

# *building\_space\_with\_words:* An Interactive Multimedia Installation Exploring the Relationship between Physical and Virtual Space

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and Aileen Wilson

We are interested—in our work as well as in our personal experience—in how new forms of communication influence our interactions and sense of community; it was this interest that inspired the project *building\_space\_with\_words*. We both currently live in Brooklyn, New York. However, we were born and educated in France and Scotland, respectively, and have lived and worked in Europe and Asia, so keeping in touch with family and friends around the globe on-line has become a way of life. In fact, we realize that we sometimes feel more connected “at a distance” than to people with whom we are co-located. This experience is not uncommon and has been described in research on on-line interactions [1]. This phenomenon has become even more salient as connection becomes ubiquitous and people are “always on” by means of instant messaging, e-mails, Facebook and blogs [2] in parks, coffee shops and airports [3]. We wondered, What exactly is this “virtual space”? Is virtual space merely a figure of speech or does the phrase reflect similarities between virtual and physical space? In this project, we wanted to explore what happens when the physical properties of space become intangible and words become the main material; thus we decided to share our skills and experience in an experimental collaboration.

The project began with a blog to which artists, sociologists, architects, designers and others with an interest in space—physical or virtual—were invited to contribute. It culminated in an interactive multimedia installation. In this paper, we describe the different elements of the installation—the maze, the sound, the tag wall, the tag journey and the blog, the concepts that inspired the work and the questions raised.

## DESCRIPTION OF THE INSTALLATION

*building\_space\_with\_words* was a site-specific installation that responded to the possibilities and limitations of a large space

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in an historic building [4]. It comprised a number of distinct elements: a maze, sound, the tag wall, the tag journey and a blog. The overall dimensions of the maze were 22 × 37.8 ft. The installation involved nine LCD projectors; nine computers, including two touch-screen computers; and a sound system with four speakers.

## The Maze

A wire grid was created in the space, from which we “floated” the maze structure. Chiffon panels, slid onto hollow tubing and hung by transparent lines, created the walls of the form onto which digital text was projected. The text was dynamic, updated every minute from the last 20 entries on the *building\_space\_with\_words* blog. The paths of the maze varied in length and direction and led to a central space. The text moved randomly, breaking up as it was projected through two or three layers of translucent chiffon panels (Figs 1 and 2).

The form of the maze was intended to symbolize the different interactions possible on-line. Long, straight paths rep-

## ABSTRACT

The authors, a social scientist and a visual artist, collaborated to produce *building\_space\_with\_words*, an interactive multimedia installation. The project investigated the relationship between physical and virtual space and more specifically what happens when the physical properties of space become intangible and discourse becomes the main material. Drawing on studies of organizational space and of on-line communities, the authors created an environment that materialized virtual and physical interactions. This paper describes the elements—the maze, the sound, the tag wall, the tag journey and the blog—that created the installation and the concepts that inspired the work.

Fig. 1. *building\_space\_with\_words*: View of the maze and text, with tag wall in the background. (© Anne-Laure Fayard and Aileen Wilson. Photo © Marian Goldman.)



