinking projected.

Nascent Design Profession and Introspective Seventies: 1970–80

In the seventies, with graduates coming out of the two design schools, design had just begun to make inroads into the Indian corporate world. Interestingly, India went through the political lead-



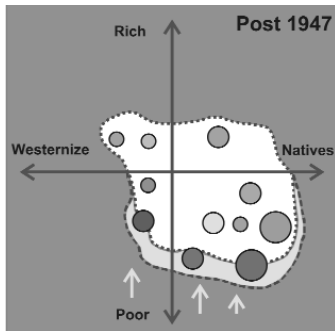


Figure 3
NGOs focused their efforts on the poor, who were marginally affected by the government development projects.

ership that supported self-reliance in technology development, and severely curbed imports of technology while licensing for manufacturing continued. This was a positive sign for establishing design as a profession. But there was very little to show by way of home-grown technologies waiting to be converted into products, nor was there a cutthroat competition to drive industries to innovation. At the corporate level, the motivation to innovate and improve products by systematic design inputs took a back seat.

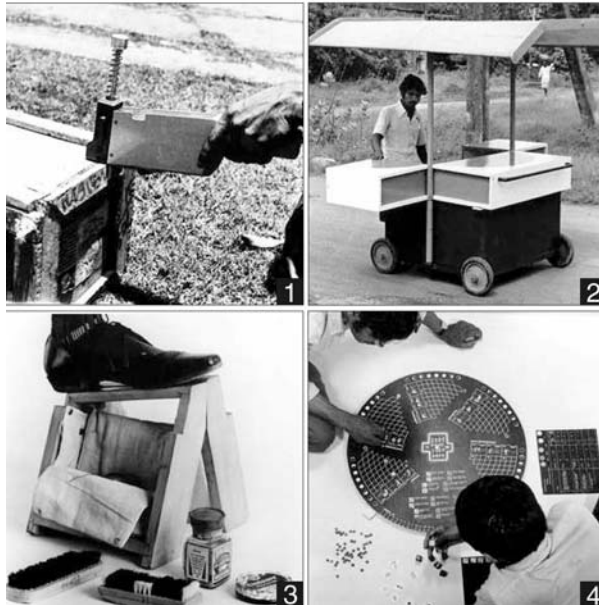
Designers obviously had to struggle to get a foothold in the not-so-receptive corporate world. As a result, most of us in design education collectively took responsibility for “marketing” the idea of design. It was unfortunate that early corporate designers had to struggle in a lukewarm, noncompetitive market economy. While the struggle to establish design in the corporate world continued, the design profession survived because it saw a meaningful role in the broader national vision.

It is important to note that the nascent years of industrial design education and the profession in India happen to coincide with a crisis in the ideas of economic development. What shook the design thinking and education was the debate then on development issues. This ongoing debate made us question the validity of Western orientation in the education and practice of design. The belief that development was both a desirable and an attainable objective was increasingly seen as an elusive phenomenon in the seventies. The large development projects, which were metaphorically referred as “Temples of Modern India” during the early development phase, now invited criticism leading to questioning the definition of development and its relationship to “social justice.” It was more than clear that the top-down government efforts only marginally affected the grass-root levels. The Western models of development came under severe criticism. The debate did affect the international design community, prompting its members to focus on the “real world” issues and appropriate technologies.

1.3 Design Inspired by the “Real World” Issues

The important challenge was to find the relevance of design to the lives of the vast majority of Indians, who had remained untouched by the technological developments. (See figure 3) They not only needed design help, but also would truly appreciate the difference that it could make in their lives. Such an opportunity excited designers in India, who were looking for a role in the national development scenario. Designers had to cross their normal professional boundaries as well as the barriers of social class and language to work at the grass-root level. “Barefoot designer” a term that came into common design parlance, referred to the noncommercial work culture and unusual work environment. Grass-root priorities were food, shelter, transportation, a reasonable access to elementary education and health services, and most important, a means of

Figure 4
Design projects inspired by the "real world."



income generation. Design opportunities existed in creating simple products, domestic aids, educational aids, tools and production aids which were either very cheap or which they could produce themselves. People needed innovative tools, and gadgets that would add efficiency, and ensure quality and consistency in locally produced goods. Direct contact with the grass roots influenced the design thinking, priorities and the projects in the design schools. Figure 4 shows some representative student projects: a low-cost, hand-operated nailing machine for packaging (1); a hawkers cart made from waste packing wood (2); a shoeshine stand made from waste packing wood (3); and as educational board game designed by the author to teach farmers scientific agricultural practices.

Our own assignments during the seventies also reflected these concerns. Looking back now, it is not surprising that, without any implementation prospects, I was motivated to develop an educational game for farmers (see (4) in figure 4), to learn scientific agricultural practices.² Our thinking and actions were influenced as much by our direct exposure to the grass roots, as by Schumacher's *Small Is Beautiful*³ and Victor Papanek's *Design for the Real World*⁴

As educators, we had started questioning the Western orientation in design education, and had started searching for a new identity in the context of the developing world. We saw this as an opportunity to develop a more country-specific design approach, and treated design as a tool for community development and social change. Designers who wanted to explore these potentials joined hands with non-governmental organizations (NGOs), that had carved out a more effective access to the grass roots through their dedication. A project to develop new leather products and improve traditional tanning technology at Jawaja (a local village) by the

2 It is interesting to note that the educational game received international recognition in a competition in 1973. It reinforces the point made earlier about the then focus of the international communities on the development issue.

3 E.F. Schumacher, *Small Is Beautiful* (London: Blond and Briggs, 1973).

4 V. Papanek V, (1971), *Design for the Real World* (London: Thames & Hudson, 1971).



Figures 5 and 6

Concerns for social change through design intervention dominated the projects.

Development of local capabilities through discussions was the key activity in the social agenda. (5) Actual designing of the leather bags (6) was seen as one of the intervention activity to achieve this larger goal.

Courtesy: National Institute of Design, Ahmedabad.



Figure 7

Design of electronic telephone for office use. These projects were part of the new technology development missions, funded by the government.

students and faculty of the National Institute of Design (NID), along with a business management institute, clearly reflects the designers' concern for social change through design intervention. (See figures 5 and 6)

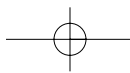
Globalization seems to have substantially altered the international concerns. We now are missing the motivation that also came from the debate on the development issues, nor have we, as a design community in India, been able to keep this thinking and vigor alive. These directions had the potential of helping designers discover a meaningful role and pioneering a new approach. Working at a grass-root level, it would have firmly established the humanist role of design, and demonstrated its effectiveness and relevance to a developing economy. Besides, the products would have remained close to the local cultural practices and thrived on the diversities. Some of these efforts still continue in a small way, but the enthusiasm seems to have waned.

1.4 The Emergence of New Design Opportunities: 1980-90

Surprisingly, the seventies ended on a positive note for the design profession, as this decade telescoped into the eighties. Realizing the possibility of being denied the new technologies, the new political leadership in India supported some extraordinary technology development projects. It was a politically-backed effort to catch up with the technologically advanced countries in areas like telephone exchanges, supercomputers and fighter aircraft. Some of the home-grown technologies required products to be built from scratch. We were called in to join a team developing new electronic telephones. (See figure 7) It was an exciting experience to be part of the new vision that aspired to develop products and technologies, while keeping international standards and competition in mind.

This positive political climate induced private sector industries to develop new products. The role of design and designers now was beginning to be recognized in the corporate sector. Western design norms and standards of aesthetics became the benchmarks. Perhaps, it was the inevitable fallout of the aspiration to follow global trends. Much of the professional design contributions came during the later half of this decade. The positive energy influenced the design education programs, with graduating students looking forward to taking on creative professional challenges.

Responding to the political thinking in the eighties, the design focus shifted from the grass roots to the high-tech. From the idealism of the seventies, the design education programs in India partly moved toward creating professionals who could effectively contribute to the corporate design world. Projects in the eighties brought home the fact that, for the development of a nascent profession, the government's favorable policy framework is as essential as a positive atmosphere and the feeling of being part of a bigger



vision. But were the policies able to retain this positive environment in the nineties?

With globalization and free trade in the nineties, the short-lived positive energy of the eighties seemed like a dream. In the part that follows, I plan to turn to the main issue, i.e., the way globalization has affected and continues to affect the design profession, in turn forcing it to rediscover itself.

2.0 Globalization and the Bittersweet Nineties

The integration of the national economy with the global economy often has been projected as a win-win situation, with the promise of prosperity in the long run. However, its short-term fallout is a bitter-sweet experience for the Indian economy. At this point in time, developing nation such as India must face globalization as a reality that cannot be wished away.

2.1 The Sweeter Side of Globalization

I plan to start the discussion with the sweeter side of the experience first. In India, globalization has opened up professionally lucrative opportunities in software development and virtual cyberspace products. Newer sectors like these have showed enormous potentials for growth and economic prosperity. As a result, globalization often is projected as an antidote to the ailing economy. (See figure 8)

With national boundaries losing their importance, it was a bonanza for the Indian consumers. An abundance of foreign cars, two-wheelers, white goods, and access to international brands ensured many choices for consumers, at least for those who could afford them. Indian products looked ridiculously outdated and technologically obsolete when consumers compared them with their global counterparts. Consumers in India were now more than ever convinced that global competition has benefited them, except that the competition in the Indian market now was between foreign brands or between products of foreign origin.

The new technologies that these products brought in made the consumer aware of design issues such as no-nonsense efficiency, quality, and reliability. So overpowering was this experience, that it often overshadowed normal buying logic. Most consumers were buying appliances including microwaves and refrigerators, which have little to do with local foods or cooking and storing practices. There were new office building in the middle of the tropics with full glass walls! It appears incongruous that, Indians, with their typical value-for-money attitude, were willing to sacrifice part of the functionality.

2.2 The Bitter Side: The Sellout

The dreams of prosperity also were coupled with the bitter side, i.e., the unhappy experience for Indian companies involved in the manufacture of conventional engineering goods and consumer

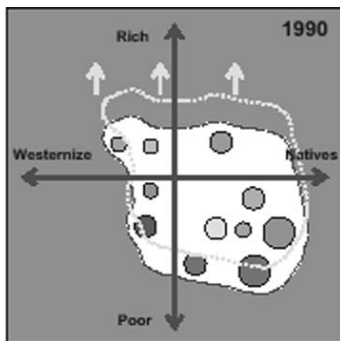
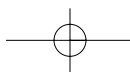
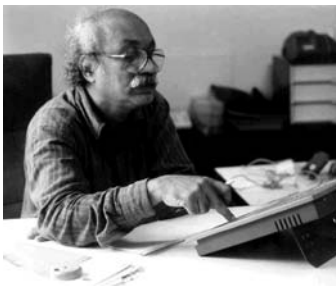


Figure 8
Globalization was perceived as a win-win solution to achieve rapid economic development.





