

Places of Mind: Implications of Narrative Space for the Architecture of Information Environments

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Abstract

Virtual reality and cyberspace are extended spaces of the mind different from, yet related to, the spaces of fiction and ancient myth. These earlier spaces reveal how electronic media, too, may come to define our selves and our culture. Indeed, a better understanding of how we use space to think can lead to the design of better information environments. This paper will describe a range of traditional narrative spaces, revealing their varied relationships with the physical world. It will demonstrate the purposes of such spaces and how their function changes with their level of abstraction. A concluding review of current technologies will show how electronic environments carry on the traditions of these spaces in serving our cultural and psychological needs.

Keywords: cyberspace, narrative, space, Anthropic Cyberspace, cybrids

1 Narrative Space: Methodology for evaluation

In analyzing traditional narrative spaces I will use a methodology employed in my book *Envisioning Cyberspace*, Anders (1999), which presents artifacts and spaces in terms of a scale of abstraction (Table 1). This scale ranges from the most concrete to the most abstract, appealing to our senses and intellect respectively. Our scale also ranges from perception to cognition, our ways of appreciating the concrete and abstract. We use this in the knowledge that the categories discussed are provisional, and that current or future examples may conflict with their definition. However the risk is worth taking. The methodology helps us distinguish important features of traditional narrative space and gives us a framework for evaluating electronic spatial simulation.

I will compare spaces evoked by electronic media to those in traditional narrative to set a context for understanding hybrids of physical and electronic space – here called *cybrids*. *Narrative space* is here used to denote the spatial and social environment evoked in texts and narrative in various media. The term is used to describe the content of traditional narratives – *not* the media used to convey them. This helps us to categorize narrative types (history, folktale, myth, etc.) according to their relationship to the concrete world. We will find this useful in describing the interrelationship between “space” of electronic media and that of our physical environment.

2 The Space of History

Of all the extended spaces of history – the systematic, verifiable account of events – is most concrete. Events in historical space refer to specific people, places and times, all parts of our everyday experience. History is relayed dynamically; events are described in sequence of occurrence. Accepted as nonfiction, it is valued by empirical cultures and is the foundation for Western societies.

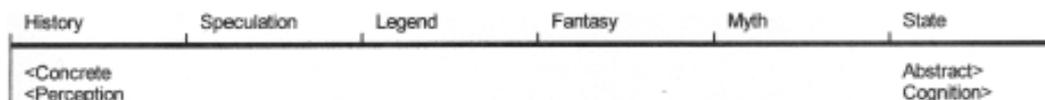


Table 1. Scale of abstraction for narrative space.

2.1 *Speculation Space*

Speculation ranges from rumor to plans of action. Such projections, while beholden to the world of experience, are hybrids of fact and fiction. The plan for a building addition relies on historical, current facts, although it is a hypothetical space. While speculation is not entirely factual its fiction is grounded and believable. The building addition cannot float on air, for instance.

2.2 *Legend Space*

Legend describes historical people in fictional places or, conversely, fictional characters in actual settings. It keeps at least one foot on the ground. Like speculation, legend may be hard to distinguish from history, for it is shared by the average citizen, its authorship unknown. But unlike speculation the fictional component of a legend may be fantastic. This magical component distinguishes legend from the more concrete categories of narrative space.

2.3 *Fantasy Space*

As we rise above legend to the levels of fantasy and fairy tales we increasingly encounter magic and the uncanny. These stories rely less upon material actuality than on symbols for cognitive and psychological states. Changes brought about by symbols are described in a magical way though the symbols themselves refer to the concrete world.

Fairy tales and folktales, in addition to defining a culture may also be didactic. They use fiction to relay psychological and cultural truths to children in fairy tales, and to adults through folk tales and parables (Bettelheim 1977). Magic often draws attention to important moments in a story, marking it in the reader's mind.

Authorship of the original fairy tales is often hard to determine because, like legends, they are a part of popular culture. But unlike legend the space of fairy tales and fable is stylized and general – a forest, a castle, the sea – as opposed to places of legend that may be cited by name. Likewise the characters populating fairy tales are stylized, often drawn as types rather than defined as individuals.

2.4 *Mythic Space*

Myth can be used didactically, like the folk tale and fable, but its primary purpose is to provide spiritual guidance. Its characters are archetypal ideals – deities, heroes and monsters. They reflect their surroundings, which symbolize aspiration (the heavens) or death (the underworld) more than actual, physical, locations. Actions there take place in no-time – eternity – or, in origin myths, at a time so far removed that conventional reality does not prevail.

