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Peter Storkerson

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Maria Côrte-Real

DESIGN RESEARCH IN 2006

ELIZABETH B.-N. SANDERS

The first article in the first issue of a new journal is an opportunity to start conversations and bring together people who are engaged in doing and thinking about design research. Design is in the middle of a great transformation, and the members of The Design Research Society represent over 36 countries, so I am starting this worldwide conversation by presenting a scaffold for thinking and talking about the state of design research today.

The market-driven era is finally giving way to the people-driven era.

WHERE ARE WE AND WHAT CAN WE SEE?

We are in the middle of massive change. *'It's not about the world of design. It's about the design of the world.'* (Mau et al., 2005). The market-driven era is finally giving way to the people-centered era. What this means for design and design research is that:

- ▶ people who are not educated in design are designing;
- ▶ the line between product and service is no longer clear;
- ▶ the boundaries between the design disciplines are blurring;
- ▶ the action now is in the fuzzy front end of the design development process with a focus on experiential rather than physical or material concerns;

▶ the action in the fuzzy front end is all about new ways to understand and to empathize with the needs and dreams of people.

So this is an exciting and a confusing time for design research. The excitement comes partly from the significant recent interest of the business community in the value of design research and design thinking. The excitement is particularly evident in the fuzzy front end of the design development process. The buzz words being thrown around today include *co-creation, innovation, Web 2.0, empathic thinking, human-centered, people-centered, user-generated* and so on. Exactly what co-creation is and how it is to be done is generating a fair amount of the confusion. The various forms of applied ethnography are getting more than their share of attention and the 'experts' are defending their territories from those without appropriate pedigrees. Furthermore, researchers and designers are getting into each other's domains and misinterpreting or misapplying the other's methods and tools for design research.

There is a big disconnect between the US and Europe with regard to design research in practice. In Europe, the academics have been leading in defining the new areas of design research. And since there is a tradition of sharing and disseminating knowledge and new ideas in academia, in Europe, the new ideas in design research are

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FROM THE COMMUNICATIONS SECRETARY:

KEN FRIEDMAN

It is a pleasure to inaugurate the first issue of Design Research Quarterly.

DRQ is the new membership quarterly of the Design Research Society. We conceived it as part of a new communication policy designed for an international organization that now has more than 400 members on six continents. At a time of significant growth and development, we discovered that we needed two kinds of member publication. One is a news medium with information on design research, conferences, and member activities. The other is a scholarly publication with room for articles focused on design research and on issues or topics that address issues that may not be suitable for the other research journals, including topics that address research skills, research teaching and training, or interdisciplinary issues. DRQ is a hybrid journal and newsletter that does all this and more.

DRQ will publish news of interest to members of the Design Research Society, along with articles on issues of interest to design research, design theory, and design knowledge.

DRQ will represent the wide range of design fields and subfields. The broad range of interests among DRS members means that DRQ will attempt to clarify the ways in which different areas of design research are significant - and potentially useful - to a broad range of readers.

To reach these goals, we appointed an outstanding editorial team. Dr. Peter Storkerson of Southern Illinois University is our editor. With a strong background from Illinois Institute of Technology, and experience working with the distinguished journal *Visible Language*, Dr. Storkerson was our first choice as founding editor. Three associate editors round out the team. Dr. Kristina Niedderer of Hertfordshire University in the UK, Prof. Vesna Popovic of Queensland University of Technology in Australia, and Dr. Artemis Yagou of AKTO Art & Design in Greece.

An outstanding editorial advisory board joins our editors as part of the journal team. This board represents the rich diversity of DRS, in geographical terms, and in terms of their research and professional disciplines.

This new journal is the result of a year of work from first conception to final product. Now, to launch the first issue, it is my pleasure to introduce editor Peter Storkerson.

Ken Friedman

Communications Secretary, DRS

Chair, DRQ Editorial Advisory Board

FROM THE EDITOR:

PETER STORKERSON

Welcome to this first issue of Design Research Quarterly. We have developed DRQ as a hybrid, with timely news of Design Research Society, its members and regions and its sister societies, and articles about issues of importance and interest to design research, theory and knowledge.

As a hybrid journal, we will publish news and we will publish, peer reviewed scholarly papers, often in special issues devoted to specific topics. We welcome contributions from within DRS and from outside, enlarging the scope of discussion by combining timely information and scholarly work in one publication. As a venue for peer reviewed publication of serious scholarly work, we also hope to reach a larger readership than is found in many scholarly journals.

Because DRQ will develop and record current debates, we will also host a forum for reader's comments and letters to editors. In the great tradition of learned journals, we particularly encourage debate on recent articles.



Our first issue marks this beginning by looking both back and ahead. We begin with a paper by Liz Sanders, a pioneer in participatory research methods for design. Dr. Sanders currently specializes in generative tools for collective creativity. 'Design Research in 2006' opens a conversation on the current state of design research and its future.

Prof. David Durling is the outgoing chair of DRS. This issue offers him an opportunity to reflect on the accomplishments of DRS over the last eight years. Dr. Rachael Luck gives a summary of 'Design Research: Past, Present and Future', the recent London symposium organized to celebrate 40 years of DRS. The presentations—and Dr. Luck's report—examine design research, past, present, and future. On a more immediate topic, Dr. Eduardo Côrte-Real offers a preview of the coming Wonderground conference in Lisbon.

Finally, Prof. Eric Arnould offers a valuable article on 'Getting a Manuscript to Publication Standard.' This useful guide will help readers to prepare articles for publication—and we hope that it will inspire and facilitate submissions to DRQ.

Peter Storkerson

Editor

Design Research Quarterly

spreading in a positive way. In the US, on the other hand, it is the practitioners who have been leading with regard to design research in practice. So in the U.S., there is exploration and innovation in design research going on, but it is not as well disseminated. It is discussed in general terms so as not to give too much away to ‘the competition’. It is not often published, though the interaction design community is doing a good job of sharing. Europe is way ahead of the US in design research of a participatory nature. Why? Because they (particularly northern Europe) have embraced a participatory attitude for a long time. The participatory way of thinking is antithetical to the US-centric mode of manufacturers pushing products at ‘consumers’ through marketing and advertising.

New design research tools and methods are being explored and used across all the design domains but they are being integrated at different rates. Interaction design is in the lead, followed by industrial design, then interior space design and visual communications. Architecture is last but interest is growing even here. Healthcare organizations are now demanding human-centered design thinking and architectural firms are scrambling to figure out exactly what that really means.

A COGNITIVE COLLAGE

In order to write about the state of design research in 2006, I needed first to make a map so I could see what I was talking about. The idea was to view the design research space as a landscape and to give it a visual representation borrowing from the elements of the maps that we have in our minds (i.e., cognitive maps) to find our way around places. Kevin Lynch (1960) identified the key elements of cognitive maps as being landmarks, nodes, paths, districts and edges. Through a fortuitous Google search to see what was new in the cognitive mapping domain, I discovered Barbara Tversky’s work on visual representations of environmental spaces and learned of her concept of cognitive collages.

In many instances, especially for environments not known in detail, the information relevant to memory or judgment may be in different forms, some of them not maplike at all. Some of the information may be systematically distorted as well. It is unlikely that the pieces of information can or will be organized into a single, coherent maplike cognitive structure. In these cases, rather than resembling maps, people’s internal representations seem to be more like collages. Collages are thematic overlays of multimedia from different points of view. They lack the coherence of maps, but do contain figures, partial information and differing perspectives.
(Tversky, 1993)

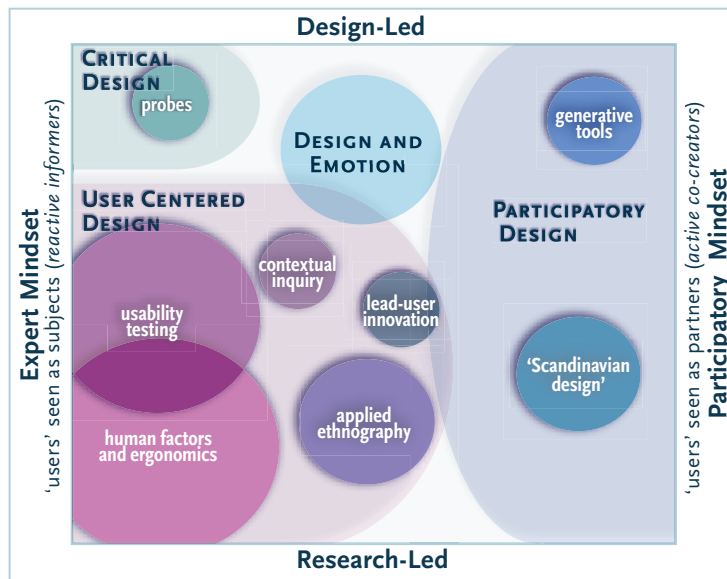


Figure 1: Topography of Design Research

So I present a cognitive collage of the design research space as it is in 2006. The collage is not fully detailed, and that is deliberate. My hope is that it will serve as a scaffold to support our conversation and to spark future thinking and doing. It is a collage that is still taking shape. I invite you to contribute additional dimensions, layers, zones, clusters and bubbles. When you make your contribution to the collective collage, it will be helpful if you describe where you stand

and what you see from there. Perhaps we can also identify landmarks and edges in the future, establishing a cognitive map out of the collage.