Figures 9 and 10

Projects such as Gamma Chamber, a research instrument used to give measured radioactive dosages to laboratory samples. These types of products had to be developed locally because no foreign tie-ups were possible in these technology areas.

durables. Grown in the economic patterns prevailing in the protectionist and not very competitive business environment of the seventies, a number of Indian companies suddenly had to face the onslaught of technologically advanced imported goods. It was hoped that competition with global products would be an incentive to the local companies to improve their products, but very few companies could actually match the international design or technology standards.⁵ Success stories were too few and far between. It is interesting to note that, with so much competition in the market to drive design and innovation, there was very little by way of local design available. The short-term fallout obviously was disastrous for local design initiatives.

There were other reasons for the depressed market for local design services. Most of the developing world had a very poor record of development, as well as the conversion of homegrown technologies into new product ideas. Besides, consumers in India had gradually started showing a preference for products with technological superiority than excellence in industrial design. To add to this, the local market lacked the numbers needed to make substantial investments in new product development and updates attractive. With so many odds against them, the Indian companies were reluctant to invest time, money, and effort in the risky business of new product innovation.

These developments dampened the technology development aspirations of the eighties and severely restricted the local design initiatives. Many companies chose to import the technologies and also designs from technologically advanced countries for licensed production, and focused more on marketing issues. The short-term fallout was disastrous for Indian designers, forcing them to develop survival strategies by repositioning their services in the new context. These strategies are pointers to the way the design profession in India may shape in the future.

2.3 Survival Strategies

With the changed scenario, in hardcore product areas, the market for "classical" product design assignments shrank in size. The focus now shifted to product design needs that were too localized for a foreign company to respond to cost-effectively or to the redesign of the earlier imported products. Similarly, Indian companies had to rely on local design initiatives where the tie-ups with foreign companies were not practical for other reasons. I was, myself, involved in two assignments that used radioactive sources for testing, where technology could not have been imported. (See figure 9 and 10) In many ways, these projects were similar to those of the eighties, and required teaming up with technologists to develop ideas from scratch, except that the positive energy that drove design in the eighties was missing.

5 A. Jha, *Background to Globalization* (Bombay: Centre for Education and Documentation, 2000).



Figure 11
Because of their visibility on the roads, custom designed and built cars has popularized the idea of design.
Courtesy: DC Designs.



Figure 12
Hospital beds, designed and manufactured as custom-built furniture, with the doctors' participation in the development process.

2.3.1 Lateral Expansions of Design Services

Faced with this challenging situation, design firms expanded the scope of their design services to tap the growing merchandising market. This included lateral expansion to embrace designing retailing products, exhibitions, and Web-based services. With a number of companies focusing on production and marketing, this was a logical shift. It paid handsome dividends, with much of the design services income coming from these new areas.

In the last few years, some of the new design services have assumed a more contemporary form. With depressed local economic prospects, design firms have even started prospecting for work from outside. They are networking with international teams by giving part or full design services to clients from other countries. Limited design services start with creating virtual models based on rough sketches provided by the designers in other countries, to detailing for production. Larger design firms have started offering a full design service to companies abroad. The success of this business model is as much based on the availability of a large talent pool and skill sets in design as on the low manpower cost of the computer literates. Access to modern tools such as computers and networking further supported this model. For effective online interaction with their client's abroad, some design firms are taking advantage of the local software design capabilities to develop special "industrial-design-centric" communication modules. It is nice to witness some of the recent computer savvy design graduates excitedly latching on to the new opportunities to integrate themselves with the emerging "corporate global village." If these are indicators of what is likely to come in the near future, educators will have to prepare design students to speak the language of global design and to interact with their counterparts in the global village.

2.3.2 Design-Based Entrepreneurship

The second strategy was to initiate entrepreneurship largely based on design expertise. Constrained by low-profile design activity that does not give adequate opportunity to their passion and creative instincts, some designers have experimented with design plus limited manufacturing, as well as the marketing of the custom built products. The scope of their work ranges from signage, outdoor furniture, and hospital furniture to custom designed cars. (See figures 11 and 12) Such enterprises obviously tend to be product centered, with a designer choosing a product line that he continues to develop, produce, and market.

These designer+entrepreneurs have constantly used their creative design expertise to remain competitive and to develop a special design-intensive niche in their chosen product area. They have not only evolved a new business model, but also have made their products locally visible, thus creating public awareness of design. Strange as it may sound, **this business model has maxi-**

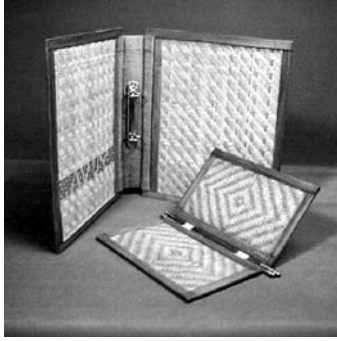


Figure 13
Office files and memo pads using bamboo frame and bamboo weave infill, designed by Prof. A. G. Rao and Avinash Shinde. Other industrially produced components are mixed freely with the craft techniques. The jigs and fixtures ensured quality and consistency. Courtesy: Bamboo lab, Industrial Design Centre.



Figure 14
Leather pouches for periodicals. With some design help, crafts can cater to typical urban requirements. Courtesy: Rashmi Ranade.

mum potential for survival as well as of establishing design as a profession in the developing world. Considering its ultimate effectiveness, I am convinced that such an idea should be viewed as a viable alternative by the developing world.

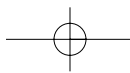
2.3.3 Back to the “Real-World” Issues

The third strategy was to shift the focus on real-world challenges. Fortunately, the network of grass root NGOs, had grown over the years, and it was possible for the designers to join hands with them. With NGOs now operating with greater professionalism, the returns on the design services offered were not bad, either. The “barefoot designer,” the pet idea of the seventies, could now cover his feet with decent footwear!

Lessons learned in the seventies gave the new design projects operated through NGOs a greater clarity and focus. Realizing the local priority for income generation schemes, the earlier emphasis on “products for the poor” now shifted to using the existing local craft skills to develop products for urban and export markets. Traditional craft products, made for local consumption, have not been able to face competition from cheap, factory-made products. Designers, with their understanding of the urban and export markets, have been able to get the craftsmen to move away from the economic constraints of the local markets. These designers have been exploring the use of modern design principles and techniques to develop new value-added craft products, primarily based on local skills. (See figures 13 and 14) It is worth noting that such projects not only have a very high socioeconomic significance, but also are becoming an economically viable option for the designers to focus on.

In a way, the widely differing survival strategies reflect the desperate differences in the cultural and economic scenarios. The first strategy required the designers to match their talents and skill sets with their international counterparts and become team players in the “global village.” The third strategy is in total contrast to the first, and required that we radically redefine goals as well as the scope of the design activity to focus on the issues in the “real villages” of India. These two strategies not only differ in the way the design projects are handled, the markets that they address, and the knowledge base that they demand, but also in the skill sets and the design tools they use. The second strategy, an emerging business model of creating a design-based entrepreneurship, potentially can deal with both the extremes. Though it is difficult to judge its efficacy with limited data, the model shows new promise and a direction that has an intuitive appeal.

Looking back, each of the three decades seems to have given a new direction to design thinking. Creative responses to the rapidly changing political policy frameworks and economic contexts have allowed the profession to rediscover new potentials. In the next



section, I plan to discuss the effects of the fast-track globalization process on destroying the local ways of life, cultural practices, and imposing uniformity. I also will show the way designers have responded to these developments.

3.0 Development or Cultural Continuity?

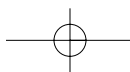
Globalization and free trade had effects that were more far reaching than those listed in the previous section. It talked of a borderless global economy but, in reality, the borders were treated as insignificant only for the purpose of trade and commerce. Its obsessive focus on markets, economic growth, and GNP had obvious effects on the way “Design” was viewed. Design was not seen anymore as a tool for development, but more as a tool in the hands of business.

3.1 Local Cultures as Casualties

Most discussions on globalization focus on the economic issues, with the result that its effect on the noneconomic activities, including culture, often are left out. In India, globalization and free trade allowed people to get access to new technologies and products, but the way the products were (and are) promoted, invariably planted seeds of alien lifestyles. Though the process started in the nineties, in its full force, it is only now beginning to be evident. It is likely that its effects on traditional cultures and diversities, eventually will be far more severe than what is visible now.

It is not just the products that cross the border, but the mindset and the new values that their promotions create, that have devastating effects. **Along with these products, it often is the whole “culture” associated with the image of the product that is downloaded. It is the aggressive projection of images and values which more often conflict with local notions and imagery.** With aggressive promotions and marketing, the global companies have been projecting a profile of a “Global modern man” (read as a typical executive from a technologically advanced country) as an approachable and a desirable dream. **Should a culture with so much diversity look forward to a single role model and a dream born and nurtured in another culture?** These aggressive promotions explain why most colonies have become more Westernized after independence, and that by their own choice! Should globalization and the economic prosperity always automatically lead to Westernization?

For global companies, linking “modernity” with “Western lifestyle” always has made commercial and marketing sense. By associating the role models and images from the advanced countries with the idea of upward social mobility, they have successfully managed to manipulate the preferences of the trend-setting class. Modernity implies cutting the umbilical cord to the tradition that existed before. The concept also always had undertones of blind uniformity, homogenization, and conflicts with the idea of diversity.



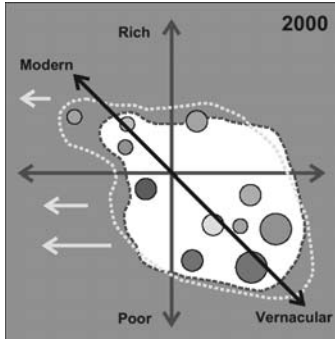


Figure 15
Conflict between the “modern” and “vernacular” is accentuated by the bipolarity in the society.

Unfortunately in India, it also is equated with products, images and aesthetic norms that did not evolve in local cultures.

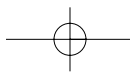
In a way, associating the ideas of upward social mobility with Western culture relegated the prevailing traditional notions, perceptions, and imagery associated with local cultures to a lower status. It has succeeded in repositioning the products of traditional culture as “vernacular,” with not very good connotations. Traditional cultures have learned to see a bipolar situation of Western culture as “modern” (or contemporary) juxtaposed with the local tradition as “vernacular.” It is almost a recast of the colonial “Western/native” value scale associated with cultural diversity.

Perhaps this reaction is typical of my generation, which has experienced the conflict between the notions of superior Western culture and the nationalistic ideology of self-reliance. More recent generations may not react to this with the same intensity, but the fact remains that there is a perceivable loss of pride in the creations of the local cultures. There are plenty of examples of Western ideas gradually replacing the existing cultural stereotypes. Western dress, ornaments, and food habits are just a few of them. A Gregorian calendar has replaced the traditional Indian calendar that reflected the local seasons and regional festivals. Worst casualties are the local languages, with new generations learning their own mother tongue as a second language!

