



Don Bishop ©1997 Artville, LLC

## Cultural Probes

*Homo ludens impinges on his environment: He interrupts, changes, intensifies; he follows paths and in passing, leaves traces of his presence everywhere.* — Constant

As the local site coordinator finished his introduction to the meeting, our worries were increasing. The group had taken on a glazed look, showing polite interest, but no real enthusiasm. How would they react when we presented them with our packages? Would disinterest deepen to boredom, or even hostility?

A

Of course an explanation had been necessary for this special meeting with us, three foreign designers. The coordinator explained that we were there as part of a European Union–funded research project looking at novel interaction techniques to increase the presence of the elderly in their local communities. We represented two design centers that would be working over the next two years with three community sites: in the Majorstua, a district of Oslo; the Bijlmer, a large planned community near Amsterdam; and Peccioli, a small village outside Pisa. We were at the last site, to get to know the group a little.

An important preamble, then, well delivered by the coordinator, but the explanation was of necessity fairly complicated. On our arrival, the 10 elderly members had been friendly and enthusiastic, if a little puzzled.

Now they were looking tired.

Finally the time came. I stood up and said, “We’ve brought you a kind of gift,” as we all passed the clear blue plastic envelopes to the group. (See Fig. 1) “They’re a way for us to get to know you better, and for you to get to know us.” Already people were starting to unwind the strings fastening the envelopes. “Take a look,” I said, “and we’ll explain what’s in them.”

An assortment of maps, postcards, cameras, and booklets began accumulating in front of them. Curious, they started examining the materials. Soon they were smiling and discussing them with their neighbors.

As the feeling of the group livened perceptibly, we started explaining the contents. Worry transformed to excitement. Perhaps the probes would work after all.

### Cultural Probes

The cultural probes—these packages of maps, postcards, and other materials—were designed to provoke inspirational responses from elderly people in diverse communities. Like astronomic or surgical probes, we left them behind when we had gone and waited for them to return fragmentary data over time.

The probes were part of a strategy of pursuing experimental design in a responsive way. They address a common dilemma in developing projects for unfamiliar groups. Understanding the local cultures was necessary so that our designs wouldn’t seem irrelevant or arrogant, but we didn’t want the groups to constrain our designs unduly by focusing on needs or desires they already understood. We wanted to lead a discussion with the groups toward unexpected ideas, but we didn’t want to dominate it.

### Postcards

Within the probe packages, people found 8 to 10 postcards scattered among other materials. The cards had images on the front, and questions on the back, such as:

- ◆ Please tell us a piece of advice or insight that has been important to you.
- ◆ What do you dislike about Peccioli?
- ◆ What place does art have in your life?
- ◆ Tell us about your favorite device.



Figure 1. A cultural probe package.

The questions concerned the elders' attitudes towards their lives, cultural environments, and technology. But we used oblique wording and evocative images to open a space of possibilities, allowing the elders as much room to respond as possible.

Postcards are an attractive medium for asking these sorts of questions because of their connotations as an informal, friendly mode of communication. (See Fig. 2) Unlike formal questionnaires, the postcards encouraged questions to be approached casually, which was underlined by pre-addressing and stamping them for separate return.

### Maps

The probes contained about seven maps, each with an accompanying inquiry exploring the elders' attitudes toward their environment. (See Fig. 3)

Requests ranged from straightforward to poetic. For instance, a map of the world included the question "Where have you been in the world?", and small dot stickers were provided to mark answers. Participants were also asked to mark zones on local maps, showing us where, for instance,

- ✕ They would go to meet people
- ✕ They would go to be alone
- ✕ They liked to daydream
- ✕ They would like to go but can't

A more surreal task was given to each group as well; in the case of Peccioli, for example, a map was labeled "if Peccioli were New York..." and was accompanied by stickers showing scenes ranging from the Statue of Liberty to people injecting drugs.

The maps were printed on a variety of textured papers to emphasize their individuality and cut into several different envelope forms. When the elderly were finished with them, they folded them together and put them in the mail.