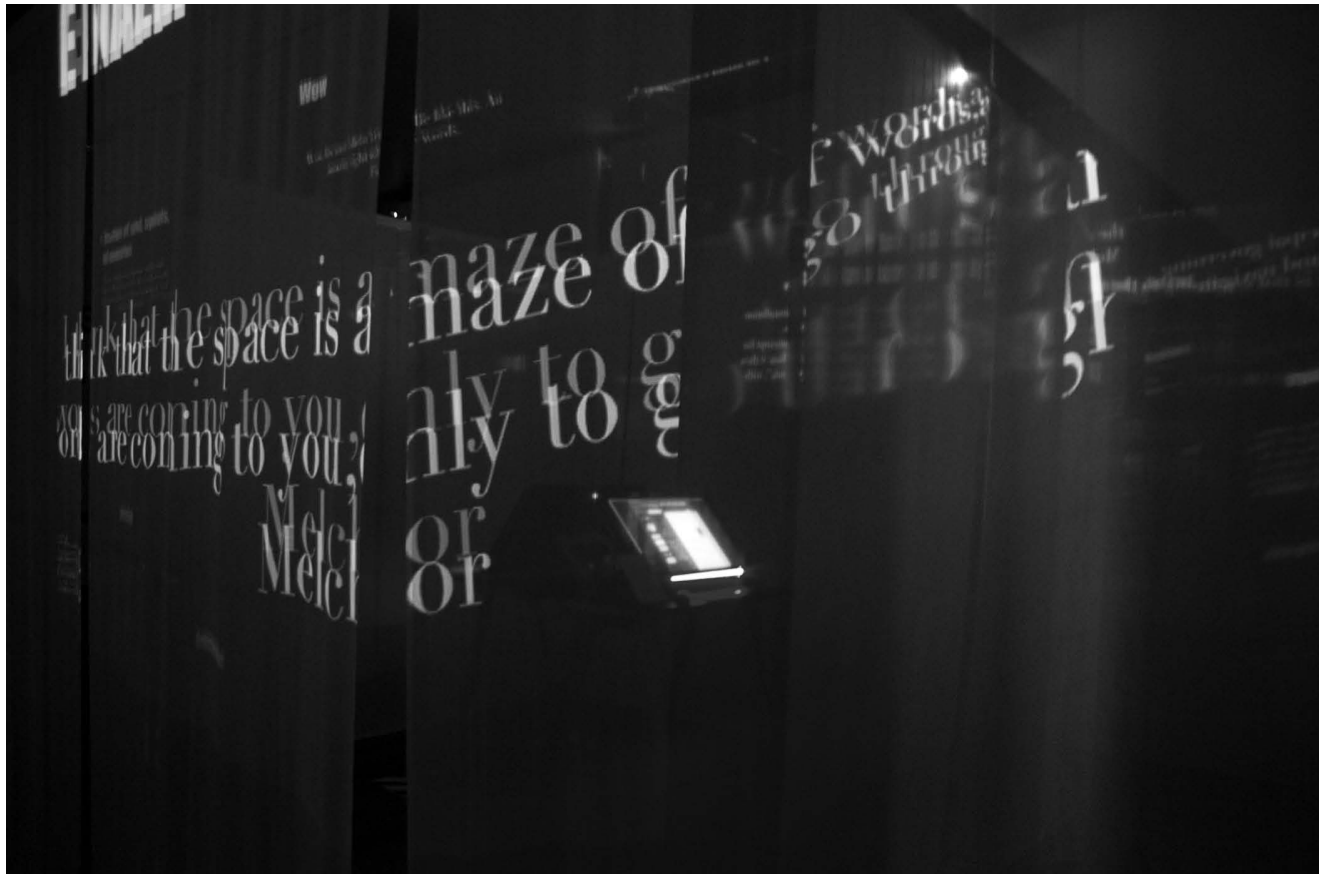


Fig. 2. View of the maze and text, with computers in the center. (© Anne-Laure Fayard and Aileen Wilson. Photo © Diana Pau.)

represented the activities of people who go on-line only to check information or post a question and do not develop relationships. The central area invited several people to stand, chat and interact; it represented on-line communities in which people develop relationships and share a sense of identity. The choice of the translucent chiffon was intended to suggest the non-materiality of space. We did not intend for the projected text to be read; we wanted it considered as a material, a texture. The text flooded the space, enveloping people as they entered. Our intention was to suggest the physicality of words and the idea of living *in* language, with participants seen as both defining the discourse and being defined by it. While the panels seemed to be light and to float, they were actually hung on a wire structure. We were conscious of discussion on the blog on the nature of virtual space and virtual interaction: Virtual does not mean immaterial; in fact, virtual interaction requires a lot of material “stuff,” such as the infrastructure and the interface. In our case, despite the feeling conveyed of text floating, a lot of material was required: not only the wire structure but also the technology required to run the program and project the words (Figs 3 and 4).

### The Sound

We combined sound heard in both public and virtual spaces (e.g. clicks and typing) and recordings of people reading on-line forum posts in different languages to create the sound track for the installation. The intensity of the sound varied from barely audible to very loud and included many different voices. We

wanted to evoke a sense of place, of a busy network or a train station, creating a bridge between virtual and physical spaces. The sound track illustrated the distinction between public spaces that are full of sounds and virtual spaces that are often silent. We intended to call attention to the increasing intertwining of the virtual and the physical, reminding

Fig. 3. Visitor enveloped in text. (© Anne-Laure Fayard and Aileen Wilson. Photo © Marian Goldman.)





