

# Changing the Metaphor: Cyberspace as a Place

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**Abstract:** Cyberspace is quickly becoming an alternative 'place' for everyday economic, cultural, and other human activities. It ought, therefore, to be designed according to the principles, theories, experiences, and practices that have been guiding physical place-making for thousands of years, rather than the woefully inadequate metaphor of the printed page. 3D Cyber-places must embrace the essential characteristics that make a 'place' in physical space, while at the same time take advantage of the opportunities offered by Cyberspace. By looking at physical architecture as a case study and metaphor for organizing space into meaningful places, this paper discusses the possibility of organizing Cyberspace into spatial settings that, like physical places, afford social interaction and embody cultural values.

## 1 INTRODUCTION

The Internet has created a new kind of 'space'—an Information Space—which is increasingly asserting itself as an alternative venue for many types of human activities. Far from affirming Gibson's (1984) prognostication that this so-called Cyberspace will be a "consensual hallucination experienced daily by billions [of people]," it is fast becoming an extension of our physical and temporal reality, providing a stage for everyday economic, cultural, educational, and other activities. As several researchers have observed (Rheingold 1963; Donath 1996), in its short history Cyberspace has proven to be much more than just another communication technology: it has become both a community and a destination.

Yet, the metaphor that has been guiding developers of this new 'space' is still the *document* metaphor—the same metaphor that dominated user interface design when computing was considered a means for *accessing* information, rather than a means for *inhabiting* the information space itself. The old metaphor saw information as separate from the people who use it, something that can be encapsulated and distributed by mechanical or electronic means. While this approach has been successful in disseminating the *content* of the information, it falls short of conveying the *socially* and *culturally* rich experience we derive from conceptualised, place-

specific information gathering (e.g., visiting a physical museum compared to viewing its collection in a paper or an electronic catalogue).

We propose that a better metaphor to guide the development of the information space can be found in *architecture*, the discipline that has traditionally been responsible for making inhabitable places. This metaphor considers inhabitation as a combination of *spaces*, *activities*, and *conceptions* (Canter 1977), and is akin to making stages for human behaviour that are both functionally and conceptually appropriate for supporting given activities, for given users, in a given context. That is, we propose using *place-making*, rather than *page-making* as the metaphor for guiding the design of the newly founded Information Space.

## 2 WHAT IS A PLACE?

Heidegger (1958) defined ‘place’ as a setting that affords the entire spectrum of human activities, including physical, economic and cultural, while affecting—and being affected by—social and cultural behaviour. Chastain and Elliott (1998) defined it as a territory whose boundaries are defined by a sense of being ‘inside,’ thus supporting the feeling of being somewhere as opposed to just anywhere. Moore (2001) defined sense of place as the “intersubjective construction of conditions experienced [by the inhabitants of a particular locale, through] intersubjective realities that give a place ... its ‘character’ or ‘quality of life.’” Champion and Dave (2002) argue that the place must provide evidence of the presence of other people interacting with the same environment. Such hermeneutic environment requires the ability to personalize and communicate individual perceptions through the artefacts that comprise it. All these definitions emphasize the psychological attributes of ‘place,’ which are rooted in human social action and cultural conceptions: a place is a space activated by social interactions, and invested with culturally-based understandings of behavioural appropriateness (Harrison and Dourish 1996).

If ‘place’ is the consequent of the activities and conceptions of the inhabitants of a space, then ‘space,’ or the physical attributes that frame those activities, provide a socially shareable setting for the activity in terms of the cues that organise and direct appropriate social behaviour in that particular place. Figure 1 shows how some objects and spaces combine with the activities and conceptions of people to transform an ordinary parking lot into a ‘place for dining’: the retaining wall serves as a table or a bench to be straddled; the wall serves to lean on. The solitary diner (Figure 1a) occupies the triangular space defined by a diagonally-parked car and the retaining wall, which together define a relatively enclosed and protected space with the proper dimension for one person engaged in the activities of dining and viewing passers by.

These ‘places’ are not imaginary, nor are they a matter of personal interpretation: as evidenced by the social behaviour exhibited by the group of diners in Figure 1b, the spatial organisation offered by these physical objects, and by the spaces they define, are the same for all the actors. They have a shared ‘sense of place,’ and therefore can engage in similar activities within the same space. This shared understanding

## Changing the Metaphor: Cyberspace as a Place

helps them to orient themselves with respect to the space they occupy and with respect to each other, and thereby establish social references that direct their behaviour in a way that gives meaning to their activities. Interestingly, similar environmental effects can be seen on the Internet: the dissemination of course materials in the context of an e-class does not engender a community of learners. A chat room, on the other hand, does—albeit at a very rudimentary level.