THREE PERSPECTIVES

Mental representations of environmental spaces can be viewed in any of three different ways (Tversky, 2004). I propose that the same is true for the cognitive collage of the space of design research.

1. A survey perspective – with this perspective you can look at and describe the entire space as though you were at a stationary point far above it, able to see everything at once. The collage above is a survey perspective.

Continued →

2. A route perspective – here you are moving along inside the space and are able to see and describe it from your changing point of view much as a traveler through the environment.
3. A gaze perspective – in this case, you are looking at and describing the space from a single unchanging point of view. In a physical space, this would be like standing in a doorway and describing what you can see from there. In the design research world, this could be what the practitioner sees when looking from their unique position in the marketplace or what the academician sees when looking from a disciplinary/departmental point of view.

TWO DIMENSIONS

The space is defined by two dimensions. The vertical dimension describes the impetus of the design research approaches. The top half (i.e., design-led) contains design research methods and tools that have been introduced into practice from a design perspective. The lower half (i.e., research-led) contains design research methods and tools that have been introduced into practice from a research perspective. It is easy to see that in 2006 the lower half of the space is more densely populated than the top half. So, to date, design research has been influenced more by researchers than by designers. But this is changing rapidly.

The horizontal dimension describes the mindsets of those who practice and teach design research. It is a bipolar dimension. In fact, you can think of the right and the left sides of the space as two distinct cultures of design research. The left side exemplifies the expert mindset. At the bottom of the left side, the researcher is the expert. Researchers talk about the people that they do research on as subjects, or informers or users. The people are asked questions and/or requested to respond to certain stimuli and/or observed. At the top of the left side, the designer is the expert who creates things to probe or provoke response from the people who are often referred to as the audience. The designers might also create things to provoke and/or communicate with other expert designers. The expert mindset is all about designing for people using specialized skills and expertise.

The right side exemplifies the participatory mindset. On this side, the researchers or designers invite the people who will benefit from design into the design process as partners. The participatory designers and researchers respect the expertise of the people and view them as co-creators in the process. The participatory mindset is about designing with people.

It is not always easy for people to cross the border between the expert and the participatory mindsets. The move from expert to participatory is particularly difficult since it causes one to reconsider who really is the expert when it comes to designing for the future (Sanders, 2001). However, in the future, we will need to learn to work in both cultures as each has relevance for improving the human condition.

ZONES, CLUSTERS AND BUBBLES

The design research space is described by zones, clusters and bubbles. There are four zones of activity that are shown in the background as large, light colored areas. Inside the zones are clusters and bubbles of activity. The clusters are larger than the bubbles. For example, ‘user-centered design is a large zone. Inside of it are three clusters (human factors/ergonomics, applied ethnography and usability testing) and two bubbles (contextual inquiry and lead-user innovation).

The user-centered design zone in the lower left hand corner is the largest and most densely populated of the zones. It is research-led and the expert mindset defines the people as the objects of study. The three clusters of activity in this zone emanate primarily from the applied social and behavioral sciences and/or from engineering:

- ▶ Human factors/ergonomics—the study of how humans behave physically and psychologically in relation to particular environments, products, or services (which borrows from physiology, psychology and engineering)
- ▶ Applied ethnography—the qualitative description of cultures and cultural practices, which is based on observational research (and borrows from anthropology)
- ▶ Usability testing—i.e., measuring how well people can use something for its intended purpose (which borrows from cognitive psychology and cognitive engineering).

Each cluster represents a large amount of activity as evidenced by the fact that there are one or more professional organizations supporting each cluster. There is some overlap (of people, methods, tools, etc.) between the human factors/ergonomics cluster and the usability testing cluster, but the applied ethnographers see themselves as being quite different from the others. Most of the people who practice and/or teach in the user-centered zone were educated as researchers, not as designers.

There are also two bubbles of activity within the user-centered zone: contextual inquiry and lead-user inno-

Continued →

vation. Bubbles are smaller than clusters because they are not yet supported by professional organizations. Contextual inquiry (Beyer and Holtzblatt, 1997) is most often used in the software development process.

Contextual inquiry is a user-centered design method... that happens up-front in the software development lifecycle. It calls for one-on-one discussion sessions wherein users' daily routines or processes are discovered so that a product or website can be best designed to either work with the processes or help shorten or eliminate them altogether. Contextual inquiry comprises preparation, evaluation, analysis, and design phases. (Retrieved from [http://en.wikipedia.org/wiki/Contextual Inquiry](http://en.wikipedia.org/wiki/Contextual_Inquiry))

It is interesting to note that the contextual inquiry bubble has been migrating toward the participatory/designer led corner of the design research space in the last few years as design-led methods such as visioning and storyboarding have been added to the contextual design protocol. (Holtzblatt, K and Beyer, H.R., 2006).

Lead-user innovation (von Hippel, 1988 and 2005) is a bubble that sits on the very small overlap between the user-centered design and the participatory design zones.

User innovation refers to innovations developed by consumers and end users, rather than manufacturers.... In 1986 Eric von Hippel introduced the lead user method that can be used to systematically learn about user innovation in order to apply it in new product development.

Retrieved from [http://en.wikipedia.org/wiki/user innovation](http://en.wikipedia.org/wiki/user_innovation)

Von Hippel's approach is participatory in principle (i.e., including the recipients of design in the design development process), but it is based upon the assumption that only a specific type of user is capable of participating. Von Hippel's 'lead-users' are those few who are already innovating in the domain. Thus, the lead-user innovation approach actually sits more comfortably in the user-centered zone with its focus on the 'experts' among the users.

Lead-user innovation is the low-hanging fruit of the participatory design zone. It is very effective for highly specialized domains of expertise, but it is not able to address the needs and dreams of the large number of 'everyday' people. That is the domain of the participatory design zone.

The participatory design zone covers the entire right hand side of the collage. Participatory design is an approach to design that attempts to actively involve the people who are being served through design in the process to help ensure that the designed product/service meets their needs. Its origins are generally traced back to work done

with trade unions in several Scandinavian countries in the 1960s and 1970s. Participatory design attempts to involve the actual 'users' throughout the design development process to the extent that this is possible. A key characteristic of the participatory design zone is the use of physical artifacts as thinking tools throughout the participatory design process. This is a key characteristic of the various participatory design practices emanating from the research-led Scandinavian tradition (e.g., Greenbaum and Kyng, 1991).

Generative tools (Sanders, 2000; Sleswijk Visser, Stappers, van der Lugt and Sanders, 2005) is a newer design-led bubble in the participatory design zone. It is characterized by the use of design thinking by all the stakeholders very early in the fuzzy front end of the design development process. The name 'generative tools' refers to the creation of a shared design language that designers/researchers and the stakeholders use to communicate visually and directly with each other. The design language is generative in the sense that with it, people can express an infinite number of ideas (e.g., dreams, insights, opportunities, etc.) through a limited set of stimulus items. Thus, the generative tools approach is a way to fill the fuzzy front end with the ideas, dreams and insights of the people who are to be served through design. The generative tools approach has been used across all the design domains, although the generative toolkits differ across the various domains. It should be noted that generative design research is not entirely design-led. Generative toolkits are created and developed based on a solid understanding of the context of use that has been ethnographically informed.

The critical design zone has emerged recently in the top left corner. It is design-led, with the designer in the role of the expert. The emergence of this zone can, in fact, be interpreted as a reaction against the large user-centered zone with its overwhelming focus on usability and utility (Dunne, 2005).

Critical design is best understood in the words of its originators.

Design can be described as falling into two very broad categories: affirmative design and critical design. The former reinforces how things are now; it conforms to the cultural, social, technical and economic expectation. Most design falls into this category. The latter rejects how things are now as being the only possibility, it provides a critique of the prevailing situation through designs that embody alternative social, cultural, technical or economic values.... Critical

Continued →

design, or design that asks carefully crafted questions and makes us think, is just as difficult and just as important as design that solves problems or find answers.

(Dunne and Raby, 2001, p. 58).

Probes (Gaver, Dunne and Pacenti, 1999) is a bubble in the critical design zone. Probes are ambiguous stimuli that designers send to people who then respond to them, providing insights for the design process. No attempt is made to understand or to empathize with the people probed; the objective is design inspiration.

There has been some confusion between probes and generative tools. Both bubbles are relatively new and are situated in the design-led part of the design space, but they are in opposite corners. The materials used in probes research and in the generative tools approach can be quite similar, for example, disposable cameras with instructions for use, diaries, daily activity logs, open-ended postcards to write, etc.

The differences between probes and generative tools lies in the research methods and goals and in the mindsets of the designers/researchers, not in the actual materials. In the probes bubble, these materials are sent (usually by mail) to people who fill them out and send them back. The designers who receive the probes do not meet the respondents and do not get a chance to hear what they were thinking when they filled out the probes. The returned probes serve only to inspire the designer's work.