### Camera

Each probe included a disposable camera, repackaged to separate it from its commercial origins and to integrate it with the other probe materials. On the back we listed requests for pictures, such as

- ★ Your home
- ★ What you will wear today
- ★ The first person you see today
- ★ Something desirable
- ★ Something boring

About half the pictures were unassigned, and the elders were asked to photograph whatever they wanted to show us before mailing the camera back to us. (See Fig. 4)

### Photo Album and Media Diary

The last two items in the probes were in the form of small booklets. The first was a photo album, which requesting the elders to "use 6 to 10 pictures to tell us your story." When questioned, we encouraged participants to use photos of the past, their families, their current lives, or anything they found meaningful. (See Fig. 5)

Finally, each probe contained a media



Figure 2. A postcard ("what is your favorite device?")



Bill Gaver and  
Tony Dunne  
Royal College of Art  
London, U.K.  
w.gaver@rca.ac.uk  
a.dunne@rca.ac.uk

Elena Pacenti  
Domus Academy  
Milan, Italy  
pacenti@domac.it

diary, in which elderly participants were asked to record their television and radio use, including what they watched, with whom, and when. They were also asked to note incoming and outgoing calls, including their relationship with the caller and the subject of the calls. The entries were made daily, for a total of a week.

### Context

A number of converging interests and constraints were involved in designing the probes. The Presence Project has been funded for two years under the European Union's 13 initiative. Eight partners from four countries are exploring technologies to increase the presence of the elderly in their local communities. This is a relatively unconstrained project, defined only in terms of its overall goal and its flow over time. The first year has been spent on opening a space of possible designs; the second will focus on developing prototypes to be

tested in the sites.

The sites themselves constrain the sorts of design explorations that might be meaningful. In Oslo, we are working with a group of elderly who have been learning to use the Internet at a local library. In the Netherlands, the elders live in the Bijlmer, an extensive planned community with a poor reputation. Finally, the Italian site is in Peccioli, a small Tuscan village where an elder center is being planned. The diversity of the sites was clear from the outset. Our task was to better understand their particularities.

The openness of the design brief, and the availability of more quantitative demographic data from the local sites, meant that we could freely explore many different aspects of the elders' attitudes. Of course, we might have used more traditional methods to do this, including perhaps ethnographic studies, interviews, or questionnaires. That we didn't stems, in part, from how we think about doing research through design.

### Design as Research

We approach research into new technologies from the traditions of artist-designers rather than the more typical science- and engineering-based approaches.

Unlike much research, we don't emphasize precise analyses or carefully controlled methodologies; instead, we concentrate on aesthetic control, the cultural implications of our designs, and ways to open new spaces for design. Scientific theories may be one source of inspiration for us, but so are more informal analyses, chance observations, the popular press, and other such "unscientific" sources.