Myths situate us in the world of man and nature. While fictitious, they are psychologically true (Campbell 1959). The entities and actions presented may be magical but their emotional structure is rooted in our everyday experience. Lust, jealousy, and anger among the gods engage the reader, however magical their actions may appear. Myth promulgates faith, provides spiritual guidance and assures the longevity of cultural institutions. While legend and folk tales are a part of common culture, myth is used by spiritual leaders to convey tradition and cultural values.

2.5 *State Space*

At the highest level of our scale we find the conceptual spaces of religious and philosophical tradition. These are metaphors for states of mind. Heaven and Hell belong to this category, as does the void of Nirvana. Such spaces are absolutes – resting places of the soul. Tellingly, they are rarely scenes of action in myth, for nothing really happens there. They are terminals to the road of life - beyond them lies nothing.

Even in this brief summary we can see trends that follow the ascent to abstraction. As we rise, we note a change of audience from the commoner to a select, sometimes religious elite. Use changes from conveying facts to values. And the subject itself changes: the concrete extreme is specific to time and place while idealized beings populate eternity at the other end. Heroes and gods occupy our minds more so than places on earth.

3 Cyberspace: The space of electronic media

In the ensuing discussion we will review the fictional spaces implicit in electronic media with respect to the present scale. Electronic media space is distinct from its precursors. Unlike text or painting electronic media is active and so resembles more the oral traditions of narration and theater. Also, unlike the traditional spaces of narrative, cyberspace is *inhabited* by users through their interaction within it.

Electronic media conveys spaces that appear incidental to the content. A telephone call gives the illusion of intimacy even though the topic of discussion may be impersonal. The story told by a talk-show guest occurs in a space distinct from the television studio seen by the viewers. The space influences, but is not dependent upon, the content. This media space differs from the conventional text or image as traditional media artifacts are confronted directly. Choices for engagement are limited to the illusion offered vs. the physical artifact, painting or book. There is no tacit intermediate space as with electronic media. It is this space that we will now relate to the illusory spaces of fiction. I will present the spaces by comparing them to the categories discussed earlier: history, speculation, legend, fantasy, myth, and state (Table 2).

3.1 Analog Media

History, the category that relies most upon perception of the world is already well-documented by conventional broadcast media, radio and television. Electronic, analog media can be used for immediate, live coverage of events. The space between events and viewer collapses. Returning to our earlier example, the studio space of the talk-show is directly apparent to us. The space of analog media warps our own, collapsing remoteness into immediacy. These media are nearly ideal for uses served by history, journalism, and direct narrative.

3.2 Digital Space

Analog media have little separating events from the viewer. The processing of digital media, however, involves translational steps to turn input into digital information, then reverse the process to generate output. Two translations more than analog media, two more chances for error and manipulation to slip in. Digital media for this reason is attended by doubt. Doubt makes everything a potential fiction.

Digital media, particularly digital text and graphics used “realistically”, hold a position similar to that of speculation. We see this in the gossip of BBS chat rooms, and plans generated using computer-aided design. Both contain fictional elements but even these fictions are grounded in reality, differing only in medium from their mundane equivalents.

3.3 Domain Space

It’s no coincidence that fairy tale and fantasy themes are already popular in multi-user domains and digital Worlds. These online, role-playing environments require users to assume an identity – or avatar – for participation. Many users capitalize on the masking effect of the avatar to hide their real identities (Turkle 1984). These digital environments – while referring to the concrete world – are not subject to its laws. Magical actions are as common in these spaces as they are in fairy tales (Anders 1996). For this reason the space of online domains may be considered at a level of abstraction comparable to folk and fairytales. They share many attributes, 1) they are used to foster communities 2) their authorship is often unclear since many participate in their creation 3) they serve a dual purpose for entertaining users and serving as a learning environment for role-playing, 4) they contain fact-based characters (avatar) and fanciful beings (agents and bots), 5) they are popular and accessible to the average use.