In the generative tools bubble, these kinds of materials are sent (usually by mail) to people who fill them out and then bring the completed materials with them to a participatory session where they will use generative tools. The 'probes' in this case serve two purposes: first, as 'primes' to prepare people for the upcoming creative session and secondly, as background information (and inspiration) for the design/research team. There is an opportunity in the generative session for the respondents to explain, for example, where they took the photos, who is in the photos, why they took the photos, what the photos mean, etc. There is direct communication between the designers/researcher and the people. Primes are the first step in the process of immersion that is used to ensure that people can imagine and express their ideas for the future using the generative tools. (Sleewijk Visser, Stappers, van der Lugt and Sanders, 2005).

There is a smaller empathic design zone emerging centrally, drawing eclectically from all the other areas of the design research space. In a few years it has amassed a large and enthusiastic global following with several conferenc-

es being given regularly. For example, the first conference on Design and Emotion took place in 1999 in the Netherlands and has been held every two years since then. The first International Conference on Affective Human factors was held in 2001. And Symposia at the 1997 and the 2000 International Ergonomics Association have explored the area of affective needs in the design and development of products and services.

LOOKING BACK

The cognitive collage of the design research space in 2006 is a survey perspective that comes from the many routes I have taken (and continue to take) inside the design research space. Your perspective may be different. I have played in all areas of the collage and across all the design disciplines – industrial, visual communication, interior space, architecture, interaction design, and service design. I have direct experience in all the varieties of user-centered design, participatory design and empathic design. But I have only played vicariously in the critical design zone, through reading and through advising graduate students (e.g., Mattelmaki, T., 2006; Stehlik, A., 2006)

In 1992 I proposed that 'products' in the future must be simultaneously useful, usable and desirable in order to be successful in the lives of people (Sanders, 1992). How far have we come in addressing the challenge of usefulness, usability and desirability?

- ▶ We are doing fairly well with understanding and delivering on usability.
- ▶ We have just started to understand what desirability means and how to deliver on it.
- ▶ We know the least about usefulness. And it is here that we have the most to gain.

I believe that the recent attention in the business press about user-centered innovation is actually about usefulness. In the years between 1999 and 2001 we saw a lot of innovation that was not relevant, not people-centered and ultimately not useful, e.g., the many failed products and services of the dot-com era. It was not sustainable in the long view. What we hear people talking about today is the search for truly people-centered innovation. People-centered innovation takes a long view in time across a large space.

Continued →

LOOKING AHEAD

The newer design disciplines such as service design and transformation design (Burns et al, 2006) are positioning themselves near the middle of the design research collage in order to draw upon tools and methods from all the zones, clusters and bubbles. But they tend to settle to one side or the other, with service design holding more to the expert mindset and transformation design reaching toward the participatory design zone.

So the cognitive collage helps to put some things in perspective but raises even more questions for the future:

- ▶ Are there other dimensions to this space that are essential for understanding the future of human-centered design/people-centered innovation?
- ▶ What is the cognitive map that will emerge from this collage? Is the time right to construct it collaboratively?
- ▶ What and where are the landmarks? Are they people, groups, tools, techniques, papers, conferences, companies, and/or blogs? Maybe there are many layers of landscape to consider.
- ▶ How do we give our students experience in navigating this landscape?
- ▶ Who are these students?
- ▶ How can we teach them to see and to use the whole map and to recognize when and how to change perspectives?
- ▶ Will there need to be a rethinking of how design and design research are shared, taught, and learned?
- ▶ Will there be less of a need for advertising and marketing as we come to better understand participatory culture and the essence of human-centered usefulness?

These are exciting things to think about!

Liz Sanders

Liz Sanders is the founder of MakeTools, a company that explores generative tools for collective creativity. She is a pioneer in the use of participatory research methods for the design of products, systems, services and spaces.

Liz was educated as a social scientist with undergraduate degrees in psychology and anthropology, followed by a PhD in Experimental and Quantitative Psychology. Liz speaks about and teaches human-centered design to students, clients and colleagues around the world.

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CULTIVATING WONDERGROUND

EDUARDO CÔRTE-REAL

Co-organizer, WonderGround conference, Lisbon

Wonderground actually began in 2003. In September of that year, Fernando Carvalho Rodrigues, Carlos Duarte and I organized the international conference ‘Senses&Sensibility in Technology’ at the Instituto de Artes Visuais, Design e Marketing [IADE]. Dr. Terence Love was one of the delegates; we had already ‘met’ through the PhD Design discussion list. Terry asked why I had not become a member of DRS, and why I did not apply for an International Corresponding Member [ICM] appointment covering Portugal. One year later, Dr. Ken Friedman asked me why we at IADE did not apply to organize the third DRS international conference. This was a tough call, Ken warned me. It would be difficult for the conference to be held outside of an English speaking country.

At that time, I imagined DRS as one of those nineteenth century geographical societies, in which explorers gave long lectures to their peers in smoky rooms: in this case about the exotic design cultures they had found on hazardous scientific pilgrimages to the harsh lands of artifact production. It was hard to imagine people accustomed to regular tea drinking and beer at specific temperatures coming out of their Victorian halls to attend a conference in such an unaccustomed place as Portugal.

More than nine hundred years ago, the first king of Portugal faced such a problem: convincing a drove of northern and central European crusaders to help him wrest Lisbon from the Moors. The King offered land and whatever loot was plundered to these not so friendly or so clean noblemen in transit to the Holy Land. Apparently, Ken was able to galvanize everyone involved, and by May 2005 we were able to announce that the conference would be held the following year in Lisbon without making any promises of plunder or land.

During the Cumulus conference in Lisbon, early June, 2005, Michael Biggs, Ken Friedman, Terence Love, Martim Lapa and I discussed how to implement procedures for organising the forthcoming conference.

By that time, the chairs had been chosen: Ken, Terry and me. We were comfortable with the idea that we would accept working papers and full papers in one submission, subject to scrupulous revisions. The size of the conference had not yet been decided, though even if we wished to propose a small, cosy conference, the idea of something bigger was clearly growing. Michael stressed that size was the organizer’s call.

Suddenly, we had a crisis: the name of the conference. We were following what we thought to be a standing procedure of ‘grounding’ conferences, so we were looking for ‘grounds’. For some, ‘Wonderground’ seemed a bit silly. Maybe it would be better to call this simply ‘The Third DRS International Conference’. There were substantive reasons for our title. Wonderground had emerged out of imagin-

ing Victorian societies. It paid tribute to Lewis Carroll and G.K. Chesterton: Wonderland mixed with Underground; Alice and the man called Thursday; from non-sense to common sense. The idea of a Garden of Eden or a garden of meanings inhabited by Chesterton’s double natured characters, both anarchists and policemen, seemed apposite to the sorts of people we expected to receive in Lisbon.

I began to organize the conference with a call for research tracks and then selected them with diversity as a main criterion. Even so, we risked not having all fields of design research covered, so we proceeded to the more standard system of inviting people, selecting papers and finally organising the program according to the submissions as evidence of each research track’s existence.

We asked the organisers of several previous conferences for a list of sound and reliable reviewers. From the three major preceding design conferences, we gathered a list of nearly two hundred persons and, somehow, sent out the emails to invite them. We asked each of them to send us five keywords and proposals for research tracks. The response was so great and diverse that not even Linnæus himself could have extracted a taxonomy from it.

We opened a drop-box for papers in February, 2006. Every step preceding this one had been painfully discussed and most of the deadlines delayed a few weeks. Finding the right tone to address the forthcoming submitters was really difficult.

When submissions began arriving, we noticed immediately that scientific committee members were not submitting in the numbers we were expecting: twenty submissions from two hundred members at the first deadline. We had to extend our call for papers and convince those members to send more contributions (I guess it happens with all conferences). We also received some bad news from the on-line submission system: The automated system for



Elizabete Perfeito

Continued →

distributing papers to reviewers according to keywords was not working. Authors had been urged to select from the list of nearly one thousand posted keywords for submissions, but they used their own keywords instead, overloading the system. Another electronic surprise was that firewalls and anti-spam filters were keeping us from contacting everybody in a timely way.

Time was also running out, so I created categories for the distribution of papers, based on reading all of the abstracts and keywords:

- ▶ Philosophy—theory, meta questions, language riddles and interrogations, problems of social philosophy (a large bag);
- ▶ User studies—including comparative functionality of designs; why people like one design better than another, are better able to use it, perceive it as better designed, etc.;
- ▶ Identity studies—gender, class, geographical and cultural differences; traditions, etc.;
- ▶ History—history of science, politics and design;
- ▶ Architecture—from landscape and urban planning to interior design;
- ▶ Design education—pedagogical goals and methods of teaching including experiments using students;
- ▶ Green design—sustainability and eco-design studies;
- ▶ Engineering—design of architectural and industrial processes; quality, integrity, efficiency;
- ▶ Strategic design—from corporate strategy to public policy;
- ▶ Digital design—specifics of computers and computation, design methods and outcomes.

By early June we had nearly 400 submissions. At this time, it was perfectly clear that the planned reviewing procedure would not enable us to evaluate full text papers in the time available. Therefore, we made the decision to evaluate all abstracts for presentation based on their relevance to a design research conference. The chairs made this determination and reviewed the abstracts, double-blind. By doing this we set the basic categories or 'levels' as criteria for presentation to the conference. A total of 315 abstracts were selected for presentation in the following categories:

1. Ground level—the conference as a gathering; based on peer evaluations of abstracts, with presentation rather than full text publication in mind
2. Wonderground level—the publication of full text papers based peer reviews of those papers, with the future publication of a book of proceedings in mind

3. Wonder level—If, during the conference, we spot a group of thematic papers of outstanding quality we will consider the production of a book or series of books devoted to them.