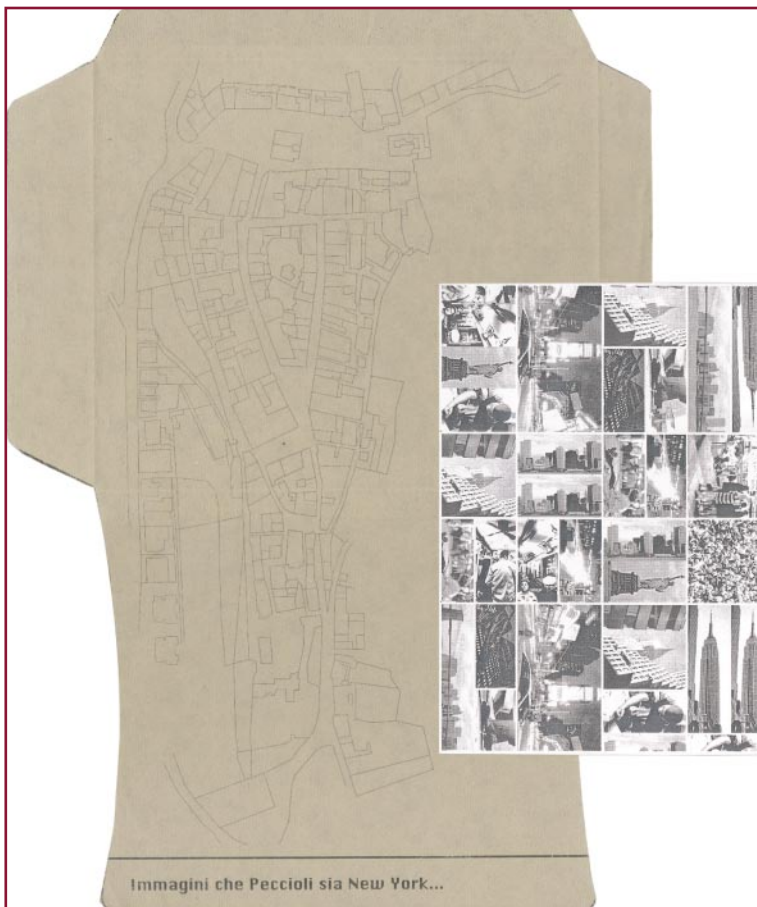


Figure 3. A map ("if Peccioli were New York...")

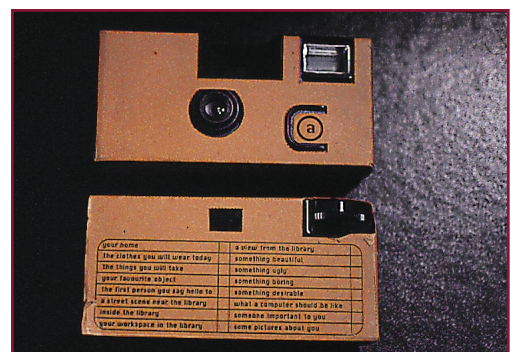


Figure 4. Camera

Unlike most design, we don't focus on commercial products, but on new understandings of technology. This allows us—even requires us—to be speculative in our designs, as trying to extend the boundaries of current technologies demands that we explore functions, experiences, and cultural placements quite outside the norm.

Instead of designing solutions for user needs, then, we work to provide opportunities to discover new pleasures, new forms of sociability, and new cultural forms. We often act as provocateurs through our designs, trying to shift current perceptions of technology functionally, aesthetically, culturally, and even politically.

### Inspiration, not Information

The artist–designer approach is openly subjective, only partly guided by any “objective” problem statement. Thus we were after “inspirational data” with the probes, to stimulate our imaginations rather than define a set of problems.

We weren't trying to reach an objective view of the elders' needs through the probes, but instead a more impressionistic account of their beliefs and desires, their aesthetic preferences and cultural concerns. Using official-looking questionnaires or formal meetings seemed likely to cast us in the role of doctors, diagnosing user problems and prescribing technological cures. Conversely, we didn't want to be servants either, letting the elders set the directions for our designs. Trying to establish a role as provocateurs, we shaped the probes as interventions that would affect the elders while eliciting informative responses from them.

### Combating Distance

To establish a conversation with the elder groups, we had to overcome several kinds of distance that might separate us, some endemic to most research, some particular to this project. Foremost was the kind of distance of officialdom that comes with being flown in as well-funded experts. Trying to reduce this sort of distance underlay a great deal of the tone and aesthetics of the probe materials.

Geographic and cultural distances were more specific problems for this project. We designed the materials to be posted separately, both to acknowledge our distance and to emphasize our ongoing lives in other countries (thus we used our names in the addresses, as opposed to an institutional title like “The Presence Project”). We also tried to design the materials to be as visual as possible, to some extent bypassing language barriers.

### Respecting Our Elders

A particularly important gap for us to bridge was the generational gap implied by designing for another age group. To encourage a provocative dialogue about design, we tried to reject stereotypes of older people as “needy” or “nice.” This freed us, in turn, to challenge the elder groups, both through the probes and our eventual designs.