3.2 Bipolarity: Global Village vs. Real Village

The economic as well as the socio-cultural effects of the globalization process on Indian society are too conspicuous to be missed. It is possible to view the social landscape as a stretched rubber band. Figure 15 shows the bipolar extremities on the diagonal stretch, with the top-left occupied by “trendsetters,” a small but prosperous and influential social class. They are more or less committed to the Western ways of thinking, values, imagery, and also the way of conducting business. They are professionally and psychologically in sync with the “global village,” speak English, dress in Western outfits, surround themselves with high-tech products, visit pubs, and also prefer to listen to Pink Floyd, Sting, and Brian Adams.

The people who belong to the “real village,” occupy the other extreme end of the bipolar scale. At this point in time, they only have limited or no access to new technologies and products, and have no place in the scheme of globalization. This is the vast, often not educated, vernacular class that remains rooted in tradition and is excluded from the revolution and prosperity promised by globalization. Yet they have learned to share these dreams and aspirations, hoping that they would be able to afford the new lifestyle someday. The contrast in the design services that we discussed at the end of the previous section can be understood better if seen in the context of the bipolar nature of the society in India.



3.3 Political Fallout of the Stretched Bipolarity

The conflict created by the stretched extremities has had political fallout. Relegated to the label of vernacular, the culturally rooted locals have been aggressively reacting to certain modernist legacies of Western mass culture. They view these legacies as a threat to the traditions and values that they have cherished for generations. They want technological, but not cultural, modernity; and economic prosperity through a free market, but not the commodity culture.

There are two visible reactions to this conflict. The first, and often politically motivated reaction is intolerance to the extremities of cultural pluralism. This reaction manifests itself in the form of moral police, who have been successful in creating an organized resistance to symbols of Western culture and modernity, such as fashion TV, music TV, and McDonalds outlets. A second reaction involves political balancing by marrying the cultural imperatives of modernity with the need to assert one's cultural identity. This has led to synthetic search for inventing cultural markers that reflect modernity as much as native identity. It is almost like synthetically fashioning and showcasing a new identity. Yet it has become politically expedient to focus on expressions of regional and national identity through visible cultural markers. They are manifested in dresses that people wear, the objects that they surround themselves with, and the interiors that they live in. Even though the cultural markers may be superficial, they serve to distinguish the owner from others by visually communicating the differences.

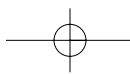
What does the superficiality of these efforts indicate? In fact, it can be viewed as a failure of contemporary designers in pioneering new expressions of modernity that are rooted in local cultures. Can the designer, through his work, reverse the value scale and recreate the pride in the local expressions of modernity?

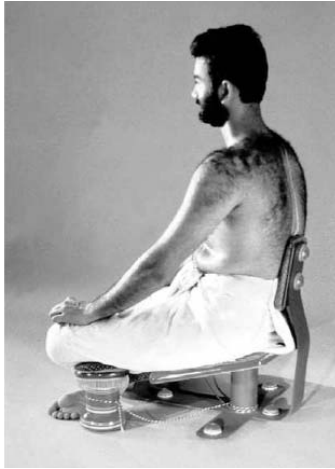
Design Challenge

The real challenge is to evolve an approach that is not only sensitive to local functional needs, but also to the shared cultural notions and imagery. If we agree that products speak their language through form, then we must allow them to speak in their own mother tongue, and also permit local dialects to be established.⁶ We must first accept modernity as a plural concept that changes from culture to culture. Only then can we evolve expressions of modernity and its local dialects that would make the current as well as the future generations feel a sense of belongingness and pride in local objects.

In India, small groups of independent designers are becoming conscious of their cultural roots, and are experimenting by developing a new language in architecture, furniture, product, and fashion design. They are attempting to assimilate functional and visual clues from the design practices prevalent in the local cultures. Their work is contemporary and yet makes references to the past. I have attempted to reflect these concerns in some of my own

6 K. K. Ashraf, "Land, Water and Man in Bangal: Themes from the Deltaic Architecture" in *Contemporary Architecture and City Form*, Farrok Ameen, ed., (India: Marg Publications, 1997), 25-39.





Figures 16 and 17

Design of this chair borrowed the inclined seat-principle to support for the traditional Indian squatting posture. It borrows identity clues from other precedents, such as regional furniture.

projects. The chair project I was involved in, supports the body in the traditional squatting posture, and borrows other precedents from the regional furniture as identity clues. (See figures 16 and 17)

There is a need to rediscover the roots in the traditions and try to evolve new expressions of modernity rooted in the local cultural context. The task is difficult, but not impossible. These remarks by Mahatma Gandhi, best sums up such an approach:

I do not want my house to be walled in on all sides, and my windows to be closed. Instead, I want the cultures of all lands to be blown about my house as freely as possible. But I refuse to be blown off my feet by any.

Such an approach was difficult to implement during the modernist era of technological orientation and minimalism. Fortunately, post-modernism has given the designers enormous freedom of expression. Cultural continuity is not new to post-modernism. This is an ideal opportunity for designers in India and those in other developing countries to pioneer local versions of post-modernism.

I am aware of the fact that, at the moment, it may be difficult to propose this as a general approach. The freedom to explore roots in tradition often is not available to designers working within the corporate framework. They are fighting a losing battle with the much-hyped Western notions of modernity which these companies continuously bombard us through the media. People are facing double bombardment, from products as well as from advertisements, that is designed to directly change their notions and mindset. However, it is still worth continuing the battle. My guess is that the corporate mindset, currently sold on Western notions and ideals, will change. It may not be out of awareness, but by realizing that differences based on place-identity would give their products a competitive edge in the global market.

3.4 New Millennium Agenda for Design Community

The story of the struggle does not end here, but begins afresh with the new millennium. The ever-increasing diversities in the stretched bipolar landscape obviously will be reflected in the kind of projects that Indian designers will be expected to handle. Should not this mind-boggling variety then be reflected in the education of those designers? We have to inject new thinking and develop new skill sets in design education to create a breed of extremely versatile design professionals, who can work on grass roots as well as on cyberspace projects. It is a challenge to function in the "global" as well as the "real village" with equal ease. Besides the competence to handle corporate projects, they have to explore the role of design in tackling the "real world" issues, and learn to view design as a tool for development. They have the responsibility for reestablishing the humanist role of design and demonstrating its value in the devel-

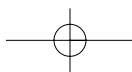
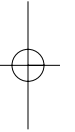
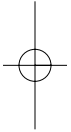


oping economy. The extremities in the Indian landscape will offer the design profession varieties of new challenges to continuously rediscover its roots and to make meaningful contributions. It can look forward to adulthood with an identity of its own. Will the powerful pro-globalization forces encourage the process of rediscovery? Only the future will tell.

Interestingly, the cultural diversity issues are not restricted to the developing world, nor are they confined to the traditional cultures anymore. There are several modern nations that have multicultural and multi-ethnic societies, and are proud of it. The new generation of designers must be sensitized to respect diversity and to view it as a source of innovation rather than a problem. If we want to retain this cultural resource, global designers, too, will have to develop a respect for these diversities and address them in their design approach. To the international design community, this is major challenge offered by the new millennium.

Additional Reference

U. A. Athavankar, "Globalization and the Roots in the Culture," *Architecture + Design* XIII: 6 (Nov-Dec, 1996): 98-99.



HALO

*communication booth*¹

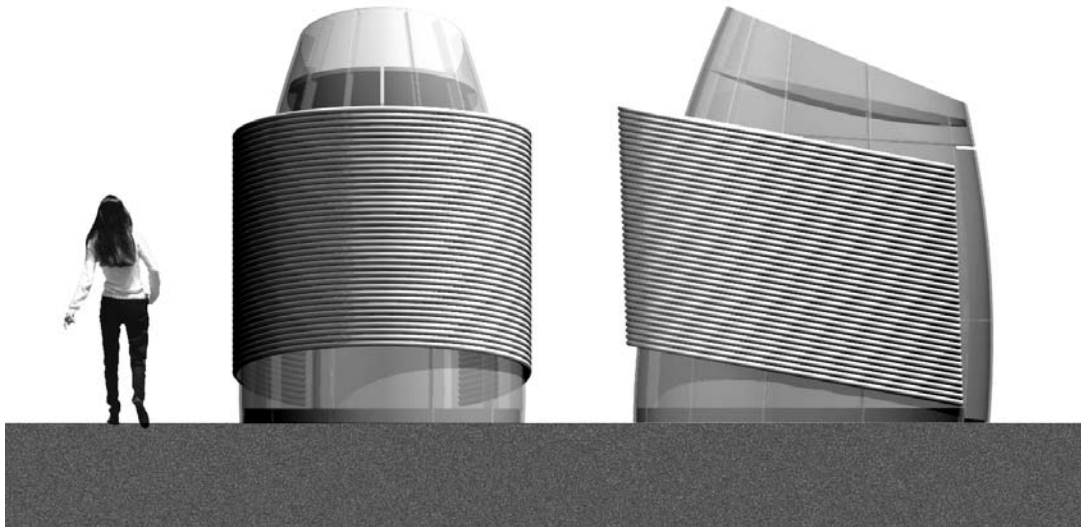
Lance Hosey

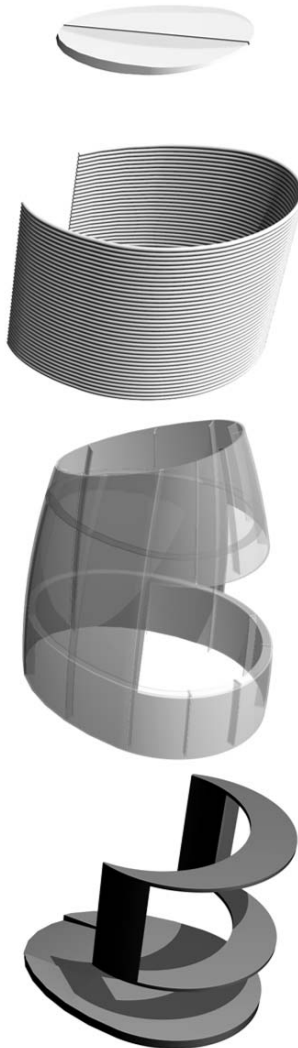
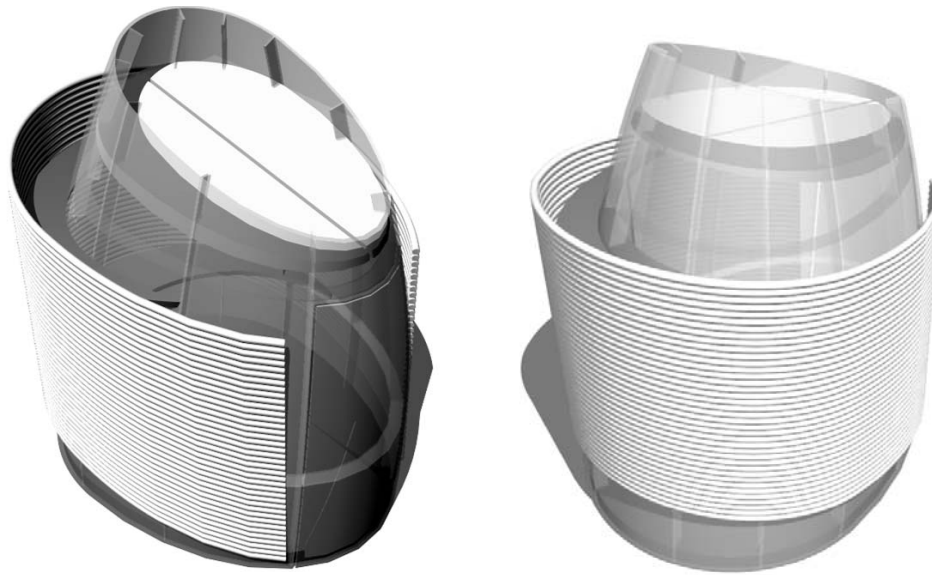
The concept of a “communication booth” is contradictory. Communication refers to social interaction, an exchange of information. A booth, however, is a small, enclosed compartment, usually accommodating only one person, used to separate the occupant from others. So, a “communication booth” implies both social and anti-social behavior, interacting with and yet removing oneself from the community. It is both open and closed.