Abstracts of all presentations will be published in a book of abstracts, giving an overall picture of current research interests and approaches in the research areas covered.



Anjali Kelkar

In the early 1800s, French armies invaded Portugal three times. Their justification was always the same; Portugal's lack of respect for the French blockade of British ships. During the first invasion, the Portuguese Royal Family fled to Brazil. For the first and only time in history, a European country was 'governed' from its colony. The French army of the third invasion

included soldiers from around the world as well as from Europe. The Portuguese and the British under the command of the Duke of Wellington stopped this multilingual horde in a place called Bussaco where, a few years later, was built one of the most charming neo-Gothic houses, which is now a period hotel.

In 2006 we will be welcoming a more friendly horde of over 500 including what may be one of biggest gatherings of Design related PhDs and PhD students ever. These guests could be characterized by the statistics that follow.

In the meantime, reviewing for the proceedings book is continuing. As of August 14, 143 papers have received two reviews from which seven were rejected and 9 were accepted without revisions. One hundred forty-two papers have received one report. We must conclude this process by September 21 so that we can begin editing the proceedings book with full text papers in time for the conference.

I deeply thank Martim Lapa and Vítor Simões here, and Ken Friedman, Terence Love, Charles Burnette, Chris Rust and David Durling out there for their involvement in preparing the set up for the conference. Soon it will be show Time.

Let us pray for an Indian summer's pleasant weather.

Eduardo Côte-Real

Continued →

WONDERGROUND PARTICIPANTS:

Participants by Nation:

Countries of origin and of affiliation are respectively where participants are from and where they work or study.

The geographical distribution of participants outside USA, UK and Portugal is hearteningly broad. Australia and Brazil are strikingly well represented; it seems that Brazilians feel especially welcome and comfortable here. In the US, six states are represented with the strongest presence from Illinois. The differences between countries of origin and of affiliation reflect the ability of some countries, particularly the UK, to attract foreign students.

PARTICIPANTS by Nation:

	Affiliation	Origin
Australia	26	34
Botswana	1	0
Brazil	16	14
Bulgaria	1	0
Canada	8	8
Denmark	6	8
Finland	0	5
France	7	4
Germany	9	7
Greece	11	6
India	2	2
Iran	0	2
Ireland	0	1
Israel	5	8
Italy	7	10
Japan	6	10
Korea	15	10
Latvia	0	1
Lebanon	0	1
Mexico	3	1
Nederlands	10	12
N. Zealand	13	14
Norway	7	8
Portugal	29	28
Singapore	3	3
Sweden	18	16
Switzerland	0	1
Turkey	14	15
UK	40	63
US	41	46

Participants by Continent:

(Including Turkey within Europe)

The participation from Europe almost ties that from the rest of the world. Participants from English speaking countries slightly outnumber the rest, at 165 to 150. We see strong participation from Asia. Participation from Asia and Oceania combined, surpasses the Americas by little. Africa is an area to think about and start addressing.

Participants by Continent:

66: Europe
80: Americas
49: Asia
39: Oceania
1: Africa

PARTICIPANTS BY SUBFIELD

The large number of self-declared Industrial designers was expected, and Architects made it to the second place. Communication designers were a close third. While the other groups are smaller, it may be that, for instance, some product designers are also in management, so that those fields may be under-represented by this measure.

PARTICIPANTS by Subfield:

83: Ind. Design
64: Architecture
57: Comm. Design
21: Engineering
15: Humanities
12: Art & Design
9: Fine Art
8: Design History
7: Fashion Design
3: Management
2: Psychology
1: Art History
1: Biology
1: None declared

PARTICIPANTS BY GENDER:

Only two men will be left standing at any dance.

PARTICIPANTS BY GENDER:

146 Women
148 Men
47 Unknown

Leadership:

One hundred twenty-eight participants declared that they had leadership positions in their institutions. This means that any conspiracies hatched in Lisbon are likely to spread!

Continued →

PRESENTATIONS: Abstracts accepted: 315
Presentations Expected: 280/300
Number of Authors: 505

No. Presentation Track

- 61. Why: Philosophy Theory, epistemology, meta questions, problems of social philosophy.
- 47. Who: Identity/locality Gender, geographic differences, traditions, cultural heritages, etc.
- 45. Who: Users studies Comparative functionality affective reaction and user acceptance.
- 33. Where: Architecture From landscape and urban planning to interior design.
- 32. When: in the Future Strategic design Planning, corporate strategy and public policy.
- 28. What: Education Pedagogy and curricula, including the use of students in experiments.
- 23. When: in the Past Design History, History of science, politics and design.
- 21. Digital Design Uses and effects of computers and computation in design.
- 21. Green Design Sustainability in architecture and planning.
- 19. Engineering Architectural and industrial processes.

Presentations by Track:

Philosophy is the most heterogeneous track of the conference, with about 20 subfields. The other tracks are more coherent, reflecting established traditions in a number of subfields.

It is interesting to compare the distributions of participants' subfields with the content distribution of the presentations themselves: particularly the large number of philosophical papers. These may indicate the concerns shared across broad cross-sections of the field and, perhaps, areas in which design education could be enlarged.

EVENTS: www.iade.pt/drs2006 for updates

THE PROGRAM WILL INCLUDE:

- 👉 Halloween reception
- 👉 Port of Honour reception
- 👉 Design Re-thirst Society Reception
- 👉 Conference dinner
- 👉 Opening session and three plenary sessions
- 👉 Nine simultaneous rooms for Ten research tracks in the Santos Design District
- 👉 Guest side stories and host side stories (invited lecturers and special sessions) confirmed: Victor Margolin & Ken Friedman; David Sless; Special session about Science Museums
- 👉 **Special workshop on Doctoral Strategies and Tactics: 6-7 November;**
Confirmed Lecturers; Richard Buchanan and Christena Nippert-Eng.

Continued →

PORTUGUESE HISTORY:

MORE ABOUT PORTUGUESE HISTORY:

Portugal, the first Global Village by Martin Page.
Robert Wilson's Ten books to read on Spain and Portugal:
<http://www.amazon.com/exec/obidos/tg/guides/guide-display/-/1QKIU4ZIToXLI/103-5156256-9041411>, retrieved from the internet 14th August 2006

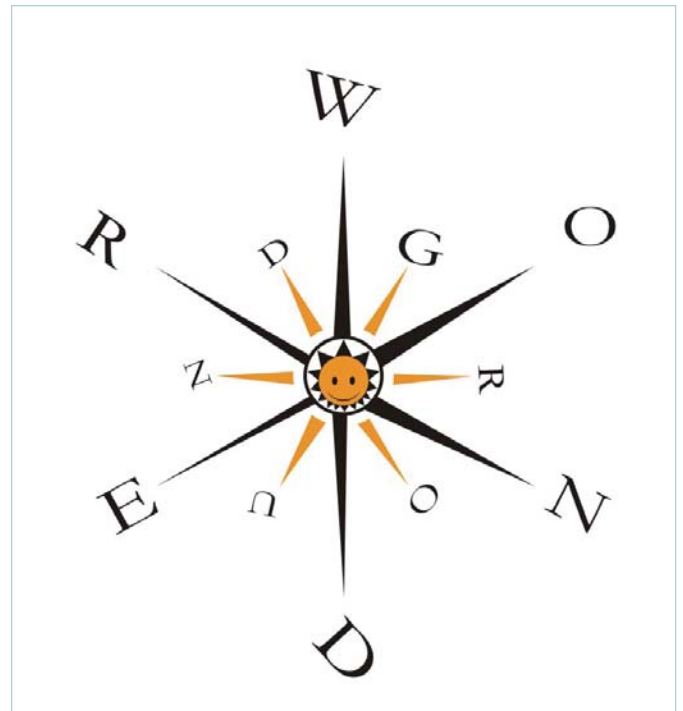
THE FIRST GLOBAL VILLAGE, BY MARTIN PAGE:

For Portugal I chose as my first book this excellent introduction to Portuguese history, culture, and psyche. It is a book brimming with fascinating detail on the Portuguese contribution to the world.

In the opening pages you will discover how they introduced the chilli pepper to India, tea to England, and fire-arms to Japan whilst leaving the word for 'thank you' ('orrigato' from the Portuguese 'obrigado') behind.