Moving beyond a view of older people as needy or nice has allowed us to view them in new ways, opening new opportunities for design. For instance, elders represent a lifetime of experiences and knowledge, often deeply embedded in their local communities. This could be an invaluable resource to the younger members of their community.

Conversely, elders also represent a life free from the need to work, and thus the possibility of exploring life as *homo ludens*, humanity defined by its playful qualities. Our designs could offer them opportunities to appreciate their environments—social, urban, and natural—in new and intriguing ways.

### Functional Aesthetics

Throughout the project, we have viewed aesthetic and conceptual pleasure as a right rather than a luxury. We didn't work on the aesthetics of the probes simply to make them appealing or motivating but because we believe aesthetics to be an integral part of functionality, with pleasure a criterion for design equal to efficiency or usability.

We worked to make the probe materials delightful, but not childish or condescending. In fact, the aesthetics were somewhat abstract or alien in order to encourage from respondents a slightly detached attitude to our

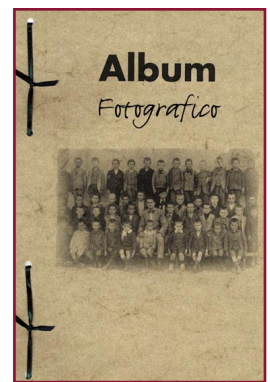


Figure 5. Photo album

DESIGN COLUMN EDITOR

**Kate Ehrlich**

*Senior Research Manager*

*Lotus Development*

*Corporation*

*55 Cambridge Parkway*

*Cambridge, MA 02142*

*+1-617-693-1899*

*fax: +1-617-693-8383*

*Kate\_Ehrlich@crd.lotus.com*

requests. But although the materials were aesthetically crafted, they were not too professionally finished. This gave them a personal and informal feeling, allowing them to escape the genres of official forms or of commercial marketing. In the end, they revealed the energy we put into them and expressed our tastes and interests to the groups.

The aesthetics of the packages were thus another attempt to reduce the distance between us and the groups. Through the materials and images and the requests we made, we tried to reveal ourselves to the groups as we asked them to reveal themselves to us. Not only did this make the probes themselves enjoyable and communicative, but it meant that they started to hint at what the elders might expect from our eventual designs.

### Applying Conceptual Art

The conceptual concerns and specific techniques of various arts movements also influenced our design. For instance, our maps are related to the psychogeographical maps of the **Situationists** [1] (see the sidebar), which capture the emotional ambience of different locations. Unfamiliar with the local sites ourselves, we asked the local groups to map them for us. Not only did this give us material to inform our designs, but, we hope, provoked the elders to consider their environment in a new way.

We used other techniques from groups such as **Dada**, **the Surrealists**, and more contemporary artists in the probes as well. They incorporated elements of collage, in which juxtaposed images open new and provocative

spaces, and of borrowing and subverting the visual and textual languages of advertisements, postcards, and other elements of commercial culture. Finally, we tried to use, judiciously, tactics of ambiguity, absurdity, and mystery throughout, as a way of provoking new perspectives on everyday life.

### Launching the Probes

We gave the probes to members of the elder groups in a series of meetings at the local sites, like the one described in the beginning of this paper. We did not describe every item, but instead introduced the types of things they would find. We wanted them to be surprised as they returned to the packages over the following weeks.

Originally we had planned to send the packages to the groups, but we were afraid they might reject the unusual approach we were taking. We decided to present them ourselves to explain our intentions, answer questions, and encourage the elders to take an informal, experimental approach to the materials.

This turned out to be an extremely fortunate decision, because one of the unexpected strengths of the probes was in sparking a dialogue between us and the elderly. What we feared would be polite group discussions turned out to be spontaneous and personal, and we learned a great deal about the groups in discussing the materials. Even after we left, some of the elders sent us personal greetings beyond the materials themselves—postcards, letters, even personalized Christmas cards.