The communication booth exhibited here addresses these oppositions—private and public, individual and collective, open and enclosed, transparent and opaque—by reexamining the legacy of the modernist glass box, which raises issues of material, technology, space and culture.

Early twentieth-century modernists saw glass as a material of social liberation. Paul Scheerbart’s manifesto, *Glasarchitektur* (1914), to which Bruno Taut paid homage with his famous pavilion from the same year, proposes glass to overcome the perceived repressions of existing material culture (represented by brick). The material was the emblem of a social revolution in which archaic privileges would be shattered: “glass destroys hatred.”² Transparency of material would symbolize a free and open community.

- 1 This project was developed as an entry to the Archinect “Communication Booth” competition, Fall 2001.
- 2 Paul Scheerbart, “Glass Architecture,” from Ulrich Conrads *Programs and Manifestoes on 20th-Century Architecture* (Cambridge: MIT P, 1987), 32–33.
- 3 “[This house] belongs to no other men whatever as far as the earth may stretch. We shall not share it with others....” Ayn Rand, *Anthem* (New York: Signet, 1946), 85, 105.

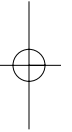
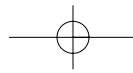




Ironically, the language of glass architecture came to represent not socialist dreams but capitalist ambition. What had been intended to battle old privileges came to champion new ones. By mid-century, Ayn Rand, staunch enemy of socialism, glorified the glass box in her book *Anthem* (1946) as the vessel par excellence of the heroic individual: “We have not built this box for the good of our brothers. We have built it for its own sake.”³

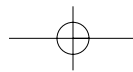
Transplanted to the west in the post-war era, the glass box had become a vision of wealth for both corporate America (Lever House, Seagram Building, etc.) and private houses. Exemplified by Philip Johnson’s own house and Mies Van der Rohe’s Farnsworth House, the glass house represents not the public’s open view into private space, but rather the owner’s privileged view of the public and of nature. The traditional framed views effected by windows as punched openings are exploded when the window becomes virtually the entire envelope. The gaze outward, unobstructed and continuous, ultimately fulfills man’s mastery of all he surveys. The modernist experiment did not break down old patriarchal barriers; it reinforced them to a degree never before imagined.

The HALO reinterprets these themes. Located on urban sidewalks and plazas, in airport lobbies, shopping malls or other common space, it provides a single workstation and Web access for universal use, like a telephone-booth-cum-office. The classic phone booth may be understood as a small glass house, a modernist glass box in miniature. As such, it is marked by uncertainty, housing private functions in a transparent container located in public space. Visually, its privacy is a farce: like Clark Kent’s glass spectacles, meant to conceal his identity, the glass booth supposedly conceals Superman’s body.



Modernists hailed glass as the material for a new era, and today glass remains the material of our age but in a different use. Plate glass, the image of the Machine Age, has been replaced by glass fiber as the implement of the Digital Age. Strands of spun glass create optical filaments that carry electronic data on pulses of light. Glass is electronic plumbing.

In the HALO, a molded fiberglass shell is wrapped in glass tubes filled with optical fibers. Each booth acts as a switching station in which Internet activity from the surrounding neighborhood may be routed. The HALO pulsates with light as the community talks to itself: its glow signals social activity. The jewel-like form and image echo modernists' earliest visions of prismatic glass.





According to Colin Rowe and Robert Slutzky, the concept of transparency in modernism ran contrary to conventional understandings of the term by creating not clarity but ambiguity. Literal transparency is a quality of substance: with glass, the eye oscillates between the material itself, the reflected image and the view beyond. Phenomenal transparency is a quality of organization: if two overlapping figures each claim for itself the common overlapped part, an equivocation of space results. Here transparency refers to “a simultaneous perception of different spatial locations.”⁴

The HALO is just such an equivocal space. A small portion of public space is given over to the individual for private use. The user is both in and out of the public sphere. The (literal) individual is wrapped in the (phenomenal) community. The private actions of the individual within the booth are enveloped in the public activity of the community at large. Views outward are obscured by the translucent, pulsing tubes: the potentially privileged view of the single occupant is obscured by the image of social discourse in action.

⁴ Colin Rowe and Robert Slutzky, “Transparency: Literal and Phenomenal,” from Colin Rowe, *The Mathematics of the Ideal Villa and Other Essays* (Cambridge: MIT, 1984), 159–183. The quotation is from Gyorgy Kepes, *Language of Vision*, cited in Rowe and Slutzky, 160–1.

Interactive Aesthetics

Audrey Bennett

1 Introduction

The process of graphically designing communication artifacts used to be a personal activity, depending upon the creative impulse of an individual—the graphic designer.¹ The graphic designer traditionally behaved as the representative of the audience. Only a trained and competent graphic designer could make the client's vision accessible to the prospective audience by re-communicating our common cultural signs and symbols in new visual contexts.² Possessing an intrinsic ability to communicate visually by innovatively synthesizing our common visual language comprising signs and symbols,³ graphic designers served as visual translators between the client and the audience. Graphic designers regurgitated culturally-derived signs and symbols (specifically representing cultural idiosyncrasies of the targeted audience) into a design gestalt, that is, a visual configuration of text and image amalgamations. Since the graphic designer usually was a member of the audience that s/he represented, the design gestalt created would be, intrinsically, culturally appropriate for the prospective audience. Therefore, communication artifacts that used culturally-specific signs and symbols transmitted the message successfully because the targeted audience was visually literate, that is, able to comprehend the visual language.⁴ That was then.

What if the targeted audience does not understand the visual language of the design gestalt? Now, when culturally specific signs, symbols, visual techniques, and treatments are presented to an audience of a different culture than the graphic designer, the audience has difficulty accessing, interpreting, and decoding meaning. For instance, in a conversation with Philip Meggs, Sylvia Woodard Harris describes how a group of American students tried to encourage inhabitants of a village in Nepal to take certain sanitation precautions. They presented the inhabitants with a three-foot-tall graphic of a fly contaminating food with infectious bacteria. It was the intent of the American students to persuade the inhabitants to take the recommended precautions. Instead, the inhabitants of the village only laughed because they felt they had nothing to worry about. After all, the flies in their village were minuscule compared to the giant ones in the graphic. The student designers were unsuccessful at communicating because they assumed the audience had the visual literacy necessary to decipher the message. (quoted in Meggs, 4)⁵

1 Paul Rand *Good Design Is Good Will* (New Haven, CT: Yale University Press, 1982), 2.

2 Giovanni Aneceshi, "Visibility in Progress," *Design Issues* 12:3: (Autumn 1996): 8–9.

3 M. Friedman, *Graphic Design in America: A Visual Language History* (Minneapolis, MN: Walker Art Center, 1989), 135.

4 P. B. Meggs, *Type & Image: The Language of Graphic Design* (New York: John Wiley & Sons, 1992), 4.

5 *Ibid.*, 4.



It follows that now (especially now), in the wake of globalization, e-commerce, electronic communication, and Internet accessibility in remote parts of the world, graphic designers world-wide should no longer assume that s/he speaks the same visual language as the audience. For the sake of clear communication, an interim stage is needed in the graphic design process in which the audience gives feedback on how the communication artifact is being designed (and should be designed). Audience input (not just client input is required in the graphic design process well before the printing of the final visual form. E-mail and Adobe Acrobat's portable document format (PDF) provides a cost-effective way of acquiring audience input *if* the electronic communication is characterized by a conversational exchange between participants, and interactivity between the participants and the design gestalt of the communication artifact (coined in this paper as the applied theory of interactive aesthetics).

2 Introducing Interactive Aesthetics

The Applied Theory of Interactive Aesthetics (IA) stipulates that the use of interactive technologies within the design gestalt of a communication artifact will facilitate remote participation in an evolving graphic design process. When applied to the creation of computer-generated sketches of the communication artifact, the theory of interactive aesthetics enables a remote client, graphic designer, and especially the prospective audience, to participate electronically in the design of the communication artifact. Thus, the audience becomes engaged in the graphic design process electronically in addition to (or instead of) vis-à-vis meetings with the client and the graphic designer. From conception to production, design decisions can be made in a virtual space. Through an interactive process, the participants of this new design team can use a combination of computer-mediated communication technologies including e-mail and the portable document format (PDF) embedded with various interactive options to design and exchange information about the aesthetic development of the communication artifact. Furthermore, participants from remote parts of the world can rely upon these two technologies to interact throughout the design process. Within this global context, a graphic designer may be of a different culture than the client and/or the audience. Perhaps the audience speaks a different language than the graphic designer and the client. Regardless of cultural differences and language barriers, the graphic designer, the client, and the audience can and will work together in a team using interactive technologies. Figure 1 visualizes how a graphic design process can involve multilingual participants from various parts of the world who use the same kind of technology to design the communication artifact.

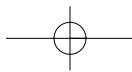
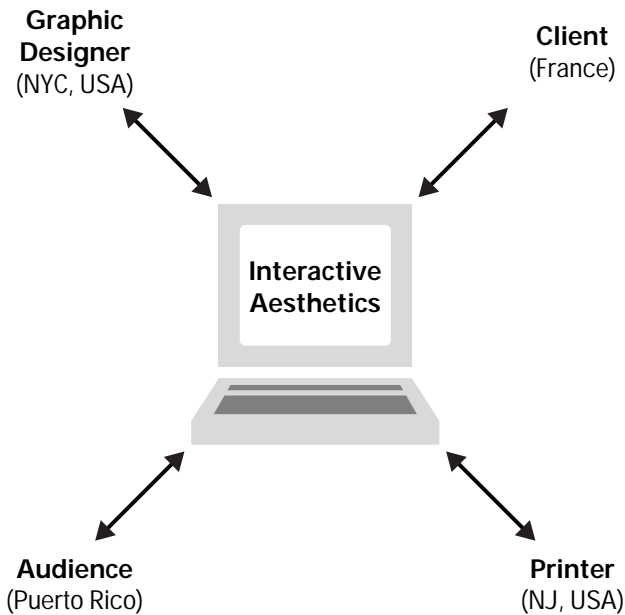


Figure 1

Visualization of how participants may be remotely situated in the graphic design process.