Eduardo Côte-Real

Lisbon, 14 August 2006



NEW GRADE OF MEMBERSHIP – FELLOW OF THE DESIGN RESEARCH SOCIETY

NIGEL CROSS

THE FIRST FELLOWS TO HAVE THEIR APPOINTMENTS CONFIRMED ARE:

- **PROFESSOR MICHAEL BIGGS:** UNIVERSITY OF HERTFORDSHIRE, UK
- **PROFESSOR LIN-LIN CHEN:** NATIONAL TAIWAN UNIVERSITY OF SCIENCE AND TECHNOLOGY, TAIWAN
- **DOCTOR LINDA DREW:** UNIVERSITY OF THE ARTS, UK
- **PROFESSOR DAVID DURLING:** MIDDLESEX UNIVERSITY, UK
- **PROFESSOR KEN FRIEDMAN:** NORWEGIAN SCHOOL OF MANAGEMENT, NORWAY AND DANMARKS DESIGNSKOLE, DENMARK
- **DOCTOR PER GALLE:** DANMARKS DESIGNSKOLE, DENMARK
- **DOCTOR TERENCE LOVE:** CURTIN UNIVERSITY, AUSTRALIA
- **DOCTOR DEANA McDONAGH:** UNIVERSITY OF ILLINOIS AND BECKMAN INSTITUTE, USA
- **PROFESSOR VICTOR MARGOLIN:** UNIVERSITY OF ILLINOIS, USA
- **DOCTOR RIVKA OXMAN:** TECHNION, HAIFA, ISRAEL
- **DOCTOR LUBOMIR POPOV:** BOWLING GREEN STATE UNIVERSITY, OHIO, USA
- **PROFESSOR CHRIS RUST:** SHEFFIELD HALLAM UNIVERSITY, UK
- **PROFESSOR STEPHEN SCRIVENER:** UNIVERSITY OF THE ARTS, UK
- **PROFESSOR ERIK STOLTERMAN:** UNIVERSITY OF UMEÅ, SWEDEN AND UNIVERSITY OF INDIANA, USA

When DRS was founded, it was set up as a learned society, aiming to promote research and study into the processes and practices of design. Its original statement of primary aims is still prominent in its current rules: the Society is ‘a body of persons associated for the purpose of promoting the study of and research into the process of designing in all its many fields.’ Over the years, it has pursued these aims and has gradually become a respected, international organisation, concerned essentially with the advancement of knowledge. It has also played a role in advising government and other bodies on how best to pursue this advancement of knowledge into the processes of design, including how to assess the quality of research. It has become clear that DRS represents a reliable, established and professional academic point of view from the world of design research.

From the beginning, there has never been a requirement of any particular qualification for admission to membership of the Society – it has been open to anyone who wishes to support and further the aims of the Society. This open membership policy has helped to create the diversity and the vivacity of the Society. However, at various times there have been discussions within the Society about establishing a qualified form of membership, which would help to further the Society’s role as a promoter of excellence and quality. Finally, in March 2006, the Society’s Council agreed to continue with an open membership policy but to institute a new grade of membership – Fellow of the DRS.

Conferment of the title of Fellow of the Design Research Society will acknowledge an individual as having an estab-

lished record of achievement in design research and attainment of peer recognition as a researcher of professional standing and competence. Fellows of the Society may use the personal suffix of FDRS.

Fellows must be full members of the Design Research Society, and must have:

- ▶ a research qualification or equivalent (normally a Doctorate or a Masters degree by research)
- ▶ at least seven years experience of working at postgraduate level in research related to design, or research-based design practice
- ▶ a significant record of achievement in design research, as evidenced by, for example, publications of international standard, and/or conducting successful research projects, and/or successful education of postgraduate research students.

The Council has appointed an interim group of members, chaired by the President–Elect, Professor Nigel Cross, to invite and consider applications for election to Fellow. When a sufficiently large group of Fellows has been appointed in this way, there will be a College of Fellows to consider applications for election from all members of the Society.

In a first round of invited applications, so far fourteen Fellows have been appointed. Several others are currently in the process of application.

Nigel Cross

INTERNATIONAL CORRESPONDING MEMBER REPORTS

WESTERN AUSTRALIA, NOVEMBER 2005

TERENCE LOVE

This report will look at the recent research funding distribution from the Australian Research Council targeting collaborative research between universities and other organisations: the Linkage research funding.

The balance of Linkage research funding gives some indication of the Australian government's relative interest in different aspects of design-focused research. Funding is applied for by joint University-industry research teams through individual universities. Typical annual funding success rates are between 25 and 40 percent.

There is an historically interesting perspective on this research funding. Until relatively recently in Australia, research was undertaken primarily in the government organisation CSIRO (Commonwealth Scientific and Industrial Research Organisation). Until the 1950s, almost no research was undertaken in universities. From the 1960s, universities have managed to obtain a slice of the research funding cake. The Australian Research Council research funding is a major part of the government's response to universities' requests for research funding. The distribution of research funding has been uneven, with eight of the forty-something universities taking most of the overall funding budget.

In Western Australia, there was research funding awarded for eleven Linkage projects:

1. An ethnographic investigation into the everyday work and communication cultures of public transport transit guards: reducing risk and injury (journalism, communication and media)
2. On-line training for small business: creating a best practice model (business and management)
3. Variable speed and diesel power conversion system using a doubly fared induction generator (environmental engineering)
4. Remembering the Wars: Community Significance of Western Australian Award Memorials (architecture and urban environment)
5. The cause(s) and management of the Eucalyptus gomphocephala decline epidemic in Western Australia (forestry sciences)
6. Molecular tools for controlling at the genie viruses in the seed potato industry (botany)
7. International partnership in robotic astronomy and gravity wave data analysis using a supercomputer (astronomical sciences)
8. Understanding salt and water dynamics to enhance the quality of turfgrasses irrigated with saline water in a Mediterranean environment: an evaluation of four species (botany)

9. Expanding the gene pool of canola (*Brassica napus*) by introgressing viable genes from related species (crop and pasture production)
10. Learning mechanisms and the development of dynamic capabilities within firms (business and management)
11. Novel strategy for optimising fertiliser input coupled with organic residue management for sustainable reconstruction of jarrah forest ecosystem (microbiology)

None of these specifically target research into design activity. The first project can be seen as preparatory research into designing strategies to reduce risk and injury in transit guards. The second provides funding to design the 'best practice model' of on-line business education. The third involves the design of a new variable speed diesel generator.

Interestingly, the fourth project is primarily a history project and the project that appears most closely to be part of the 'Art and Design' context. Its contribution in design terms is that it will help in the design of strategies to maintain war memorials and raise regional community awareness and regard for local war memorials. The funding for this unusual project perhaps reflects the current Federal government's conservative and militaristic perspectives. The fifth project focuses primarily on gaining knowledge to design improved revegetation strategies. The design aspects of the project are in terms of improving the design of virus diagnostic services for seed potato certification. The seventh project is peculiar in research terms in that its fuller description focuses primarily on its ability to offer students access to undertake research in robotic astronomy. There is no mention of undertaking a specific research project. The eighth project has a specific design target: to improve the aesthetics of rural and coastal towns faced with salinity problems and to enable their use of saline groundwater thus conserving precious potable water and reducing costs of irrigation. The focus of the ninth project is to redesign the genetic basis of canola in its role as a disease and weed break for cereal crops to reduce the problem that its genetic variation has become dangerously low. The contribution of the tenth project is to assist with the designing of organisational structures and processes that improve the learning activities leading to knowledge generation and innovation. The final project is primarily design-focused, targeting reduction in cost to mine operators of

Continued →

Western Australia, November 2005 cont.

rehabilitating land by increasing knowledge about ways to design land rehabilitation processes that minimise the use of artificial fertilisers.

The main insight to be gained from this is that there is strong enthusiasm for funding design research in a wide variety of discipline areas. The language, however, is the language of improving scientific understanding. The second insight is that in Australia, in Western Australia at least, there is relatively poor access to Australian Research Council research funding for those under the 'Art and Design' umbrella.

For the design research field, this supports the proposal that design research is best seen as being primarily located in the other 700 or so sub-fields of design rather than the 'Art and Design' subgroup.

The above analyses are also reflected in the overall statistics for funding across the discipline groups. The Humanities and Creative Arts group receives in total less than 10 percent of Australian Research Council Linkage research funding. That group includes all of the humanities disciplines plus Architecture, urban planning, built environment, media, communication studies etc. 'Art and Design' is a very small component of this group and hence likely to receive very little of the national Linkage funding pie.

The implication for researchers in Western Australia involved in design research is that an improved research funding strategy will be to make a transition to, or make allegiances with, other disciplines in which research funding is more readily accessible.

Terence Love

Curtin University, Western Australia

GREECE, MAY 2006

ARTEMIS YAGOU

The Hellenic Secretariat of Industrial Designers is a recently founded institution that aims to support and promote the activities of the Greek industrial design community. In March 2007, the Society will organize a major exhibition of Greek industrial design at the new wing of the prestigious Benaki Museum in Athens. The Society also organized a three-day symposium, entitled 'Past, Present and Future of Industrial Design in Greece' at the National Technical University of Athens, 2-4 December 2005.

Design-related events are rare in the Greek academia, so, when they do happen, they are cherished by many and provide ample food for thought. This symposium included certain presentations which illuminated the history of Greek design and encouraged a dialogue between its past, present and future.

Designer and furniture design historian George Parmenidis traced the qualitative changes of design thinking in postwar Greece, with special emphasis on the furniture sector. In that period, design orientations were imported from the West and adapted through ideological filters related primarily to nationalism and social class. As urbanization advanced in the course of the 20th century, design gradually moved from a phase of pure imitation to a hybrid phase and then to one of original design concepts. Parmenidis regards globalization as positive for peripheral countries, as it facilitates the participation of 'small players'. The challenge lies in identifying and cultivating appropriate relations within a worldwide web of connections and interactions.