### The Returns

For about a month after we left each site, we started receiving the completed materials, at a rate that seemed to compare favorably with that for other methods. Every day or so, we would find another few postcards, maps, or cameras in our post, which allowed us to scan and sort them in a piecemeal and leisurely fashion. (See Fig. 6)

Some of the items that the elders returned were left blank or they included notes about why the given request was difficult. We had encouraged this in the meetings, as a way of keeping the process open to the elders' opin-

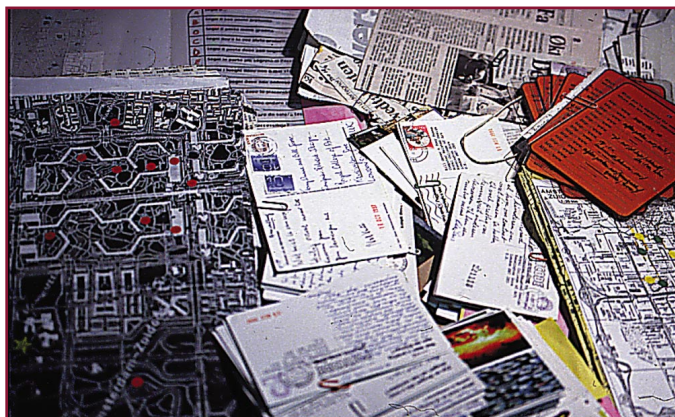


Figure 6. Some of the returned items.

ions. And in fact, we redesigned the materials for each group as we received returns from the last.

Sorting through the masses of maps, cards, and photographs that we received, strong and differentiated views of the three sites began to emerge. Some items acted as beacons for us—a photograph of friends at an Italian café, a map of the Bijlmer with extensive notes about the “junkies and thieves” in the area, a joke about death from Oslo. They seemed to capture particular facets of the cultures, clearly symbolizing important issues. (See Fig. 7)

The return rates from the groups added to our impressions of their differences. The Oslo group returned almost all the materials, and thus seemed enthusiastic and diligent. The Bijlmer group returned a bit more than half the materials: they seemed less convinced by the project but willing to take part in tasks they found meaningful or provoking. Finally, the Peccioli group returned less than half the materials, despite being enthusiastic when they received them. We take this as a sign that they are well meaning but happily distracted by their daily lives—an important factor for our designs.

### From Probes to Designs

The probes were not designed to be analyzed, nor did we summarize what they revealed about the sites as an explicit stage in the process. Rather, the design proposals we produced reflected what we learned from the materials. For the Royal College of Art, the probe materials allowed the different characters of the three sites to emerge, which we are reflecting in quite different design scenarios:

- ◆ In the Bijlmer, our ideas respond to the paradox of a strong community in a dangerous area: We have proposed building a network of computer displays with which the elderly could help inhabitants communicate their values and attitudes about the culture.
- ◆ The group in Oslo is affluent, well educated, and enthusiastic: We are proposing that they lead a community-wide conversation about social issues, publishing questions from the library