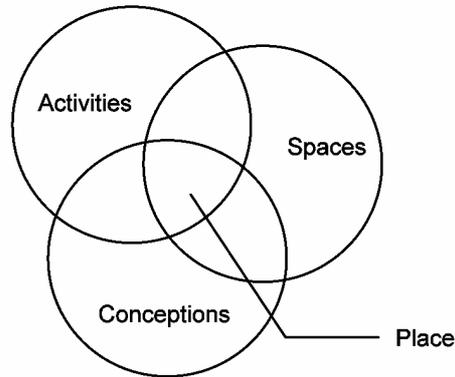
**Figure 1 Dining in a parking lot: (above) space for one vs. (below) group behaviour (Smith 2000).**

### 3 MAKING PLACES

According to Canter (1977), *place-making* is a process of creating conditions that afford, even encourage, the emergence of a particular sense of place: it is the

## Digital Design

conscious process of arranging or appropriating objects and spaces to create an environment that supports desired activities, while conveying the social and cultural conceptions of the actors and their wider communities (Figure 2).



**Figure 2 Place-making is the confluence of activities, spaces, and conceptions (Canter 1977).**

Architects do not control all aspects of a place: while the shape of the space is largely (though not exclusively) under their control, the activities that occur in the place are mostly determined by the users of the place. And the conception of the place is typically created by society and the context in which the place is embedded, or by the users themselves: an architect can design a house, but only the family that inhabits it can make it a home.

Appropriately arranged spaces and objects can support the creation of a particular sense of place, whereas inappropriate spaces and objects can hamper it. By 'appropriate' we mean forms that support the desired functions of their inhabitants, and match their conceptions of such places. Functional appropriateness is a measure of the fit between the activity and the objects or spaces that support it. Conceptual appropriateness is a measure of the fit between the form (or environment), and the expectations of the inhabitants of the place. Such expectations are a matter of social conventions, cultural norms, education, and ethnicity - what we call 'acculturation.' That is why when we are confronted with objects or activities that conflict, or disagree with our expectations, we feel 'out of place': we rarely sing or dance when presenting conference papers, although conference halls and theatres share many similar spatial features. Conversely, the same space - with no changes to its organisation or layout - may function as a theatre at a different time, when the presentation of a scholarly paper would be considered 'out of place' (but not 'out of space').

In the physical world, places are often designed by 'borrowing' function, form, and conceptions from precedents, symbols, metaphors, and analogies. This 'whole-sale' approach is based on the assumption that a combination that proved to be

## Changing the Metaphor: Cyberspace as a Place

‘appropriate’ in earlier circumstances will, with proper adaptations for the new context, continue to be so again, for the same activity/ conception. Researchers call this approach *designing from patterns* (Alexander et al. 1977), *case-based design* (Coyne et al. 1990), or more recently - *Object-Oriented design*: the instantiation and judicious adaptation of a ‘source’ template, archetype, or precedent to fit the specific needs and circumstances of a ‘target’ context. If no appropriate precedent can be found, symbols and metaphors may be used to engender some inherent quality embedded in the ‘original.’ In this case, the ‘fit’ may be more tenuous, and require some explanation. Alternatively, altogether new forms may be developed that, if found to be functionally and conceptually ‘appropriate,’ may acquire their own status as precedents.

The shortcoming of the ‘borrowing’ approach and the most common cause for its failure is, of course, assuring that the ‘source’ and the ‘target’ are similar enough to justify using similar formal solutions and conceptions. For example, by regarding Cyberspace as a *communication* medium, rather than a *space*, its designers have borrowed the page metaphor from publishing houses and mail-order retail outlets. Therefore Cyberspace has, by and large, taken the form of ‘Web pages.’ A similar logic guided Cyber-world designers that purport to support ‘meetings,’ and have, consequently, borrowed the metaphor of the physical conference room, complete with its chairs and tables.

It is necessary, customary, and legitimate to question the functional and conceptual appropriateness of ‘borrowing’ in the physical world. It should be even more appropriate to question whether Cyberspace is similar enough to physical space to justify the ‘borrowing’ of page-making principles, or of place-making principles that were developed explicitly for the ‘real’ world. Which metaphor of the physical world should guide the development of Cyberspace? Clearly, we argue that it should be the place metaphor, rather than the document metaphor.

## 4 MAKING CYBER-PLACES

What can be gained by adopting place-making, rather than page-making, principles for the design of Cyberspace? The underlying rationale for making Cyber-Places is that by designing Cyberspace to have the same affordances for action and conception that the physical world exhibits, we can enable patterns of behaviour learned in physical space. As human beings we learn to seek and interpret social and environmental cues practically from the day we are born. This life-long investment makes us very good at interpreting socially and environmentally constructed information, much more so than using higher level, abstract cognitive mappings to translate symbolic information into useful concepts. Thus, by structuring the information space in a way that allows us to capitalize on these learned traits, we can reduce the cognitive efforts needed to interpret information.