Fig. 4. Projected text. (© Anne-Laure Fayard and Aileen Wilson. Photo © Diana Pau.)

us that we are often interacting on-line while located in a public space (e.g. a coffee shop or airport lounge).

### The Tag Wall

On the back wall of the gallery space we projected the tags from the *building\_space\_with\_words* blog. As tags were added to the blog, they emerged on the wall. We considered the tags a kind of map, orienting participants to the diversity of discussion taking place on the blog, acting as signposts or landmarks in the on-line conversations. The same tags could be found in the center of the maze, indicating that words shape and drive on-line journeys (Color Plate E).

### The Tag Journey

The tag journey was an interactive application, a semantic voyage following words connected to content posted on the blog. The most recent posts could be searched dynamically and associated with various tags. This was intended to highlight the fact that Internet searches are textual as they follow paths traced by the meaning attached to the content through tags. It also provided a way for the participant to explore the blog by way of the tags (Fig. 5).

### The Blog

The blog was started in October 2008 with 30 invited contributors. Artists, sociologists, designers, architects and others with an interest in space—physical or virtual—were invited to contribute. We began the discussion by focusing on a number of themes: physical space, virtual space, discourse and the process of collaboration between art and science. New

themes emerged, such as issues involving public spaces, cities and urbanism, neo-nomadism, mobility and materiality, which all offered different perspectives on our initial questions. The blog texts and posts from visitors to the installation were the source of all the projected text. Touch-screen computers in the center of the maze allowed visitors to the installation to see their posts “live” as the text emerged on the walls of the installation and “built” the space (Figs 6 and 7).

## CONCEPTUAL BACKGROUND

### Exploring Affordances

Our initial questions centered on the relationship between physical and virtual space, and more specifically on what

happens when physical properties become intangible and discourse becomes the main material. We were intrigued by the phrase “virtual space” and wondered what virtual space and physical space had in common, if anything. We started our exploration by asking what affordances [5] of physical spaces triggered informal interactions in public spaces.

It is suggested that the affordances of an environment are the possibilities for action called forth by it to a perceiving subject [6]. Thus, to humans, handles afford grasping; paths afford locomotion; slippery slopes afford falling. While research on affordances has typically focused on individual behavior, Fayard and Weeks [7] extend it to social behaviors, such as informal interactions in organizational settings. The affordances of an environment arise from its social meaning, conventional rules regarding use and physical properties. The three affordances—propinquity, privacy and social designation—that emerged as important for interaction in physical spaces [8] inspired us when conceiving the installation.

The first, *propinquity*, refers to the fact that informal interactions can occur only in places where people encounter each other [9]. Thus the architecture of a space—how accessible it is, how enclosed, how large—influences both the opportunity for and the social obligation of interaction. The second affordance that emerges in public space is *privacy*, that is, the ability to control the boundaries of interaction [10]. People must have confidence that those to whom they are talking hear them but others do not overhear them. The third affordance highlighted

Fig. 5. Tag journey on touch screen. (© Anne-Laure Fayard and Aileen Wilson. Photo © Marian Goldman.)