Integrating interactive aesthetics within the communication infrastructure of remote graphic design processes will enable the audience to participate anywhere in the communication process from the conception of the idea to the dissemination of the communication artifact. Interactive Aesthetics is grounded on the principle that technology will enhance graphic design processes and increase productivity. The adoption of IA specifically to the field of graphic design purports to yield better practices that are ethical (because the audience participates earlier in the design process) and virtually foolproof (since the traditional trial and error factor is eliminated). Furthermore, Interactive Aesthetics postulates that, if the audience participates with the graphic designer and the client in the graphic design process, then the design gestalt of the communication artifact will be accessible to the audience (since s/he assisted in deriving it).

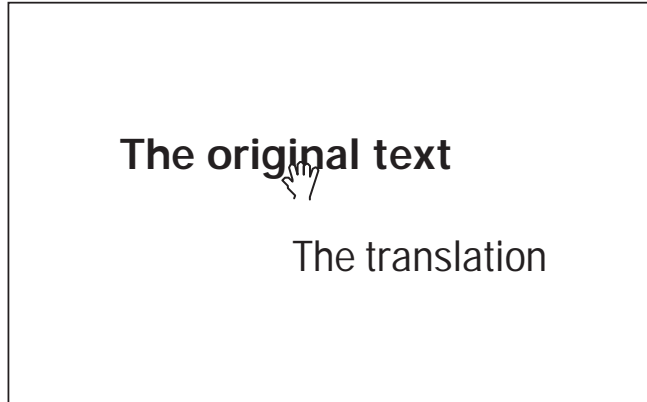
2.1 How do we ensure that the audience comprehends the visual language and dialect of the communication artifact?

Within the kind of remote communication infrastructure that is technologically-dependent, culturally-specific visual forms created by the graphic designer must be accessed and interpreted by the other team members, sometimes, without verbal explanations. The need for the audience to be able to decipher and decode visual signs and symbols predates modernism and the birth of the graphic arts. Historically, as tribe-specific verbal communication systems gradually declined in reliability, the adoption of a visual communication system was successful because the signs and the symbols used in communication processes were limited, simplified, and standardized. The primary purpose of past communication systems was to

preserve history by documenting tribal traditions for future generations. The evolution of our visual communication system from pictorial representations to the predominant use of typographic representations (based on the alphabets as we know them today) resulted from a need by society to represent and express complex ideas, and not only objects and agri[cultural] practices. Technical innovations enabled the mass production and dissemination of substrates to broad and sometimes distant audiences. However, effective communication of ideas to distant audiences depended on, and still depends on, visual language, that is, a nonverbal system of visual dialects, signs, symbols, visual treatments, and applied theories used by professionals, ideally in visual communication and graphic design, to convey messages to targeted audiences. Typically, visual language is comprised of text and image-based information. Image-based information traditionally was used to illustrate the text, but now has progressed to representing and sometimes replacing text. Furthermore, image-based information amplifies message conveyance by incorporating culturally-derived, symbolic forms. However, in order for these visual signs and symbols to transport the intended message, the culturally-specific audience has to be able to decode and decipher the design gestalt.

Traditionally, the graphic designer has relied upon an audience's visual literacy to decode the design gestalt, that is, the visual configuration of signs and symbols from a codified visual language system. Communication artifacts whose purpose is to persuade (that rely on the audience's level of visual literacy) communicate their messages only when the targeted audience succeeds in deciphering or decoding the design gestalt's meaning. However, what if the audience only understands a language different than that of the graphic designer? In the design of a communication artifact for multilingual participants, the designer has at his or her fingertips access to cost-effective, electronic translating software (e.g., www.freetranslation.com/) that can be used to translate the text of the communication artifact into the language of the participants. After the text is translated, the graphic designer has a few other options for integrating the translated text into the graphic design process. The translations may be included in the e-mail that transports the PDF-formatted document to the participant; or, the graphic designer may opt to design an electronic version of the communication artifact for each language and even dialect that the client and audience understands. Another option available to the graphic designer is to integrate a rollover interactive technique that reveals the translation of each line of text that completes a single thought. By moving the mouse over the text, an otherwise hidden field become visible, showing the translation of the rolled-over text. Figure 2 demonstrates the rollover technique as a type of interactive aesthetic.

Figure 2
 Visualization of the interactive option
 (rollover) for translating text for the viewer.



2.2 How do we engage a remote participant in the technical and conceptual process of designing a communication artifact?

My graphic design process entails sketching by hand on a paper substrate. Once I derive a concept for the artifact's design gestalt, I render quick thumbnail sketches of what the final visual form of the communication artifact might look like (including the choice of typeface, paper, background textures, graphics, positioning of elements within the composition, size variation of typographic and image-based information for contrast, hierarchy, balance, and consistency). Then, using the computer as a tool, I recreate one or more of the thumbnail sketches using a combination of industry-standard page layout, graphic design, and digital imaging software applications such as QuarkXpress, Photoshop, and Adobe Illustrator, respectively. When a mockup (that is, a close-to-final, computer-generated sketch) has been developed, I present it to the client for approval. Upon acceptance, the mockup undergoes minimal revisions (as requested by the client), and is forwarded to the printer on a disk compiling all of the graphics used in the design gestalt including images and typefaces. Once printed, the communication artifact is transported to the client, who then distributes it to the audience for consumption (broadly defined as usage).

The process of designing a communication artifact traditionally starts with the client communicating to the graphic designer what is to be designed and for whom it is to be designed. The graphic designer then responds with a visual translation in quick thumbnail sketches. The client then either chooses or approves a thumbnail sketch. The graphic designer communicates with the client about a mockup s/he rendered of what the final communication artifact will resemble. The client then approves or disapproves of the mockup. After its approval, the electronic file is transported on a disk or over the Internet to the printer. (See figure 3) Traditionally, the audience participates in the graphic design process

Figure 3
Visualization of a traditional graphic design process.

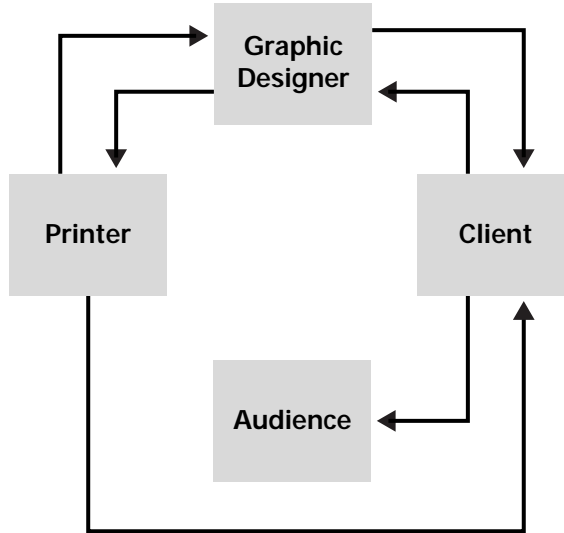
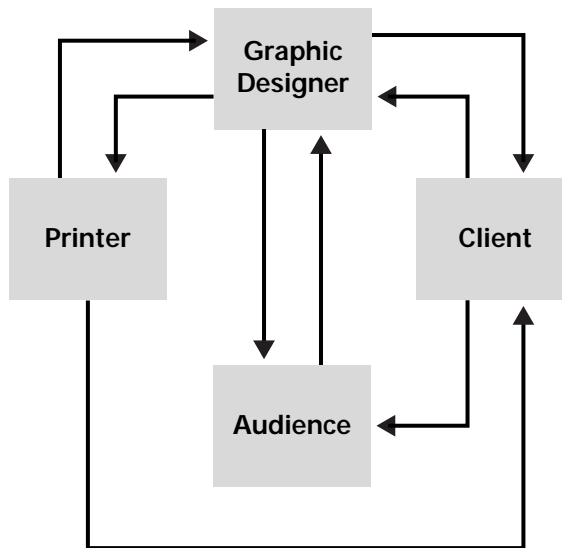


Figure 4
Visualization of a new graphic design process using interactive aesthetics.



only as the captive audience that receives the message that the communication artifact transmits.⁶ The audience completes the communication process of the graphic form, but does not contribute to its construction. On the contrary, with the new graphic design process (where the graphic designer employs IA), participation from the client still takes place; however, the audience contributes to the aesthetics of the design gestalt early in the design process.⁷ (See figure 4)

6 A. C. Tyler, "Shaping Belief: The Role of Audience in Visual Communication" in V. Margolin and R. Buchanan, eds., *The Idea of Design* (Cambridge: The MIT Press, 1992), 104.

7 *Ibid.*, 105.



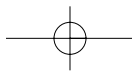
In recent years, there has been a significant advancement in communication technologies that, when utilized in the graphic design process of communication artifacts, can bring about this revolutionary participatory design process. It is Adobe Acrobat 4.0's portable document format. PDF-formatted documents can be e-mailed and edited electronically by the recipient. Hypertextual links can enable selected words to be translated or transport the viewer to an external Website. Digital versions of standard drawing tools enable the recipient to "markup" the electronic document. Editable text options also enable the recipient to add or delete text in the electronic document. Furthermore, there is a breadth of diversity in interactive options available to graphic designers, who use other industry-standard applications to design multimedia communication artifacts (for print and electronic media). For instance, editable fields, drag-and-drop, rollover (as previously illustrated), and show or hide features are a few of the input and output options that facilitate conversational exchange between an audience and the design gestalt. For example, when the rollover interactive technique is utilized, the meaning of a culturally-specific sign could be revealed to an audience or it could allow the audience, to participate in the creation and construction of the design gestalt.

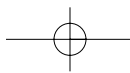
Implementing interactive aesthetics into the new graphic design process requires generating the communication artifact on the computer and embedding interactive techniques within its design gestalt. The graphic designer uses the computer to render sketches of the communication artifact's design gestalt, and then transport the sketch to the client and to the targeted audience for feedback. When applied to the process of designing a communication artifact using the PDF format, IA can enable the audience and the client to participate in the graphic design process from conception of the idea to production of the final visual form through an iterative process of the graphic designer e-mailing PDF-formatted sketches to the participants. Provided that each participant has, at least, Adobe Acrobat Reader installed on the hard drive (if not, it can be downloaded from the Web for free), s/he can access the sketch by simply opening the e-mail attachment.