3.4 VR Space

While the domains just discussed are technically virtual realities they emphasize user representation and social interaction often at the expense of experiential quality. However, virtual reality (VR) changes character once this quality is improved – the user and use change as well. Owing to expense and accessibility this level of VR is limited to those who can work with its technology. Recent work by artists in this medium contain features that recall, sometimes deliberately, the spaces of mythology. Like mythology the space of VR is often autonomous, free from geographical locale. Some of its authors, like Char Davies, use it to convey meaning and values, which, while not necessarily religious, are often philosophical.

As in mythic space the actions within VR are sometimes magical despite the ground planes, fixed light sources, recognizable objects and behaviors that relate to the material world. Unlike experience in domain space the user is unlikely to encounter someone else in VR. This changes the nature of VR

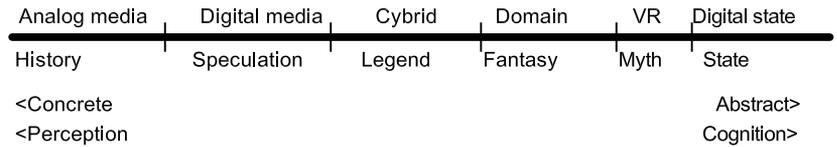


Table 2. Scale of abstraction for electronic media space (top) compared with narrative space (below).

space from being social to theatrical. The user is conscious of artifice despite the apparent freedom of interaction within it. This, too, recalls the space of myth as theater where players enact the ancient tales of culture.

3.5 *Digital state space*

At the extreme of abstract space – that occupied by metaphysical poles like Heaven and Hell – are electronic spaces that present states of being. Unlike VR and mythic space these are free of overt physical reference. Instead, they often manifest processes innate to computing.

As a result the space of artists working at this level is often disorienting as it makes few concessions to anthropic parameters of display. Without orientation, down and up do not matter. Coordinates, scales and dimensions are arbitrary. Each user's experience is unique, the spaces self-sufficient, closed to outside reference. Changes in such states are meaningless to the user. Effectively, as in the State Space of narrative, nothing changes. Curiously, the lack of reference in state space means its contents are not referential symbols. Instead they are traces as concrete as natural markings on stone. At this level abstract and concrete begin to merge.

3.6 *Cybrid space*

Suspended between these ideal states and mundane, historical space – midway down our scale – is legend, the unique blend of fiction and verifiable fact. Cybrids – the products of Augmented Reality and Ambient Computing (Anders 1999) – occupy this position on our scale and comprise integral yet distinct physical and cyberspaces. Augmented reality allows objects that only exist within the computer to be grafted onto the physical environment. Ambient – or distributed – computing makes the physical environment responsive to changes brought about through users or other agencies. Taken to its extreme the environment appears animate, equivalent to the magic, responsive world of our childhood. Similarly, Augmented Reality recalls tales of the paranormal, of mysterious places annexed to our world.

Like myth, legend is used to define a group of people with common customs. But unlike myth legend has a greater fidelity to actual details people and places. Objects, buildings, and features of the landscape offer a mnemonic structure lacing together cultural narratives. Seeing a mountain or an abandoned house triggers memories, tales otherwise forgotten. The physical recalls the invisible. In turn, the invisible holds truths latent in our perceived world.

The model that legend offers cybrids' technologies, augmented reality and ambient computing, is that of a communal memory palace (Yates 1966), the structures of which are seen in the features of mundane reality. Legend acknowledges that consciousness is only partly empirical, that psychology and culture play an equal or greater role. Legend's comparable technologies, may become media by which values, meaning, and solidarity are transmitted from one generation to the next.

3.7 *Conclusions*

Comparison of the fictional spaces of current technology with those of traditional narrative reveals many similarities and explains their success in the popular mind. This paper has shown how narrative, fictional space serves to maintain a culture's identity and preserve its values. These purposes were explained in light of the spaces' dependency upon the perceived and cognitive worlds. Cyberspace – in its many forms – extends this tradition into the electronic realm.

A crucial difference between the spaces of conventional narrative and that of cyberspace is that with the latter, users engage and interact with their surroundings. Multi-user domains and digital worlds – for all their fantasy – foster the interaction of real people. Their spaces form an architecture – a designed social setting.

Yet the connection with architecture is not literal, for as we ascend the scale of abstraction we lose many ties to materiality. The spaces are metaphors and no longer serve utilitarian purposes of buildings and other structures. Only at the scale's midrange, occupied by augmented reality and ambient computing, do we still have an integral link with the physical world. Here we find the rich blend of material fact and the magic of symbols – of places haunted by the structures of memory.

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