Historian Vassilis Panayotopoulos spoke of the 'spasmodic' modernization of the Greek economy, though making clear that this characterization was not meant to be derogatory. Modernization by importation and adaptation is indeed an achievement that many countries have failed to realize. In this respect, Greece was favoured by its early formation of a nation-state and its even earlier formation of a national culture. Both these developments led to increased demands for scholarship, science, and innovation, which facilitated the modernization by importation. Panayotopoulos in particular emphasized the significance of understanding globalization as a fundamental prerequisite to success in the years to come. He agreed that globalization allows small countries more space for participation, on the condition that they increase their own sophistication. Novel and more complex alliances must be pursued, which is admittedly a very difficult task.

Continued →

ICM Report: Greece, May, 2006 cont.

The views of these speakers were complemented by fashion designer Yannis Tseklenis, who highlighted the demise of the Greek fashion industry. Following an impressive peak in the 1970s, the local fashion industry was trapped in the logic of cost reduction, failing to invest in the development of strong, international brands.

More generally, all the presentations underscored the need for research into the histories of various design sectors in Greece. Such research will contribute to a much desired understanding of past and present conditions.



Marina Emmanouil, a Greek PhD student at the Royal College of Art, London, is doing research on the history of graphic design education in Greece. Her thesis is provisionally entitled 'The Emergence of the Modern Graphic Designer in Greece, 1950s-1970s: The case of the Athens Technological Institute'. Marina Emmanouil received one of the Bursaries awarded in 2005 by the Design History Society. The Bursary will assist her in visiting the Bauhaus Archive in Berlin, the Ulm Archive, and the Institute of Design Archive in Chicago.

Artemis Yagou

REFLECTIONS

DAVID DURLING

Some time ago, I was asked, for this first issue of DRQ, to provide some reflections from the Chair. Well, these are the reflections of an ex-Chair; recently I stood down from chairing DRS council and was very pleased to see Chris Rust duly elected as our new Chair.

I was first appointed in the last millennium (1998), so I seem to have held the chair for a very long time. It has been a great experience seeing the society mature to its present state, and it has been one of the most professionally rewarding things I have done. It's also been fun digging out my reports to the Annual General Meeting and spending a little time reflecting on the role of the society in the recent past. I also have some thoughts about the society's possible role in supporting design research and researchers in the future. I must stress that any future gazing is a personal view and does not necessarily represent DRS policy.

Originally, I joined the society in the early 1990s. My impression was that it had seen better days, and I realised later that I had joined at a particularly low ebb, with decreasing membership and a Council struggling to hold it all together. We have come a very long way since then.

Perhaps the biggest change in membership has been a change of focus from the dominance of architects and engineers, to a broad membership of all kinds of designers, especially those from the sector of Art and Design. Membership has also increased greatly, partly due to the quietly efficient work that Bob Jerrard has done over many years and partly due to the implementation of a web site that has provided a face to the world as well as a means for prospective international members to join up quickly with a credit card.

Our influence in the world has increased considerably. We publish Design Research News monthly to over 6,800 researchers around the world, making it the largest digital publication of its kind. We have directly organised or supported a number of internationally recognised conferences and symposia in various countries, and this work is continuing, now on a regular basis. We have implemented an awards scheme and honoured significant researchers. We have a number of respected international members advising Council. We are much better organised; even our AGM is now held annually and has an associated symposium. We recently announced changes to membership categories, including a Fellowship scheme for experienced researchers. Indeed, the new College of Fellows now being set up will no doubt be an important think tank of ideas for the future and will help us develop and maintain standards.

Continued →

The start of this journal, DRQ, represents another significant step in communicating with members and the wider world.

Over a long period we have formed a close friendship with the Asian design research organisations, and last year this culminated in the Society being a founder member of IASDR, the International Association of Societies of Design Research, together with other significant societies in Japan, Korea and Taiwan.

All this is the product of a lot of work by a number of people. Council has gone from strength to strength, with new and active members who are interested in new developments and have been prepared to commit to some risk and make it work. Our Treasurer, John Langrish, frustrated by years of wealth accumulation but little strategic spending, encouraged us to use funds for expansion, which we have. Some developments, for example new membership grades, have been possible only since the society's constitution was amended. The process hasn't been easy, and there have been some low points, but it is coming right now, with a doubling of membership since early last year and, among other things, our most ambitious conference yet, Wonderground, coming up in November in Portugal.

The society is in a healthy financial position, is better organised, and with a Council full of enthusiasts and the sound guidance of our incoming President Nigel Cross, things have not looked so good, and it is heartening to see.

So, that brings us up to the present day. It gives me great pleasure to see the society in such good shape. But what of the future?

As I have said, over the past decade we have moved from a society dominated by architects and engineers to a more multidisciplinary membership which is perhaps more representative of 'design' as broadly interpreted. However, it now seems that, relative to the scale of the architecture and engineering disciplines, we have few members in these disciplines. Other bodies, the Design Society for example, have provided more focus for those in engineering and design technology. Even within the broad spread of Art & Design there are significant gaps in membership, for example fashion, and crafts and the applied arts. This has to be addressed. We should strive to be a learned society in which all kinds of designers will feel comfortable. As these emerging research fields develop, it is important that DRS attract such members and collaborate with other bodies with similar interests to ours.

Compared to other more established research domains, we still struggle to establish links with the world of business and with design consultancies. We struggle also to bring the sides together in a shared understanding of the worth of research. Much academic research seems to have little relevance to industry, and perhaps industry has yet to learn how best to shape academic research to its own purposes. There is much to be done here, too.

Finally, there is DRS the brand. If the DRS brand stands for anything, I believe it is about raising the quality of design research. It has been doing this for 40 years: through various symposia: through steadfast excellence in the journal *Design Studies* (and through highlighting the best papers through the annual *Design Studies Award*); through the gradual improvement of robust peer review and publication with its general conferences; through collaborations with other like minded societies; and through its support for the *Doctoral Education in Design* conferences. Looking around at the values of some other design bodies, perhaps especially those in Europe, and looking at the quality of some doctoral programmes, it seems to me that DRS's collective expertise is needed more than ever.

David Durling

Middlesex University

DESIGN RESEARCH: PAST, PRESENT AND FUTURE

a national symposium to celebrate 40 years of the Design Research Society

Thursday, 14 September 2006, Chelsea College of Art & Design

Rachael Luck

The Design Research Society was formed 40 years ago. This milestone was celebrated with a symposium to reflect the development of design research and stages in this journey, from the perspectives of four invited speakers.

'BRUCE ARCHER AND THE KINGS FUND BED'

DR GHISLAINE LAWRENCE

This presentation drew on Lawrence's study of Bruce Archer's research at the RCA for the Kings Fund project. Lawrence's studies revealed that the scope of the Kings Fund project was broad and Bruce's research was as much about questioning design problem definition, the relationship between needs and a design solution as the production of an object.

The project revealed a great deal about the beliefs and attitudes of the day, and Bruce Archer's approach, while setting out to adopt a rigorous scientific method of inquiry drawing on operational research, paid most attention to the relatively accessible and institutionally framed experience of nurses – partly driven by a policy need to reduce nurses' workloads in the face of staff shortages - and did not give the same attention to the patient's experience.

Lawrence's account struck a balance between Archer's painstaking pioneering work in identifying the requirements for Britain's first standard hospital bed (still in production today) and pointing out that most of the innovations in the design turned out to have little relevance to patient care as it developed in subsequent years: the price of basing the design on an examination of current needs and practices at a time when medicine was undergoing rapid changes.

'THE MIDDLE YEARS' PROFESSOR NIGEL CROSS

The President of the Design Research Society gave an overview of the history of design methods.

1960S: THE EARLY YEARS

In the early years of the 1960s, the origins of design research were personal and partial. The Design Methods Movement emerged from a series of conferences: the 1962 Design Methods conference, 1965 The Design Method and 1968 Design Methods in Architecture. These were seminal events for design research. Design was understood as a process and a systematic view of design stemmed from these discussions. The notion of design research emerged

at this time. Bruce Archer's collections of essays emphasised design as an activity that is common to many disciplines. Systematic approaches to problem solving were developed, informed by computing technologies and management theory.

An objective of the early design researchers was to cast design as a science. This period began with Buckminster Fuller's 'The design science decade' and by the end of the period Herbert Simon had written 'The science of the artificial'. Design was considered to be worth study, intellectually tough, partly formalised, partly teachable and not an intuitive, artistic approach. Typical design research included: prescriptive models of the design process, what it should be like, how you should design, management-like models that consider information gathering and specification. Systematic methods to rationalise decision-making were developed.

1970S: THE MIDDLE YEARS

There was a reaction against the previous prescriptive models of design. Christopher Alexander wrote 'Notes on the synthesis of form' and The Design Methods Group in USA was influential. Chris Jones 'Design Methods' book based on his earlier work was published in 1977. Developments in design research included Horst Rittel's (173) work at Ulm University with Bruce Archer. This was second-generation design methods that acknowledge stakeholders and argumentation as part of the process. Rittel understood planning problems as 'wicked problems'. While science deals with tame problems, most problems in life are untamed. Bruce Archer recognised the importance of education; design in general education, in schools, to children to everyone. 'Design has its own things to know, ways of knowing and ways to find them out' not just to emulate science. Events included: 1971 Design Participation, 1973 Design Activity, 1976 Changing Design, 1980 Design Science Method. Progressively it was acknowledged that design should be understood in its own terms. Typical research included: theoretical analysis- what is design? descriptive studies of design and participatory methods.