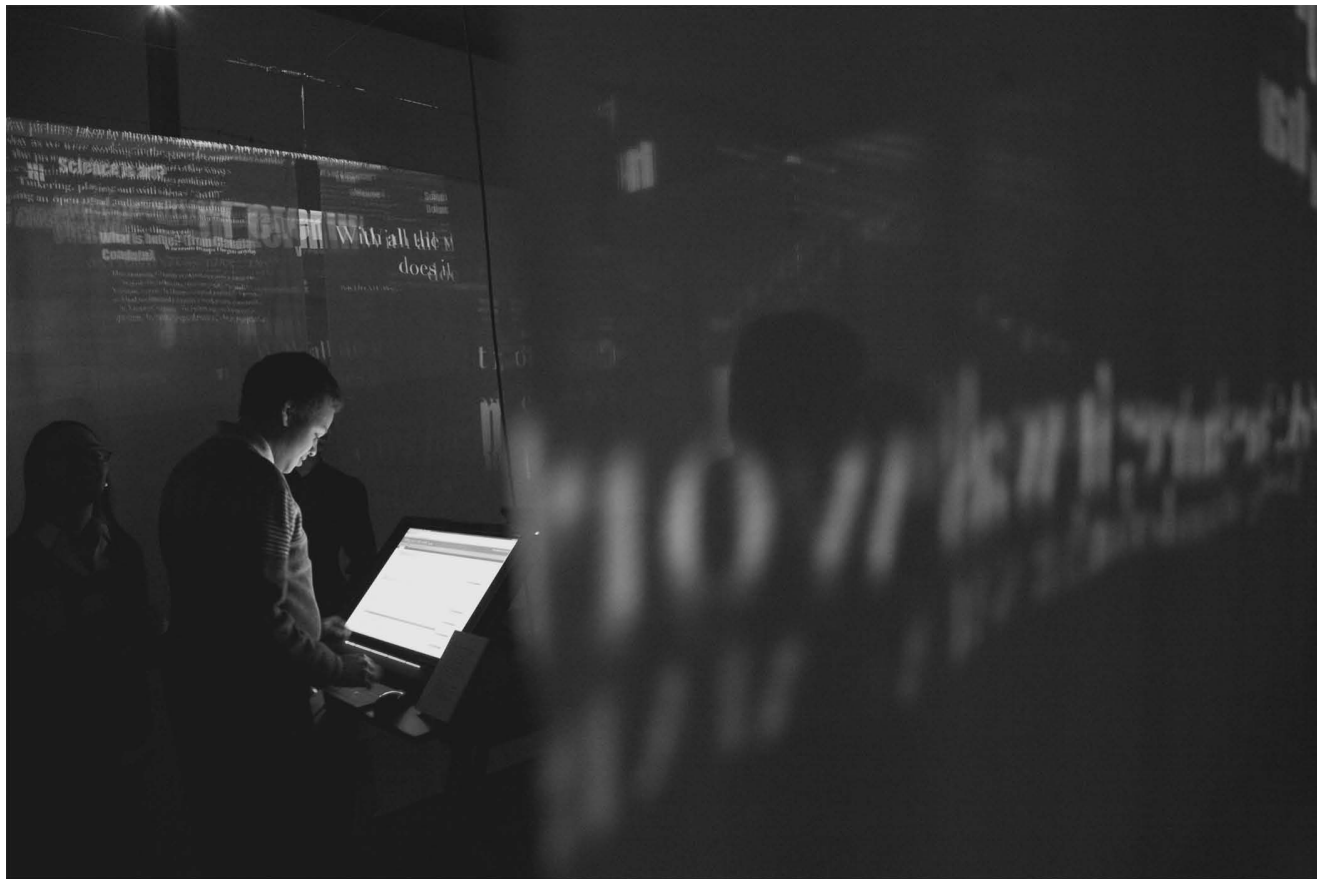


Fig. 6. Visitors posting on the blog. (© Anne-Laure Fayard and Aileen Wilson. Photo © Marian Goldman.)

by Fayard and Weeks [11], *social designation*, reflects the fact that some spaces feel like natural, comfortable places for informal interaction, and this depends on a set of imperfectly shared understandings (social designation) about what is appropriate and expected in these spaces.

Hence, our original question about the relationship between physical and virtual space became more specific: how propinquity, privacy and social designation, three affordances [12] described as triggering informal interactions in physical spaces in organizations [13], were relevant in virtual spaces such as on-line forums or blogs through the discursive practices developed and enacted in them. In other words, What happens when the only materials are words?

In order to explore this question, we decided to materialize virtual space, to take literally the metaphor of virtual space, as we thought this might provoke a deeper understanding of the experience. The installation was an experimental form for us and offered a unique exploration of our question. We also thought the idea of an installation would present, quite dramatically, any similarities or differences that might exist between physical and virtual space.

The three affordances, propinquity,

privacy and social designation, were critical to the arrangement of the maze. For example, in order to increase propinquity in the maze, we created several entrances to it and a central space where at least four people could stand, while the passages were large enough for one person to go through yet narrow enough that two people could not walk or stand together. We used dimensions suggested in the work of the architect Alexander [14]. Indeed, people did not stay for long in the passages, unless they were alone looking at the text moving on the fabric. They tended to gather in the center, where we had put some “resources” [15]—two computers from which people could access the blog.