But Cyberspace is different from physical space in two important ways: (1) it can only be experienced through the mediation of computers; and (2) it does not have to obey the laws of nature. The first difference requires that we willingly suspend

## Digital Design

disbelief, to the extent that we can accept cyber-inhabitation as real. This, fortunately, is not as difficult to achieve as one might think: according to Virilio (1989), “the logistics of perception can be manipulated, through technology, to the point where we can blur the difference between what is real and what is fake” - a phenomenon regularly exploited by the motion picture industry.

The second difference presents an opportunity, rather than an impediment to Cyber place-making: in Cyberspace, we can bend, even break, the ‘laws of nature’ at will. Why limit a virtual classroom, for example, to the modern standard of gypsum board walls and an acoustical tile ceiling, where course materials cannot be left lying around because the room has to be re-used by a different class every hour or so? In a virtual classroom students could leave their work on their desks, making it accessible to other students and to the teacher both during and off-class hours, thereby creating a unique ‘place’ for the class which it can use as a resource and as an identity-builder (the same principle on which architectural design studios are based). An anthropology course could ‘take place’ in an environment that resembles the site and conditions studied. A course on classical art could ‘take place’ in the Louvre or in the Armitage (a form of study now afforded only to a select few who can travel to such physical locations). By being free from the tyranny of physical constraints, the virtual classroom affords the creative opportunity to accentuate important learning points. For example, a course in molecular biology could ‘take place’ in an environment where molecules are visible, and students can ‘walk up’ to them to examine them closely. Moreover, virtual places can be quickly adapted to meet evolving needs and potentials, thereby extending the opportunities for inhabitation beyond what physical places can provide.

The line between ‘real’ and ‘surreal’ is, however, a thin one: on one hand, there must be enough cues in the Cyber environment to support suspension of disbelief. On the other hand, it would be silly not to take advantage of the reality-bending affordances of Cyberspace. Designing Cyber places is, therefore a challenging task: what are the necessary and sufficient conditions that make Cyberspace a Place? What ‘extensions’ to reality are useful, but do not go as far as challenging the suspension of disbelief?

Cyberspace, therefore, cannot be ‘spatialised’ by simply appropriating physically-based spatial metaphors, as some researcher suggested (Anders 1999; Champion and Dave 2002): objects and spaces that are functionally and conceptually ‘appropriate’ in the physical world may lose their appropriateness in Cyberspace. On the other hand, the physical realm offers no precedents the extended place-making opportunities that exist in Cyberspace.

## 5 CRITERIA FOR MAKING CYBER-PLACES

We contend that the need for place-making in the digital world is critical to creating a lively and socio-culturally progressive environment. But most current digital environments fall short of doing so: they are all deficient to some extent or another. Some are too ‘realistic,’ others are too ‘cartoon’ like. Many mimic reality with little

## Changing the Metaphor: Cyberspace as a Place

regard to functional or conceptual appropriateness (what need is there for columns in Cyberspace?). Others are so surreal that they become art installations, rather than inhabitable places. They do not enhance the cultural experience, nor do they facilitate social interaction. What would it take to make 'good' Cyber-Places?

We offer the following criteria of Cyber place-making, adapted from physical place-making, to help guide the creation of place-like, Web-based environments:

- Places are settings for complex and rich events: they provide a reason and a purpose for being there. In digital games the purpose may be to slay the enemy, to concur territory, or to ascend to 'higher' levels of the game. In physical space, the 'event' may be to shop, to be educated or entertained, to conduct business, or simply to meet other people. Cyber places should, therefore, be considered stages for human action, not mere objects for their own sake.
- Places involve some kind of engagement with objects or with people. Thus they require presence. Presence can be participatory, as in a game or in a MUD, or remote, as in voyeurism. Either way, it must expose the actor to social norms, cultural customs, and to the scrutiny of others, which are the essence of (social) interaction.
- Places provide relative location: they let you know where you are, where you came from, and where you might be going in the future, spatially, temporally, and socially. This provides places with a sense of uniqueness and a character of their own that helps to differentiate one place from another. Location creates a context for the activity, a sense of 'outside' relative to some 'inside,' in much the same way that one sees the world through the living room window. Perhaps one can only see the front lawn and the road, but that road also implies a connection to other roads, to highways, to a city centre. It provides not only a geographical location, but also a socio-cultural one.
- Presence and location promote a sense of authenticity: it allows the actor to know s/he participates in a 'real' event, rather than viewing a previously recorded one. It is the sense one gets by actually being at a ball game or a concert, or even viewing a live show on TV. The tell-tale signs of an authentic place are change and serendipity: the traces of other people's presence (physically or conceptually), and the chance of seeing something no one has seen before.
- A place must be adaptable, so as to allow appropriation to the specific needs of the user, and to foster an ability to make a place personal. Well-designed places foster a sense of ownership and a sense of control, and at the same time a shared responsibility and access. It is such adaptability by others, who leaves their mark on a place, that makes a place authentic. Adaptability could be afforded through the placement of objects, or symbols, both personal and communal, that can be re-arranged by other, or the ability to leave some mark (e.g., graffiti) on places one has visited.