3 Conclusion

The very idea of acquiring audience feedback in graphic design processes is nothing new. Graphic designers always have been encouraged to solicit feedback from the both client and the targeted audience in varying stages of a communication artifact's development.⁸ What is innovative about IA in the graphic design processes is that the participants can co-design, that is participate in the conceptual design and production of a communication artifact, without being in the same room, city, state, or even country. Under these remote circumstances, the following criteria should be met

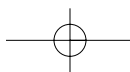
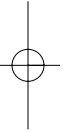
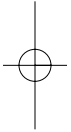
8 P. B. Meggs, *Type & Image: The Language of Graphic Design*, 160; and A. C. Tyler, "Shaping Belief: The Role of Audience in Visual Communication," 105.





when applying IA in order to ensure that the graphic design process yields a communicable design gestalt:

- 1 Each participant of the team must be able to technically access the communication artifact using a personal computer, with at least minimal graphic capabilities and Internet access.
- 2 Each participant must be able to read any text-based information existing in the communication artifact.
- 3 Each member of the new graphic design team must be able to participate in the graphic design of the communication artifact (across platforms) regardless of whether or not s/he knows how to use the industry standard desktop publishing, image editing, and page layout applications that were used to create it.
- 4 Each member of the new graphic design team must be able to participate in the graphic design of the communication artifact (across platforms) regardless of his or her level of visual literacy, that is, comprehension and ability to use the rudimentary aesthetic principles of layout design and typographic treatment that establishes hierarchy; organizes textual and image-based information in a consistent manner; and creates aesthetic appeal that ensures audience response.
- 5 The audience must “get it” (that is, recognize, acknowledge, and comprehend the design gestalt’s meaning).
- 6 The electronic version of the communication artifact must be interactive in order to engage the participants in the graphic design process.



Okuwangaala: The Persistent Vitality of the Vernacular

David Stairs

The author would like to thank Kasule Kizito and Sydnee MacKay, whose many helpful suggestions made this a better article.

“In highly industrialized societies, design appears to have replaced nature as the dominant presence in human experience. The nature we do experience is often engineered and manipulated at an astonishing level of subtlety to serve human purposes.”

V. Margolin/R. Buchanan,
from the introduction to *Discovering Design*¹

“In other societies, however, especially nonindustrial ones, there is often no clear distinction between professional and amateur design abilities—the role of the professional designer may not exist. In craft-based societies, for example, craftspeople make objects that are not only highly practical but also very beautiful.”

Nigel Cross, “Discovering Design Ability,”
from *Discovering Design*²

“He [the villager] came to live more and more with his own fabrications as the environment. Being of his own making, the things around him were indistinct from himself, and he was less differentiated than he wanted to be.”

Paul Shepard, *Nature and Madness*³

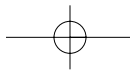
- 1 R. Buchanan and V. Margolin, eds., *Discovering Design* (Chicago: University of Chicago Press, 1995), xii.
- 2 *Ibid.*, 112.
- 3 Paul Shepard, *Nature and Madness* (Athens: The University of Georgia Press, 1982), 42.



Man with a cellphone

Prologue

The tropics, crucible of bloodborne diseases, is an endless complementary cycle of deluge and desiccation. The cumulative corrosive effects of humidity, dust, and fatalism prove a nemesis to most technology, especially high-tech. Yet the young man in the next room is very excited. He has just discovered some shareware on the Internet that permits him to send a brief text message from his workstation to a remote cellphone. “Big deal,” I can almost hear you say. And under any other circumstances, your indifference would be justified. But this event is happening in a society that has overleapt two-and-a-half centuries of smokestack industrialism to find itself teetering on the brink of the IT Era. Welcome to the manifold ironies of life in modern sub-Saharan Africa.



Cultural Chauvinism Revisited

In his 1865 travelogue, *Expedition to the Zambezi and Its Tributaries*, David Livingstone wrote: "The races of this Continent seem to have advanced to a certain point and no further: their progress in the arts of working iron and copper, in pottery, basket-making, spinning, weaving, making nets, fish-hooks, spears, axes, knives, needles, and other things, whether originally invented by this people or communicated by another instructor, appears to have remained in the same rude state for a great number of centuries."⁴ Much has changed since this so-called "friend of Africa" wrote for his aristocratic audience, except perhaps our attitudes about Africa and its people. In these, we are still more Victorian than we realize.

Livingstone the missionary often was superseded by Livingstone the capitalist. He wanted to develop Africa economically as much as convert Africans to Christianity. While condemning the African slave trade, something of a cause celebre in his time, he painted an effective picture of Africans as otherwise economically inept, and in need of European-style trade. Thus began the double subjugation of Africans as both a cheap source of raw materials and a growing market for European goods. While Christianity quelled the rebellious, "humanists" such as Livingstone showed Africans the glories of European manufacture, preparing the continent for the exploitation that continues to this day.

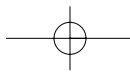
The mature discipline of developmental sociology generally accepts that "crisis narratives," such as Livingstone's, have played a decisive role in maintaining the balance of power in favor of donor nations and institutions over developing nations.⁵ For almost two centuries, Western governments, corporations, and NGOs have used war, famine, the slave trade, and supposed environmental degradation as justifications for predatory interventions in Africa. If there's a truism about Africa, it's that development myths about Africa's neediness have been exaggerated, tailored to suit the established beliefs of a Eurocentric sensibility.

Without wishing to reinforce Livingstone's image of Africans as still locked in the Neolithic era, it can be observed that many drive cars, but destroy their suspensions and crack their windshields on abysmal roads. African cities have running water, but it's often not drinkable until boiled. In the villages, there is no plumbing, and families can spend a large portion of each morning carrying water in twenty-liter plastic jerry cans. Big foreign cell phone companies recently have arrived in Uganda which, given the deplorable state of the ground phone network, is a blessing for that elite portion of the public who can afford airtime.⁶ Everyone else communicates face to face. I believe this implies less an antiprogressive attitude in Africa than a complex set of social and historical mores which, unfortunately, make for a poor comparison with the West, especially when one talks about technology.

4 Anne Hugon, *The Exploration of Africa* (London: Thames and Hudson, 1993), 154.

5 A. O. Hirschman, *Development Projects Observed, 1968* (Brookings Institute).

6 Telephone ownership in Uganda, as of 2001, was at less than two percent of the population (250,000/21,000,000); Reelection Manifesto of President Y. K. Museveni.



In his recent book, *The End of Work*, Jeremy Rifkin laments the devastating effects of workplace automation on the industrial workers of the world. He quotes Julie Fisher of the Program on Non-Profit Organizations at Yale University describing people of the nonindustrial world: "Because they're so desperately poor, there's literally no opportunity for them in the formal economy—it's essentially irrelevant to most people in the world."⁷ This comment gets it half right. Individual participation in developing economies is modest, and often informal, but also nearly universal. When laborsaving devices are rare and cheap labor plentiful, people tend to work as wheelbarrow porters, shoewashers, scales boys, house girls, and at a thousand other humble occupations. Where backhoes don't exist, foundations must be dug by pick-and-shovel gangs. People may seem "desperately poor," but at least they're not suicidal as a result of being sidelined by workplace automation.

It is dismaying then, though hardly surprising, to find similar bias voiced in Western attitudes toward African design culture. The allure of narratives about our cultural superiority is very strong. When a designer from New Zealand makes incautious references to the fact that "...the inescapable iconography of the Coca-Cola can to be found in a Ugandan town..."⁸ one worries less at his naiveté than about the hypnotizing power of marketing copy. The fact that Coke is one of the largest employers in Africa has as much to do with the shortage of potable water in a torrid climate as with received wisdom about the penetrating power of corporate promotions in developing countries.

7 Jeremy Rifkin, *The End of Work* (New York: Putnam's Sons, 1995), 283.

8 *Emigre* #37 (1996 letter from Danny Butt, Dunedin, N.Z.).



Metal recyclers, Bombo Road.



Boda Boda taximan
awaits a fare.



Scales boys.



Symbol of "inescapable iconography"...



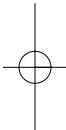
...or harbinger of corporate doom?

Resourcefulness of the Resource Poor

A nation of some twenty-two million souls, Uganda has a land mass about the size of Oregon. Sitting astride the equator, roughly three hours east of Greenwich, Uganda's agrarian economy is famous for its tropical fruit, organic produce, and its coffee. Possessed of a variety of climates and ecosystems ranging from desert to montane, Uganda's natural beauty is celebrated (Churchill called it "The Pearl of Africa"), and nature is coeval with culture in the day-to-day lives of its people.

Most manufactured goods in Uganda are imported, just as they were a century ago, and like last century, they must compete, nose-to-nose, with a vital and affordable tradition of handicraft manufacture. Although, like other African nations, Uganda lags behind in industrial manufacturing as a legacy of colonialism, in nearly every observable instance, the influence of Western design on Uganda is subsumed by the dominant local culture.

Today's modern Petrol or Caltex service station one day will suffer the same fate as yesteryear's Esso station, now a woodshed. Sacred cows of twentieth-century design, like Edward Johnston's "Railway Sans," are inadvertently distorted by well-meaning letterers, while the faded street signs of the colonial era seem to be literally based upon it. Corporate promotional intentions are subverted to a highly humorous end with the required addition of high-visibility panels to the tailgates of imported pickup trucks. But nowhere is the vernacular more widely visible or fecund than in Uganda's distinctive signage.



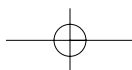
Signpainter's bastardized Railway Sans...

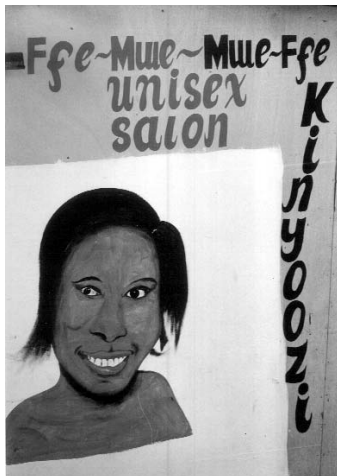
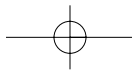


A 2002 "Tsubis."



...while colonial-era street signs seem to be modeled upon it.

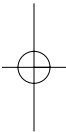
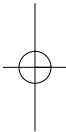




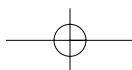
Hair parlor signs.

The sociology of labor, as well as economic necessity, determines the parameters of self-reliance. In Uganda, many people must make their own signs, and these possess all the spontaneity and candor of this primarily oral culture. Hair parlors have elaborately illustrated signs, proof that Ugandans put great stock in their appearance. Some of the crude anatomy of these images might, at first appearance, be construed to frighten patrons away. But the average person is not an art critic, and professional sign painters often are self-taught. Then too, as a friend has pointed out, greater emphasis is placed on functionality in African design. If the sign brings people in the door, it's a success, in spite of its aesthetic qualities. Yet, even a formally trained eye, after viewing hundreds of these signs throughout the country, must admit that they have a certain charm.