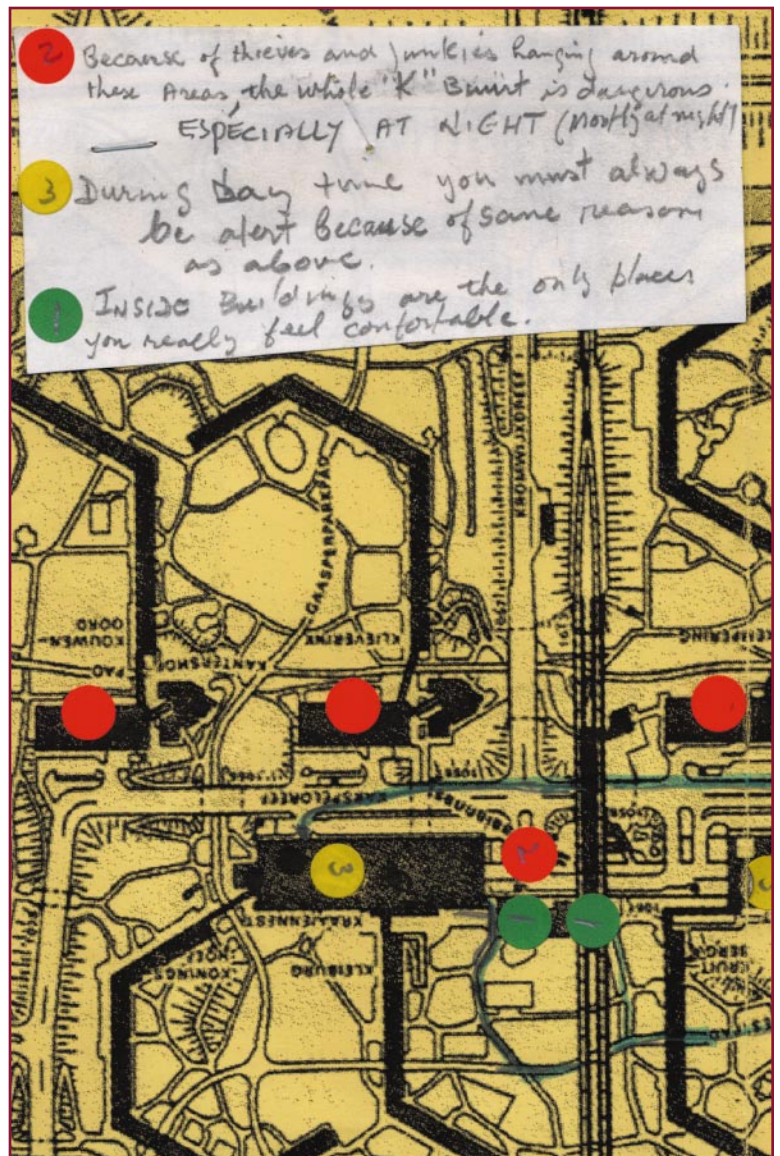


Figure 7. A returned map showing zones of safety and fear in the Bijlmer.

that are sent for public response to electronic systems in cafés, trams, or public spaces.

- ◆ Finally, the elders in Peccioli enjoy a relaxed social life in a beautiful setting. We plan to amplify their pleasure by creating social and pastoral radioscapings, allowing them to create flexible communications networks and to listen to the sounds of the surrounding countryside. (See Fig. 8)

For the Domus Academy, the returns suggested a range of nonstereotypical profiles of elders that were less focused on the particular sites. For instance, many elders are experts on



Figure 8. From the proposal for the bijlmer.

the current status and history of their communities and might serve as local information resources, perhaps by guiding tourists. They are eager to keep in touch with friends and families, and thus new technologies might

support relationships with distant relatives or with children and grandchildren closer to home, or might provide forms of “soft surveillance” or informal help chains to combat social isolation. Finally, the elderly might provide a living memory of a particular community, enriching the physical environment with virtual traces of its history.

These proposals were our reply to the elders’ responses to the probes, integrating what we learned about them with suggestions for new possibilities. The best evidence that the returns from the probes spurred valuable insights into the local cultures was that the elders clearly recognized themselves in the proposals. Although some of our suggestions were intended to be strange or provocative, the elders became readily involved with them, making suggestions for reshaping the ideas, but without breakdowns in the conversation that would have indicated our perceptions

## The Situationists

One influence on our work is the Situationists [1, 3], a collective of artist-provocateurs based largely in Paris from the late 1950s to early 1960s.

Like the Dadaists and Surrealists (e.g., [2]), the Situationists wanted their art to be revolutionary, reawakening passion and unconscious desires in the general public. Fundamental in this approach was their analysis of the ways that commercial culture expropriates people’s experience into the “Spectacle,” an all-encompassing, media-fueled show. As the Spectacle subsumes ideas, desires, even protests, people are forced into an alienated position, as consumers of their own experience.