## Digital Design

- Digital places, unlike their physical counterparts, afford a variety of experiences: they can provide multiple different points of view, different scales, different levels of abstraction, even different temporal perspectives. These experiences can be simultaneous, or they can evolve autonomously or interactively.
- The choice and control over transitions in Cyberspace from place to place offers much greater richness than transitions in physical space affords: one can hyper-jump, or use the journey as an event in and of itself.
- Finally, well-designed places are inherently memorable: they are places one wants to be in, to stay at, and to come back to. They are visually and emotionally rich, inviting spaces that can create a sense of belonging, safety, and acceptance, or, conversely, a sense of adventure and danger. This could be based partially on a degree of enclosure and definition of the space, as well as on a textural and environmental richness.

It is quite obvious that these criteria are neither new, exhaustive, nor exclusive. Others have recommended them, in different groupings, ascribing to them varying degrees of importance (Coyne 1999; Relph 1986; Laurel 1990; Johnson 1997). Moreover, they blend principles learned from making places in the physical world, and from the new affordances of the digital world. These added affordances may enhance the place-making experience, but could also easily detract from it, by overwhelming the viewer with disorienting imagery. A judicious and careful blend is needed.

## 6 CONCLUSIONS

As Cyberspace becomes more ‘common-place’ (pun intended), there is a growing need to design it like a ‘place’ rather than as a document, or even as a mere ‘space.’ Environmental quality and ‘sense of place’ matter as much in Cyberspace as they do in physical space. They can have the same beneficial and detrimental effects on visitors of Cyberspace that a physical environment has on its inhabitants.

The difficulty in making Cyber-Places is that there are currently very few metaphors and precedents to guide their development, and few, if any examples to gauge the effect of richer environmental quality and placeness on users.

Nonetheless, making ‘places’ in Cyberspace can borrow from the principles that were developed by architects and town-planners over the last few thousand years. At the same time, it must adopt the abilities offered by the new technology, which allows Cyber-Place designers to exercise more freedom in place-making than physical places afford. The challenge is to blend these two opposite needs: not to stifle Cyber-Places by making them too hyper realistic, while at the same time not make them too hyper virtual, to the point of renouncing all sense of place.

By looking at physical architecture as a case study and as a metaphor for organizing space into meaningful places, designers of Cyber-Places could develop spatial

## Changing the Metaphor: Cyberspace as a Place

settings that are not only visually rich, but, like physical places, afford social interaction and express cultural values.

It is dangerous to confuse the notions of *space* and *place*. Places, in the physical world, are filled not only with artefacts, tools and representations of our work, but also with other people and the signs of their activities. The sense of other people's presence and the ongoing awareness of their activity allows us to structure our own activities, and to seamlessly integrate them with those of others. They give meaning to our own actions and behaviours. That is why we choose to go to live concerts, where we must put up with uncomfortable seating and the coughing and rustling of the audience, rather than stay at home and listen to perfect recordings of the same performances. That is why we still like to browse for books in physical bookstores, even though we can buy all that we need at Amazon.com. That is why we visit physical museums, even though we can visit them on the Web. That is why we go to football games, even though we can see the action better on TV. And that is why we go to conferences, even though we can read the proceedings at home.

As we begin to shift a greater number of our social, cultural, economic, and other activities to Cyberspace, we must work to make it socially- and culturally-appropriate, so that it can support our rich, place-based 'real world' behaviours. Our designs of Cyber-Places must support, not undermine, the very things that make places work—their activities, uniqueness, the shared understandings of their appropriate use, and their role in helping us interpret social and cultural cues in the physical environment. Without them, we stand to lose all the social and behavioural skills we spend a lifetime to learn, and which contribute so much to enriching our culture.

It would be presumptuous of us - as well as any other researcher - to prescribe the 'ultimate' recipe for Cyber place-making. Rather, as Coyne argues, we advocate approaching the appropriation of Cyberspace as one would approach the appropriation and design of an environment that "enables and constrains human interaction in ways similar to physical space" (Coyne 1999).

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