In an informal economy, one's livelihood can derive from the slimmest of means. Popcorn making, battery charging, charcoal selling, and mobile phone rental are just a few of the innovative ways Ugandans make ends meet. Even traditionally formal institutions such as the Post Office are infected by informality. The sidepanels on one Post Office vehicle were stenciled on white, adhesive-backed contact paper. Lettershape, baseline shift, and kerning all are consistently irregular. On a mailbox around the corner, one can find sans-serif letters on the one side, and serifs on the other. In this sense, Nigel Cross has it right. The distinction between amateur and professional in Uganda is very grey. It is difficult for professionals to establish any kind of effective presence in an economy in which nearly every individual utilizes his or her "design ability" on a daily basis.



Reverse-engineered popcorn makers.





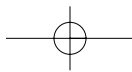
Once in a while, a masterpiece of vernacular signage will appear only to vanish with the winds of economic adversity. On the coffin sign found briefly at the Mulago Roundabout opposite Kampala's main hospital, the artist had painted a white background leaving a crude octagonal window which used the plywood grain in the coffin shape to great effect.

The breadth and depth of vernacular signage in Uganda is fertile ground for a large monograph, or perhaps a whole series of design dissertations. One thing is certain, this type of folk art successfully competes on a human scale with the larger-than-life-size corporate signage looming over it.



Post Office bus.

Seen across from Mulago Hospital.



Traditions of Ugandan Dress

Upon meeting Kabaka Mutesa I, King of the Baganda, in 1878, Henry Morton Stanley was favorably impressed. In *Through the Dark Continent*, among the many journal observations regarding his visit to the shores of Lake Victoria, he had this to say about Bagandan dress:

The women and chiefs of Mutesa, who may furnish the best specimens of Waganda, are nearly all of a bronze or dark reddish brown, with peculiar smooth, soft skins... The native cloths—the national dress—which depended from the right shoulders of the larger number of those not immediately connected with the court were of a light brown also. It struck me, when I saw the brown skins, brown robes, and brown canoes, that brown must be the national color.⁹

This passage aptly describes the traditional Baganda material known as *olubuggo* or “barkcloth,” fabric literally made from beaten fig tree bark.

At the time of the historic meeting between Mutesa and Stanley, barkcloth was widely used by the Baganda. A softer version was used for bedsheets, with a stiffer version for blankets. One advantage of barkcloth over cotton is that mosquitoes can't bite through it. The Baganda had many grades of barkcloth, from that considered fit for the Kabaka on down. Fabric made from bark is not unique to Uganda. The practice also exists in West Africa, specifically Ghana. Since modern Ugandan languages derive from a Bantu parent language, both language and fabric could be connected to the great Bantu diaspora east and south.¹⁰ These days, Ugandans use barkcloth primarily for ceremonial purposes at funerals, weddings, and initiations (although in rural areas, it is still used for bedsheets by children and the elderly), and the technique for making it is becoming a lost art. But it is not an exaggeration to say Ugandans still are particular about their dress.

⁹ Hugon, *The Exploration of Africa*, 141.

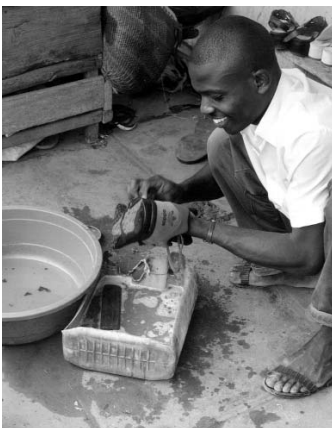
¹⁰ Personal conversation with Kasule Maria Kizito, a trained barkcloth maker, 11/2/01.



The naturally fibrous “weave” of *olubuggo*.

Take a high polish on shoes, for instance. Often, when passing a stranger, the first thing a Ugandan looks at is his shoes, the condition of which communicates valuable information about the person's social status, if not character. In a dusty environment, wearing shiny shoes requires the meticulous care of multiple pairs of footwear. Hence, there's a booming secondhand shoe bazaar at Kampala's huge St. Balikuddembe Market, and a significant industry of shoewashing, blackening, and polishing.

Although Western-style dress prevails for everyday use in Uganda, there are frequent variations from the norm. Men often can be seen wearing women's shirts. This probably follows from the need to employ women's colors in tropical sunlight. Not only is women's clothing generally brighter, at Balikuddembe, bulk clothing often is not gender differentiated. Stranger still is the little girl in my young son's preschool class who wears her dress backwards. The dress is cut to be worn with the label in back, but the girl's mother has decided that, comfort notwithstanding, the dress should be worn with its label prominently displayed in front. This would seem to suggest that Ugandans are label-conscious, but even this can be deceiving. Those designer cK and Nike casual togs one sees on Kampala streets, typical examples of the effects of volume used-garment dumping on the developing world, were purchased for pennies at Balikuddembe and, since they often are worn by poor members of society, lose much of their effectiveness as status symbols.



A shoewasher at work.



The used shoe bazaar, Balikuddembe Market.

In contrast to these anomalous examples, whether a result of cultural miscue or economic necessity, there are few errors when it comes to Ugandan traditional wear. For men, the Ugandan equivalent of a tuxedo is the *Kanzu*, a full-length, white or cream, embroidered cassock. Like the jacket which generally accompanies it, the *Kanzu* is imported, is probably of Arab origin, but is widely worn today by both Muslims and Christians.

Less formal, but no less striking, is the *Kitenge*, a patterned shirt/pant ensemble that resembles nothing so much as pajamas. While it is startling the first time one sees a man in bedclothes on the street in broad daylight, with a little cultural adjustment, one has to admit they look very “smart” indeed. Arriving from West and Central Africa in the 1930s, the *Kitenge* is cool, and thoroughly Pan African.

The traditional women’s formal dress in Uganda is the *Busuuti*, which came into use after European contact. The *Busuuti* is a colorful, but heavy, full-length garment requiring a full six meters of fabric for its construction. Originally ending just above the breasts, it was formalized by Indian tailors who added padded shoulders to it, creating the *Busuuti Gomesi*. *Busuutis* are not used only for formal wear. Ladies of rank in Ugandan villages wear them every day, utilizing a variety of less formal, lightweight fabrics.

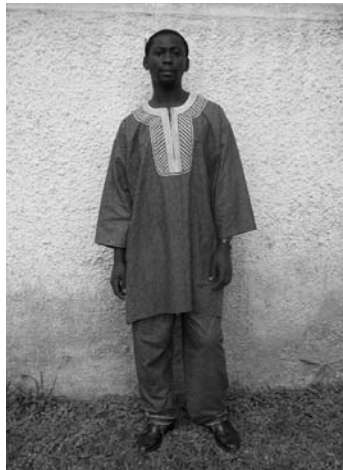
Although the *Kanzu*, the *Kitenge*, and the *Busuuti* are émigrés, unlike the indigenous bark cloth, they have become good Ugandans and are here to stay. Their adoption is testament to the flexibility of Ugandan traditions, and to Uganda’s position as the crossroads of east central Africa.

Candidate for the Ugandan National Chair

The British author, art educator, and founder of the art school which bears her name at Makerere University in Kampala K. Margaret Trowell, once wrote,



A *Kanzu*.



A *Kitenge*.



A *Busuuti Gomesi*.

The difference, then, between a work of fine art and a design for a craft is not absolute but is rather one of emphasis and degree. In a primitive or pre-industrial society even this difference is far less than in a more sophisticated one, for here life is an integrated whole and in both the sculptured ancestor figure and the decorated calabash the practical and the more intangible creative qualities are fairly evenly balanced, for the sculpture is made for the very practical purpose of harnessing spiritual power for material ends, while the decorated calabash has a recognized symbolical significance as well as a material use. The distinction between fine and applied art would puzzle the primitive artist.¹¹

Margaret Trowell instinctively understood the intimate connection between Ugandan art and craft. In her curriculum at the then Makerere College between 1937 and 1957, she included a course on basketry.

At any given time of day, the sidewalk notions lady or fruit seller at an open-air market in Uganda will not be idle, but will be sitting busily plaiting colored palm-leaf strips that later would be assembled into mats or carrying bags. Many of the three dozen vendors at the Ugandan National Arts and Crafts Association's CraftsVillage represent rural cooperatives and individual artisans who produce a wide array of woven baskets, bowls, trays, food covers, hats, fabrics, and other items. The range of shapes and sizes of woven materials is broad, and the variety of colors and designs stifles any suggestion that this work is derivative. A Nubian *tabaga*, from central Uganda's Luwero district, is a woven food cover that would enhance even the most elegant Western table.

11 K. M. Trowell, *African Design* (London: Faber and Faber, 1960), 14.



A plaited, strip-woven *ekikapu*.



A nubian coiled *tabaga*.

But in Uganda, weaving doesn't stop at cloth and household implements. Most of the shopkeepers and street vendors I've referred to are sitting on an *akatebe ak'ekibbo*, or "basket stool." This is part of a wide range of domestic furnishings made from bent rattan cane resembling nothing so much as nineteenth-century Thonet chairs. The three-legged *akatebe* looks like a vortex, its inverted cone of concentric spirals creating a naturally comfortable depression. *Akatebes* are simple, durable and, at less than a dollar for the adult size, quite affordable.

Ironically, many furniture vendors also sell overstuffed couches and chairs, comprised of foam cushions mounted over a sprung wooden frame upholstered in a variety of gaudy fabrics. Ugandans seem to like these faux pieces, reverse engineered from cheap European prototypes. But for design elegance the *akatebe* can't be surpassed.



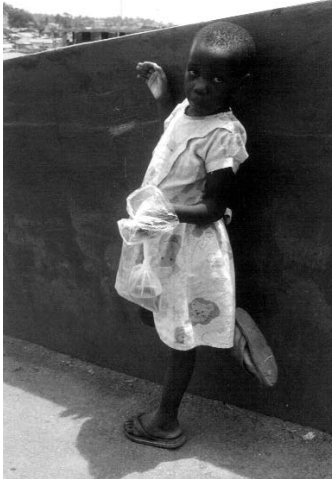
Barak at Human Touch handcrafts makes traditional rattan furnishings...



...while just across Ggaba Road, faux English overstuffed chairs are available.



An *akatebe*.



A young girl brings cooking oil home in a plastic bag.

The Complete Recycled Tire

The landfill which serves Kampala is compact because most of its contents are organic matter, one of the blessings of a nonindustrial society. Formal curbside recycling, commonplace in America, is completely unknown in Uganda. In its place is a series of informal screenings performed by street children and impoverished older people, who pour through tons of refuse in public dumpsters searching for plastic or glass containers, and other recyclable metals. Domestically manufactured plastic bags have replaced the more durable woven variety, such as the *ekikapu*, and are used for carrying everything including milk, oil, and diesel. But they're an outside idea, and have brought the plague of litter, which is anything but Ugandan beauty swirling on the breeze.