We also tried to create areas with less propinquity, in, for example, the “corridors,” and as a result they became more private. Privacy was in a sense also offered by the area in the center, where visitors posted. Yet this was limited, as the text posted was projected on the walls of the maze a few minutes after it had been entered.

The third affordance, social designation, was initially defined by us as blog members had been invited to contribute, as were visitors to the space when the installation was open. We had combined

the elements of the installation to maximize interaction, for example, panels of projected text were angled to invite entry to the center of the maze and signs were prominently positioned with instructions on how to post. The overall planning of the installation was designed to absorb the viewer both visually and auditorily, and the elements were combined to maximize interaction.

### AFFORDANCES OF VIRTUAL SPACE

The affordances of physical space inspired the conception and design of the installation and maze, and we found that they could also provide a relevant framework in which to consider virtual space. As we tried to support propinquity while conceiving the maze, we also tried to support it on the blog—making sure that the members read, posted and commented. In the first few months of the blog, propinquity was developed through practices such as a newsletter that we sent to the blog members every month and the tag clouds and private e-mails referring to specific questions or raising particular issues. It was increased, once the installation had opened, by the presence of the touch-screen computers in



Fig. 7. Visitors posting on the blog. (© Anne-Laure Fayard and Aileen Wilson. Photo © Marian Goldman.)

the center of the maze and the creation of a visitor account to post on the blog. By creating a visitor account for the installation, we found that we had changed the affordances of the blog space—in this case increasing propinquity and decreasing the sense of privacy felt by the blog members. This was confirmed when one member asked after the opening if we could create a specific blog for the “public” so that the “private” conversation could continue separately. This change was also discussed in a blog entry:

We are in a cultural shift in terms of our definition of private space. The notion of private may or may not have ever existed in “reality.” Despite this, the idea of a private space is becoming more and more ambiguous in an electronic context. . . . (Posted on March 4, 2009.)

Various responses from visitors to the installation show how the experience of the installation raised awareness of how our notion of privacy might be challenged by our on-line experiences.

We noticed that the number of posts from the blog members decreased, and yet they kept posting comments (which were not projected onto the maze), suggesting that perhaps they were creating their own private space “on-line”—aside

from the public space of the blog and of the maze. In addition, the blog’s discursive practices changed with the diversity of potential authors and discursive practices—shorter messages, some in “chat” style on the day of the opening night (the maze had then become a giant bulletin board), and others related to the experience of the space (the most recent posts were more of this type). In a sense the installation became an extension of the blog, a door to its conversation space.

Several blog members and visitors noted the importance of the social designation of a space and the differing expectations for a physical and a virtual space. One noted that, while she was originally worried after receiving the invitation, as she pictured a large group with a broad set of interests, she was reassured when she began to understand the blog as a party where “food and drinks” (resources and questions) would be provided by the two hosts. This comment seemed to help other members reframe their expectations and the social designation they experienced in virtual space. Later another member added:

When we create a new kind of space we bring with us certain expectations and behavioral scripts from other spaces that we find similar. We see the new space in

terms of analogy with something familiar. Which analogy we start with matters for the expectations we have. If this blog is like a party then we expect people to come and go and join in the middle. If this blog is like a panel discussion or like a book being written as we go, then we expect continuity of the conversation. Over time, as we become more experienced in the new space, we stop thinking analogically and the space comes to have its own social affordances for those who live there. (Posted on April 14, 2009.)

It might thus be possible to conclude that social designation is crucial, especially in virtual spaces. The reactions of blog members and visitors to the installation suggest that *building\_space\_with\_words* succeeded in provoking a reflection on virtual and physical space and on the affordances that virtual and physical spaces share.

## CONCLUSION

Our experimental collaboration *building\_space\_with\_words* was conceived to explore questions concerning virtual and physical space, to suggest the physicality of words and the idea of living in language. We took literally the metaphor of virtual space and materialized it, as we thought this might provoke a deeper awareness of the complex rela-

tionship between virtual and physical space. The installation offered a unique form on which to reflect, one that we thought would highlight any similarities or differences that might exist between the two spaces. It also opened up new questions on the nature of physical and virtual space that we hope to explore in future work.

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