1980S: PERIOD OF CONSOLIDATION

Several journals were launched: 1979 Design Studies, 1983 Design Issues, Research in Engineering Design 1988. The subject of the book 'Developments in Design

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Methodology' 1984 was the design process. Seminal texts include: Lawson's 'How Designers Think' and Rowe's 'Design Thinking', Pahl and Beltz's 'Engineering Design', Hubka 'Practical Systems', Schön's 'The Reflective Practitioner'. Schön took the way designers work as his starting point and acknowledged the understanding which practitioners bring to a situation. Design cognition, particularly in architecture was investigated. Design as a discipline was a key theme at the time, however a schism began to occur between the investigation of architecture and engineering. Typical research included: protocol analysis (Delft protocol studies 1976), concurrent methods of design, engineering product design and computer assisted methods.

1990S: A PERIOD OF EXPANSION.

More journals in design were published: Design Journal, Co-Design and more conferences occurred: Design Thinking Research Symposia, AI in design, European Academy of Design, ICED, Design Theory and Method (USA), Theory and Methods, in engineering.

Comparing the numbers of formal studies, significant events and activities in particular disciplines with time there has been an observable shift in the locus of design research activity. In 1960-1970s much design research activity was undertaken the fields of architecture and engineering. Design studies of mechanical engineering were most prolific in the 1980s and more recently studies of electronic and software design.

'ON BEING AN ACADEMIC' PROFESSOR CHRIS RUST

This presentation reflected on findings from the ongoing AHRC (Arts and Humanities Research Council, UK) review of Art, Design & Architecture: a project Chris Rust is undertaking with Judith Mottram and Jeremy Till. While most academic disciplines in the UK share a tradition of scholarship and inquiry that goes back to the 19th Century and the establishment of the civic universities, art and design, and to a certain extent Architecture, followed a separate path until the art schools became part of the mainstream university sector in 1992. The idea of practice-led research reflects the wish of those disciplines to develop distinctive research practices that reflect and exploit their skills and 'ways of knowing'. Recent years have seen big steps forward in doctoral training, and the Research Assessment Exercise and AHRC have brought new funding in to the field, but there is now need for a similar effort to develop a serious academic culture among established

teachers, many of whom have not yet have recognised the full opportunity, as academics, to play a part in the production of knowledge as well as its transmission.

'THE FUTURE OF DESIGN RESEARCH'

PROFESSOR KEN FRIEDMAN

'The future is already here. It's just not evenly distributed' quote from the science fiction writer William Gibson was the genesis for the argument. From this platform several models of economic activity were reviewed: Colin Clark's seminal analysis of primary, secondary and tertiary sectors in 1940s, Daniel Bell's analysis of the post-industrial society in the 1970s, and Friedman's own six-level model of the economy today. Design and its numerous sub-disciplines are considered to operate in an environment that spans these levels of economic activity. When design is viewed as an economic activity the following questions are posed: techne, who does it? episteme, what you know about it? phronesis, the ethical and moral reasons for why we do and why we don't do activities. For the scientist and futurist Raymond Kurzweil technological change is exponential, which will lead to 'the singularity' and machines with intelligence to design themselves. Designers have a moral responsibility to consider the consequence of this future for the billions of people who live at level zero, with no economic influence. Beneficial design is for world gain.

Rachael Luck

GETTING A MANUSCRIPT TO PUBLICATION STANDARD

ERIC J. ARNOULD, UNIVERSITY OF ARIZONA

After serving several terms as an Associate Editor for *Journal of Consumer Research* and on editorial boards for journals in marketing and sociology, I've learned a few things about getting manuscripts to publication. As a result, I've compiled some practical tools and exercises to help in this endeavor. No condensation is intended. Established scholars, doctoral students and grant writers may all find these exercises useful.

Try to write a two-three page synopsis of your paper that focuses on and highlights your theoretical and/or practical contribution to the field. In this synopsis, you should start with an opening sentence that introduces your domain, states your purpose, and draws explicit links to key research that has appeared previously (a tall order but doable). References and footnotes may be used here, of course. By key research, I mean a canonical study, a recent apposite, cutting edge contribution, or both. You should include a 3-4 sentence statement of what is known about this phenomenon or problem from prior research, and then what is unknown—the all-important knowledge gap. You want to write a very specific statement here. You then need to make a statement about why this gap in knowledge is an important problem, that is, how this gap prevents the next steps in the field from being taken. This helps frame the problem in your research.

All of these steps can be taken in 1-2 paragraphs. Then you want to state your objectives in a paragraph. Do this in three steps; your long term programmatic objective is stated first. This is a broad goal, a broad problem area. Then, state the immediate objective of the current research. Define this narrower objective as the means of filling the gap in previous knowledge you stated earlier. Be realistic, do not overstate or over anticipate your contribution. Phrase this objective in such a way that you can then write the third step. This should be either a central hypothesis about the phenomena of interest or a needs statement (what we need to know about the phenomena of interest to move the field forward).

Next write a rationale in one brief paragraph. State what your research will make possible or how it will enable the theoretical or practical steps that are not possible now. And state how the research you conducted makes feasible a solution to the problem you have delineated above.

Next write a paragraph-length statement of your specific conceptual (not descriptive) aims. That is, what you aim to accomplish, not how or why. There should be 2-5 of these at most oriented around the key constructs you wish to elaborate. These aims should be brief, write them as an eye-catching headline. They must flow logically from one to the other. And collectively they should test your hypothesis or fulfill the needs you have claimed are outstanding.

Make sure all three parts link together logically and are concordant with one another. Finally, they should be interdependent but not dependent on each other. This covers one-two pages.

Pages two-three are devoted to describing your empirical studies if applicable, summarizing your findings and making an impact statement. First, you need to describe or explain the empirical context for your research. Contexts are of fundamental importance in developing and testing theories. Simply put, a theory is a story about why acts, events, structures, or thoughts occur. The process of

Looking for ways to indicate approaches to writing articles for DRQ that will communicate to a readership across different design subfields, we found an article by Dr. Arnould in the *Association for Consumer Research ACRNews*, Fall, 2003. Dr. Arnould's views are particularly useful, especially as they address techniques for addressing the audience. We asked Dr. Arnould to provide his sort of practical advice as it would apply to design research and *DRQ in particular*.

Editor

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theorizing consists of activities such as abstracting, generalizing, relating, selecting, explaining, synthesizing and idealizing from contexts (Sutton and Staw 1995). Contexts give theoretical stories veracity and texture. Fundamentally, contexts should engage our and our readers' emotions and senses, stimulate discovery, invite description and excite comparison (Price, Arnould and Moisio forthcoming).

Describe your key results under 3-4 categories. Lead the reader through the synopsis of data. Avoid extraneous or irrelevant data. Everything you put here should make a point. A final sentence in each of the 3-4 paragraphs tells why it is relevant to your aims and/or central hypothesis or needs statement. Include one figure as an appendix, with a methodological note stating how it is derived from the data. Remember figures do not speak for themselves, and usually require an explanatory legend. This is especially true if the figure does not represent a causal model; these are usually represented by boxes and arrows and causality is imputed as flowing from left to right.

If your paper focuses on theory rather than empirical work, you will be presenting and analyzing theories and perspectives rather than empirical studies, but the procedure is much the same. You are researching the theories, their specific properties and characteristics, which function much like data in your analytical experiments. Your discussion summarizes your research findings.

Finally write a concluding/impact statement. Be blunt, say something like, 'This research is innovative because...'. Each aim (identified above) should have an outcome statement here. A statement as to why that outcome is theoretically or practically important should follow each outcome statement. You conclude with a statement of the collective impact of your work, how it advances theory or practice in your field as you claimed was needed in paragraph one.

Craft this two-three page statement until it is absolutely the cleanest, clearest strongest statement you can make. Then, once you've written this, pass it around to worthy colleagues and get their feedback on it. Re-write until tight and unblinkingly persuasive. Repeat the steps above as needed. Finally, re-write the whole manuscript as an expanded version of this synopsis.

This two-three page synopsis will provide the structure of your final manuscript. Longer manuscripts can include more details, background information, detailed descriptions of methodologies, etcetera. Thus, when you elaborate your argument, be sure that you keep to this structure. It provides the organization that will enable you to elaborate your argument without losing it.

As you craft a manuscript, try to ensure that the manuscript explicitly addresses the following statements. (Thanks to Professor Linda Price, Eller College of Management, University of Arizona, for this checklist!)