A better example of Ugandan design resourcefulness is the fate of auto tires and wheels. Thousands of metal wheels are employed each evening at the numerous open-air markets around Kampala as charcoal hobs for roasting corn and bananas. These are heavy-gauge steel, therefore longlasting, and easy to come by. Rubber auto and truck tires, a source of acrimonious waste-to-energy debates in the West, are almost wholly recycled in Uganda. Tires are cut up and woven into bed liners for pickup trucks.

Another application is for *lugabire*, or sandals, sometimes called "million milers." Spartan and unpretentious, *lugabire* are very durable protection for the soles, and are a popular alternative to the more expensive imported thongs or flip-flops. Considered "poor man's shoes," *lugabire* are eschewed by upscale Ugandans who pay thousands of shillings more for Western-made sandals whose deeply grooved soles imitate auto tire treads.

Victor Papanek always was impressed by the things people in underdeveloped areas did with manufactured goods. Ugandans prove they know the meaning of recycling and the value of durable materials by the way they reuse manufactured commodities.



Recycled auto wheel used as a maize roaster, Wandegaya.



Woven truckbed of reused tires.



Marshall sidewalls receive new life as a pair of *Lugabire*.

Transportation and Distribution Systems:

Small and Private Are Better

Goods and people are always on the move in Africa, and Uganda is no exception. Most people walk, or ride bicycles, but not in a Western manner. The bicycles of Uganda are heavy one-speed vehicles with black, reinforced-steel frames sporting a sturdy rear carrier. These are used to ferry people, with a foam pillow mounted atop the carrier, or goods, without the pillow. Everything from pineapples to mattresses and charcoal to lumber is hauled on bikes. The author has seen steel pipe and rebar being moved, and some general commodity dealers pedal about with completely mobile stores of brushes, brooms, and kitchen accouterments on board. Bicycle porters compete with both motorscooters and much slower wheelbarrows, often stacking dangerously wide or heavy loads on their carriers before trying to navigate the potholed streets.

Most roundabouts in Kampala are uncontrolled, the British-era traffic signals having fallen into disrepair and subsequent disuse. This results in gridlock at certain times of the day. Some chronically clogged intersections recently have been redesigned by the Japanese government through a good neighbor grant. But Kampalans seem resigned to the congested conditions of their busy streets.

Before 1990, there were a variety of bus services in Kampala, both private and public, but today the public system has been completely replaced by the most familiar symbol of urban transportation, the *matatu*. These second-hand Toyota diesel vans are commonplace throughout East Africa, sometimes making headlines when an overcrowded one is involved in a fatal accident. *Matatus* in Uganda are strictly limited to carrying sixteen people, including driver and conductor, and can convey a passenger from one side of Kampala to the other, a distance of several kilometers, for about fifty cents.



Everything is moved by bike, from pineapples...



...to oxygen cylinders.



Papyrus bikeload, Nateete.

Although regulated by the city and self-policed by a taxi union, *matatus* are privately owned and their operators compete vigorously for full loads and individual fares. With privatization the apparent wave of Uganda's future (the Uganda Electric Board and Uganda Telecom, once publically owned, were both recently privatized), and the busy streets plied by an armada of passenger-oriented taxi vans, it is hard to imagine Uganda returning to a system of public transportation anytime in the foreseeable future.



Matatu in action.



Taxi union official in stenciled smock.



Old Taxi Park, Kampala.



Security windows being transported.



City General Metal Works, Katwe.

Beautifully Secure

Uganda gained independence in 1962, but remained at peace only until 1966. What followed, the Obote and Amin years, plunged the country into two decades of brutality and civil decay. During those dark years, guns dominated society and people feared to move about after nightfall. Those who owned homes and businesses took measures to protect them, and a new industry was born. Today, many buildings have barred windows and gated entranceways. But these are no ordinary bars and gates.

Katwe Road runs south from Kampala snaking along the perimeter of the Kabaka's traditional enclosures. In an earlier era, this was where the king's blacksmiths lived. According to Professor P. N. Sengendo of Makerere University, "At the general domestic level, individuals in society were expected to be knowledgeable about the function and aesthetic qualities that constituted good craft. The Baganda saying, "Omuweesi ekamuzimbya kukulo kula-girirwa" means literally that the blacksmith deliberately situated his business along the public road in order to receive instruction and advice from the passers by."¹²

During colonial times Katwe, which means "place where people find creative solutions," was the cradle of Uganda's independence movement. Today the Katwe district is a light industrial area jammed with dozens of iron mongers and sheet metal fabricators, such as the City General Metal Works. Security doors, gates, and windows are made in a wide variety of designs and colors.



Security gates, Kanyanya.

Many are topped with spikes, and gates have a personal entry door for pedestrians. These gates are obviously not for the poor, who must rely upon the traditional papyrus reeds, but a home or business in a middleclass neighborhood of Kampala won't be found without them.

At Bugolobi, in southeast Kampala near Lake Victoria, the Bugolobi Apartments housing complex of more than 900 flats is home over six-thousand people. Originally used by Amin as army barracks, the flats now are being sold to occupants as condominiums. In the '80s burglary was so common that residents had to act in self-defense. Today, most flats at Bugolobi have security bars on their porches, each installed by a different ironworking firm in a wide variety of designs and patterns.

Security is a serious business in Uganda, especially in Kampala, although people are no longer afraid to walk at night. Beyond the armed guards, patrol dogs, and concertina wire, Ugandans are striving to endow security with a more beautiful face.

12 P. N. Sengendo, "The Birth and Growth of East African Modern Art at Makerere University" (1996, unpublished essay).



Bugolobi Flats.

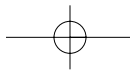
Okuwangaala: The Resilience of Indigenous Traditions

The most difficult aspect of life in Africa for the average Westerner is not malaria, or the heat, or even the lilting dialect of English spoken in many areas, but the enormous cultural differences. Donor nations and institutions like to link fiscal accountability to socially progressive concepts, such as democracy. But Africans complain and, to an extent, are justified in saying that this is unfair. It assumes that Western values and mores apply to all parts of the world, which often is not the case.

Westerners are mystified by African political clientelism and fiscal corruption, but it is really just a fact of tribal life to most Africans. Jean-Francoise Bayart writes: "The rise, in Africa, of activities officially classed as criminal is aided by the existence of moral and political codes of behavior, especially those of ethnicity, kinship, and even religion, and of cultural representations, notably of the invisible, of trickery as a social value, of certain prestigious styles of life, even of an aesthetic, whose capacity to legitimize certain types of behavior is considerable."¹³

13 J. F. Bayart, S. Ellis, and B. Hibou, *The Criminalization of the State in Africa* (Oxford: James Currey, 1999), 15.





Hence, the “informal” economy, that underside of the nation’s gross domestic product in the form of goods and services hidden from the tax collector, is much more prevalent in Uganda than in America. Together with other factors including the lower cost of living, reduced dependence upon manufactured goods and services, and the universal application of handicraft, this parallel economy allows many Ugandans to get by with much less than their American counterparts.¹⁴

Dependence upon older, communal modes of economic participation—homemade handpainted signage, for instance, or printing presses shared among several owners—is more a matter of day-to-day exigency than of a conscious resistance to the West’s dominant and domineering metaphor. Nevertheless, Ugandans are painfully aware of the West’s advantage in areas such as high technology, manufacturing, and weaponry, and their government regularly invests in these imported products. Since Uganda’s economy is primarily agrarian, major manufactured goods including autos, largely are imported. But the influence of Western design often is diluted, absorbed, and made Ugandan. Rather than being conquered by the colonialists for a second time, Uganda resists the onslaught of Western design in a plethora of ways. This is what we mean by the Lugandan word *okuwangaala*, or “long-livedness.” Will it always remain thus? This is more difficult to say. My young friend with the cellphone is one of thousands of modern Ugandans who are impatient for change. And change will come, as it often has in the past, but for better or worse?

Rereading the seemingly enigmatic Paul Shepard quotation at the beginning of this article, I try to recall why I chose it. I return to *Nature and Madness* where, a little further on, I find: “...for the idea of history is itself a Western invention whose central theme is the rejection of habitat. It formulates experience outside of nature and tends to reduce place to location.”¹⁵ Here, I believe, is one insight to Western civilization’s misunderstandings about technology in Africa. If technology is, as we like to think, the instrumentalization of history¹⁶ then, in Africa—the birthplace of all civilization and the one “location” where habitat *is* history—we Westerners have created a reasonably serious dichotomy between nature and technology. Yet, even by such an account, my opening remarks were surely wrong. Humidity, dust, and fatalism do not have a corrosive effect on technology, but a clarifying one. They keep technology securely in its place, subsidiary to nature, the one constant truth, and our collective original vernacular.

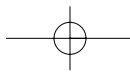
Epilogue

Life in the tropics isn’t getting any easier. Refugees streamed out of the war-torn Democratic Republic of Congo in January 2002 in an effort to escape the worst volcanic eruption in Africa in twenty-five years. Rwanda allowed the refugees to enter, but Uganda, still

14 Ibid., Bayart et al. “It is nowadays recognized that the major aggregate indicators, such as figures of Gross Domestic Product, levels of production and economic activity, sectoral growth rates, statistics of purchasing power and so forth, do not reflect the reality of the economics which they purport to represent and cannot be considered as wholly viable.” 17.

15 Shepard, *Nature and Madness*, 47.

16 For an interesting perspective see Robert Heilbroner’s “Do Machines Make History?” in Merritt Roe Smith and Leo Marx, eds., *Does Technology Drive History?* (Cambridge: MIT Press, 1994), 53-65.



smarting from U.N. condemnations, turned them away. The Ugandan army was back in Eastern Congo, ostensibly to stabilize its borders and make good on Ugandan President Yoweri Museveni's promise to "pacify the country by 2002." Unfortunately, the U.N. saw the Ugandan mission in Congo as a criminal incursion, and called for its cessation.

In the wake of September 11th terrorist attacks on the U.S., business has gotten very lean in Kampala. Ugandans wonderingly admit that, even in this remote heart of Africa, they are more a part of the global economy than they had previously thought. Heavy trucks continue to flow east and west along the Mombassa/Kigali highway, moving arms and men, matoke, and contraband. In a nation where sixty-nine percent of the populace earns less than \$1US per day,¹⁷ the "informal economy" is often the only way to make ends meet.

As I stop to enjoy the hard afternoon rain sweeping across the countryside, falling with the force of a cataract as it cools the dusty air and creates near-flood conditions on the gutted but still heavily traveled roads, I hear the soft electronic peep of a cellphone from somewhere deep in an adjoining room. Yes, life will undoubtedly go on, much as it always has here in tropical Africa, a place where fortune tellers and marabouts still thrive, largely because the future, like the weather, remains open to colorful conjecture. And this, after all, is good.

17 According to the World Bank 1998 Annual Report.