The Situationists used artistic strategies both as a radical critique of the Spectacle and as concrete research into the promise of new cultural possibilities. Art was to be liberated from the safe enclave of established galleries and used to seduce and confront ordinary people. They mass-produced paintings sold by the yard; altered prints, comic strips, and advertisements; and created new architectures to be changed at will by the people who lived in them. Throughout, they embraced disorientation and confusion as methods for liberation.

Psychogeographical maps were developed to represent the city’s topology of desire, fear, isolation and sociality, to challenge the cultural homogeneity assumed by commercial interests. Situationists took *derivés*, meandering around the city guided only by the landscape of impulse and desire, and mapped what they found. We have borrowed from this technique for the cultural probes. More generally, we approach our design in their spirit of functional pleasure.





were crude or mistaken. This notion of a continuing conversation with the elders has been pivotal to our understanding of the probes as a method.

### User-Centered Inspiration

Although the probes were central to our understanding of the sites, they didn't directly lead to our designs. They were invaluable in making us aware of the detailed texture of the sites, allowing us to shape proposals to fit them. But we were also influenced by our pre-existing conceptual interests, our visits to the sites, anecdotes and data about the areas from the local coordinators, and readings from the popular and specialist press. Just as many influences went into designing the probes, so have they been one of many influences on our design process.

The cultural probes were successful for us in trying to familiarize ourselves with the sites in a way that would be appropriate for our approach as artist-designers. They provided us with a rich and varied set of materials that both inspired our designs and let us ground them in the detailed textures of the local cultures.

What we learned about the elders is only half the story, however. The other half is what the elders learned from the probes. They provoked the groups to think about the roles they play and the pleasures they experience, hinting to them that our designs might suggest new roles and new experiences. In the end, the probes helped establish a conversation with the groups, one that has continued throughout the project.

We believe the cultural probes could be adapted to a wide variety of similar design projects. Just as machine-addressed letters seem more pushy than friendly, however, so might a generic approach to the probes pro-

duce materials that seem insincere, like official forms with a veneer of marketing. The real strength of the method was that we had designed and produced the materials specifically for this project, for those people, and for their environments. The probes were our personal communication to the elders, and prompted the elders to communicate personally in return.


*"The game should be played for some length of time to arrive at the most curious results. The questions, as well as the answers, are to be considered as symptomatic."*

— J. Levy, Surrealism

### Acknowledgments

The Presence Project is supported by a grant from the European Union under the I3 initiative. We are extremely grateful to the members of the three groups and to Sidsel Bjerneby, Simon Clatworthy, Danielle van Diemen, and Cecelia Laschi, the local site coordinators. We thank Ben Hooker and Fiona Raby for help with the design and production of the probe materials and Anne Schlottmann for helpful comments on this paper. Finally, we thank our partners from the Domus Academy, Netherlands Design Institute, Telenor, Human Factors Solutions, Scuola Superiore Sant'Anna, and IDEA.

### References

1. Andreotti, L. and Costa, X. (eds.), *Situationists: Art, Politics, Urbanism*. Museo d'Art Contemporani de Barcelona, 1996.
2. Levy, J. *Surrealism*. Black Sun Press (1st ed.), 1936; reprinted by Da Capo Press, New York, 1995.
3. Plant, S. *The Most Radical Gesture: The Situationist International in a Postmodern Age*. Routledge, London, 1992. 

PERMISSION TO MAKE DIGITAL OR HARD COPIES OF ALL OR PART OF THIS WORK FOR PERSONAL OR CLASSROOM USE IS GRANTED WITHOUT FEE PROVIDED THAT COPIES ARE NOT MADE OR DISTRIBUTED FOR PROFIT OR COMMERCIAL ADVANTAGE AND THAT COPIES BEAR THIS NOTICE AND THE FULL CITATION ON THE FIRST PAGE. TO COPY OTHERWISE, TO REPUBLISH, TO POST ON SERVERS OR TO REDISTRIBUTE TO LISTS, REQUIRES PRIOR SPECIFIC PERMISSION AND/OR A FEE. © ACM 1072-5220/99/0100 \$5.00