1. The purpose of this research is...
 - a. The theoretical significance of this research is... and/or
 - b. The practical importance of this research is...
2. The primary sources in the _____ literatures that address this topic are (Fill in the blank with the key literature streams that the work draws on. This might include design, art criticism, engineering, environmental ecology, sociology, various branches of psychology, etc. The key point is that a concise focused literature is identified, not great undigested swathes of previous thought.)
3. Previous research has suggested these basic ideas relevant to my research:
 - a. The most important constructs for my research are...
 - b. These constructs are related to each other in the following ways...
4. Other research has empirically substantiated...
5. What we don't know is...
 - a. My research is different from previous work because...
 - b. My research extends theory and previous research because...
6. My specific research questions are...(a short list is best; this set may also take the form of propositions or hypotheses as dictated by the author's methodological choices)
 - a.
 - b.
 - c.
7. My methodology for answering these questions is...
 - a. The context is...because....
 - b. The sampling frame is...because...
 - c. The research boundaries are defined as...because...
 - d. The basic procedures for data collection that I will use include...(focus on providing transparency and highlighting novelty, no need to trace the origin of the techniques to their sources)
 - e. The basic procedures for data analysis that I will use include...(focus on providing transparency, establishing validity and reliability or credibility and trustworthiness [Wallendorf and Belk, 1989])

Continued →

8. This research approach is appropriate because...

a. My approach improves on previous work because...

b. My approach enables answers to my specific research objectives because...

9. Some surprising findings we may learn from my research are...

With manuscript or revision in hand, stand back and ask, 'What did I promise?' in terms of objectives and 'what precisely did I deliver by way of findings?' Ask whether your discussion and conclusion cash out the promises you made in the introduction and data analysis sections of the paper. Manuscripts need to be written front to back then back to front and from the inside out so that each section is consistent with all other sections. This advice is motivated by the common experience that we frequently figure out what we mean to say only in the writing process itself. Considering the nine statements above can help you achieve this.

When you think the paper is perfect, please give it to a researcher experienced in your methodological and substantive domains to read. If it were my work, I'd give it to someone outside of design, in anthropology or sociology say, and to someone in marketing as well, since these are the areas in which most of my work contributes. Give it preferably to someone who has published in DRSQ or related publications. Solicit their candid feedback on whether the manuscript makes its case or not.

Eric Arnould

Dr. Eric Arnould is the PETSMART Distinguished Professor in the Norton School of Family and Consumer Sciences at the University of Arizona. Previously, he was E.J. Faulkner College Professor of Agribusiness and Marketing at the University of Nebraska and has also taught at Odense University, Denmark, EAP-ESCP, Paris; University of Ljubljana, Slovenia; University of South Florida; California State University Long Beach; and, the University of Colorado at Denver. He holds a Ph.D. in social anthropology from the University of Arizona. From 1975-1990, he worked on problems of economic development in more than a dozen West African nations. Since 1990, he has been a full-time academic. His academic research investigates service relationships, channels structure and market organization, households, consumer culture theory, and issues associated with the conduct and representation of multi-method research. Dr. Arnould has written more than 40 articles and chapters that appear in the major US marketing journals, and other social science periodicals and books.

Price, Linda, Eric J. Arnould, and Risto Moisio (forthcoming), 'Making Contexts Matter: Selecting Research Contexts for Theoretical Insights,' in Handbook of Qualitative Research Methods in Marketing, Russell W. Belk, ed., Northampton, MA: Edward Elgar

Sutton, Robert I. and Barry M. Staw (1995), 'What Theory is Not,' Administrative Science Quarterly, 40, 371-384.

Wallendorf, Melanie, and Russell W. Belk (1989), 'Assessing Trustworthiness in Naturalistic Consumer Research,' in Interpretive Consumer Research, Elizabeth. C. Hirschman ed., Provo, UT: Association for Consumer Research, 69-84.

UPCOMING EVENTS

DESIGN CONFERENCES WORLDWIDE

2006

- 10-13 Sep. Philadelphia, PA, U.S.A.
ASME International Design Engineering
Technical Conferences, including
Design Theory and Methodology
<http://detc2006.seas.upenn.edu/index.html>
- 27-29 Sep. Gothenburg, Sweden
5th Conference on Design and Emotion
<http://www.de2006.chalmers.se/>
- 26-27 Oct Eindhoven, Holland
2nd DeSForM Workshop - Design &
Semantics of Form & Movement
<http://www.desform2006.id.tue.nl>
- 1-4 Nov Lisbon, Portugal
Wonderground: Design Research
Society International Conference
<http://www.iade.pt/drs2006/index.html>
- 27-28 Nov Hong Kong, China
DesignED Asia 2006 - Creativity:
Point Counterpoint Conference
sdxin@polyu.edu.hk
- 2007
- 8-10 Jan Cardiff, U.K.
Creativity or Conformity? Building Cultures
of Creativity in Higher Education
<http://www.creativityconference.org/>
- 2-4 Apr London, UK.
Include 2007: Involving the Consumer -
International Conference on Inclusive design
[http://www.hrc.rca.ac.uk/programmes/
include/2007/cfp/index.html](http://www.hrc.rca.ac.uk/programmes/include/2007/cfp/index.html)
- 11-13 Apr Izmir, Turkey
Dancing with Disorder: Design, Discourse and Disaster
7th International Conference of the European
Academy of Design
<http://fadf.ieu.edu.tr/eado7/>

2007 cont'd

- 28 Apr– 3 May San Jose, U.S.A.
CHI2007 - Annual ACM/SIGCHI Conference:
Human Factors in Computing Systems
<http://www.chi2007.org>
- 24-25 May London, U.K.
Plastics: Looking at the Future and
Learning from the Past
B.Kenaghan@vam.ac.uk
- 11-13 Jun Tokyo, Japan
14th CIRP International Conference
on Life-Cycle Engineering
<http://cirp-lce2007.jspe.or.jp/>
- 13-15 Jun Washington DC, USA
Creativity and Cognition 2007 – Seeding
Creativity: Tools, Media, and Environments
<http://www.cs.umd.edu/hcil/CC2007/>
- 20-23 Jun Thessaloniki, Greece
3rd International Conference on Typography
and Visual Communication
[http://afroditi.uom.gr/uompress/3rd_
int_conference/introduction.html](http://afroditi.uom.gr/uompress/3rd_int_conference/introduction.html)
- 14-19 Aug Copenhagen, Denmark
ICOHTEC Symposium:
Fashioning Technology: Design from
Imagination to Practice
<http://www.icohtec2007.dk>
- 28-31 Aug Paris, France
16th International Conference of Engineering Design
<http://icedo7.org>
- 5-7 Sep Kingston, U.K.
Design/Body/Sense: Design History
Society Annual Conference
<http://www.designhistorysociety.org>
- September Greenwich, U.K.
Design Thinking Research Symposium DTRS 7
[http://design.open.ac.uk/cross/Design
ThinkingResearchSymposia.htm](http://design.open.ac.uk/cross/DesignThinkingResearchSymposia.htm)

PARTICIPATE IN DESIGN RESEARCH QUARTERLY

We want to develop lively discussions on topics that are important to design research, ideas and opinions. To make

Your comments, observations, and ideas

this journal interesting, relevant and useful, we need your ideas, observations, and ideas. We are looking for contributions:

READER FORUM:

Starting with the second issue, we will print letters from readers relating to the articles we publish. To join in the discussions with other readers and authors, please email your comments so we can publish them.

AUTHORS:

We are interested in contributions from authors who can contribute to the discussion and understanding of design research, theory, methods and knowledge, both within DRS and outside of it: in industry or academia.

Future issues, topics and articles

UPCOMING ISSUE TOPICS:

Informatics and Design Research
Research methods in Art and Design
Research and New areas of Design Practice
Research Barriers
Research and Design Education

CONTACT: peter@drsq.org

Submission Guidelines

Submission	Specifications	Format
Brief articles/reviews	up to 1,000 words + graphics	APA Cribsheet
Full articles	up to 3,000 words + graphics	
Full papers	up to 5,000 words + graphics	

- ☛ Hypertext links are encouraged.
- ☛ Graphics are encouraged, including use of color where appropriate.
- ☛ Use vector or high resolution raster graphics (tif, psd, not jpeg).
- ☛ Heed the limited resolution of screen reading and format; keep graphic images simple.

JOIN THE DESIGN RESEARCH SOCIETY: *RECEIVE DESIGN RESEARCH QUARTERLY*

The Design Research Society is the multi-disciplinary learned society for the design research community worldwide. We have an international design research network in around 40 countries comprising members who maintain contact through our publications and activities.

Our members are from diverse backgrounds, not only from the traditional areas of design, ranging from expressive arts to engineering, but also from subjects like psychology and computer science.

We:

- ▶ Recognize design as a creative act common to many disciplines
- ▶ Understand research and its relationship with education and practice
- ▶ Advance the theory and practice of design
- ▶ Encourage the development of scholarship and knowledge in design
- ▶ Contribute to the development of doctoral education and research training
- ▶ Share knowledge across the boundaries of design disciplines
- ▶ Facilitate networks to exchange and communicate ideas, experience and research findings among members
- ▶ Disseminate research findings
- ▶ Promote awareness of design research
- ▶ Organise and sponsor conferences, and publish proceedings
- ▶ Encourage communications between members internationally
- ▶ Respond to consultative documents
- ▶ Collaborate with other bodies
- ▶ Lobby on behalf of members' research interests
- ▶ Recognise excellence in design research through awards
- ▶ Sponsor e-mail discussion groups and a monthly e-mailed newsletter
- ▶ Publish DRQ to members.

JOIN ONLINE:
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