Back to the future: interactivity and associational narrativity at the Bauhaus

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Back to the future: interactivity and associational narrativity at the Bauhaus

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Abstract
This paper contextualises the themes of interactivity and associational narrativity within a wider historical trajectory, by examining projects conducted at the Bauhaus during the 1920s. Bauhaus artists such as László Moholy-Nagy and Oskar Schlemmer developed models and theories for cinema, theatre and installation art, which sought to surrender authorial control and engage the audience as a creative force. As contemporary artists continue to debate how to transform interactivity into an aesthetically compelling rather than participatory activity, Bauhaus projects, with their focus on associational narratives and awareness of embodied cognition, offer inspiration for current practice.

Keywords: associational narrative, Bauhaus, embodied cognition, interactivity, media in transition

1 Introduction
In his ‘Manifesto for a Digital Bauhaus’ (1998), Pelle Ehn looks back to Weimar Germany’s revolutionary art and architectural school as an educational model for digital interaction design. New media designers, Ehn suggests, should seek inspiration from the Bauhaus’ interdisciplinary art education and integration of the creative arts, industry and technology. Aesthetically, though, Ehn regards the Bauhaus as firmly placed within modernist paradigms, a democratic failure diminished to an elitist program of ‘hard’ regular geometric white shapes in steel, glass and reinforced concrete. (Ehn 2002, p.19)

The following exploration suggests, however, that the Bauhaus offers inspiration for interaction design beyond this aesthetic. Many strands within the school transcend rigid modernism, and various artists conducted experiments in film, installation art and theatre that remain relevant to postmodern theory as well as current discussion and practice in interactivity, virtual dramatic environments and digital narrativity.

At the Bauhaus, László Moholy-Nagy (1895–1946), Oskar Schlemmer (1888–1943) and Ludwig Hirschfeld-Mack (1893–1965) developed models and theories about what now appear as key features of contemporary media practice. They experimented with kaleidoscopic, associational and reconfigurable narratives, used spatial mapping as a framing device; and created dynamic machines which, comparable to computers, were placed between projection and material. Their goal
was the ‘total theatre’, an immersive space, in which
the totality of the interrelated references of light, colour, sound, movement, form, plane,
man—all the possible variations and possible combinations among them—result in a
work of art becoming an organism
and which allows the interactor to
take part in the creative process on an initia-
tive basis.
(Moholy-Nagy 1927, p.300)
Their basic problem was the creation of a two-
way communication channel between media
and audience, thereby anticipating the con-
temporary quest for what Grahame Weinbren
(1995, p.408) calls the ‘responsive representa-
tion machine’, a computer that facilitates
narratives more interesting and engaging than
interactivity based on branching models or
cause-and-effect participation.

2 Kaleidoscopic narratives and spatial mapping

One of Moholy’s concerns at the Bauhaus
was to legitimise film as an independent
art, elevate the audience from its passivity,
and create a cinematic logic that more ap-
propriately reflects the increasing informa-
tion-density of modern life. In his publication
Painting photography film (1925), he develops
ideas for what he calls the Polycinema, an
installation-piece in which there are several
circular projections simultaneously moving
across a projection-space at different speeds
and angles, exploring a variety of related
micro-narratives. The spatial orientation of the
individual film-spots changes, according to the
narrative progression, overlapping at times, or
even merging, only to separate again later on.

Manuela (Prager 2005), a recent experi-
mental short film, puts Moholy’s model into
practice, exploring a summer flirtation through
multiple projections on a single screen. The
circular film-spots change in size and spa-
tial orientation—they may fade in, or enter
from the margins. Some projections develop
the plot, and increase in size; while others
are transformed into smaller, ambient, im-
bages—a lingering thought or a memory; and
elsewhere, an intimate, open-frame close-up
may be juxtaposed against a much longer shot
from a different point-of-view. Such dynamic
projections are a contemporary version of
Polycinema, using digital technology to solve
the Bauhaus problem of creating an interactive
environment. They open vast possibilities for
developing psychological tension, associational
story-telling and interesting formal rhythms.
Furthermore, the way in which the Polycin-
ema can subvert traditional cinematic linearity
and use spatial mapping to create an adequate
diegetic illusion exemplifies, to a large extent,
what Janet Murray refers to (72 years later) as a
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The kaleidoscopic power of the computer allows us to tell stories that more truly reflect our turn-of-the-century sensibility. We no longer believe in a single reality, a single integrating view of the world, or even the reliability of a single angle of perception. (Murray 1997, p.161)

This postmodern sensibility embraces notions of an embodied mind and distributed consciousness, in which reality emerges through the interaction between human and world. Our vision, for example, provides no objective image of reality, because the retinal image is automatically interpreted by a range of perceptual mechanisms—which can turn two rapidly flashing lights into a perception of continuous movement. Proponents of embodied cognition, (Maturana and Varela 1980; Varela, Thompson and Rosch 1991; Lakoff and Johnson 1999), argue that the mind is inextricably linked to the idiosyncrasies of the human body and cannot be understood through introspection; nor can it aspire to pure rationality—it is embodied and creates reality just as it transforms two flashing lights into a continuous movement.

Such principles of visual organisation and notions of embodiment had their roots in the Gestalt psychology of interwar Germany, when Bauhaus contemporaries, such as Wolfgang Köhler (1922), Max Wertheimer (1912) and Kurt Koffka (1935), were beginning to unravel the complex ways in which humans subconsciously interpret visual stimuli and perceive whole figures, Gestalts, rather than isolated parts; in fact, the example of the rapidly flashing lights was first described in 1912 by Wertheimer. While the mechanical, computational model of the mind reigned from the 1940s to the 1970s, and has perhaps obliterated our perception of the past, the Bauhaus, in many ways, celebrated human idiosyncrasies of perception, and the interdependent relationship between human organism and world. Moholy-Nagy is certainly aware of principles of embodiment, when he discusses the ‘conceptual’ rather than ‘objective’
nature of human vision (1925, p. 28). When he
speaks of
the wholeness of life...a synthesis of all the
vital impulses spontaneously forming itself
into the all-embracing Gesamtwerk (life)
which abolishes all isolation, in which all
individual accomplishments proceed from
a biological necessity and culminate in a
universal necessity
(Moholy-Nagy 1925, p.17)
Moholy-Nagy is articulating a holistic world-
view similar to 'autopoiesis', a concept
introduced by Maturana and Varela in 1980.
Autopoiesis describes life, and humans, as
complex, self-organising systems, in which
reality is enacted through dynamic networks
of processes, in which no change occurs in
isolation, but results in continual reconfigura-
tions of these networks.

Moholy-Nagy uses such holistic concepts
to distinguish his Gesamtwerk from Richard
Wagner’s nineteenth-century ideal of the
Gesamtkunstwerk (total work of art) (1925,
p.17), which sought to synthesise music, thea-
tre and visual arts—but reduced the audience’s
role to complete passivity, by orchestrating
its point of attention through meticulously
planned seating arrangements and use of light-
ing. In Wagner’s Gesamtkunstwerk
the public, that representative of daily life,
forgets the confines of the auditorium, and
lives and breathes now only in the artwork
which seems to it as Life itself, and on the
stage which seems the wide expanse of the
whole World.
(Wagner 1849, p.185)
Moholy-Nagy regards such a Wagnerian integ-
ration of arts as merely an
addition, albeit an organized one ... along-
side and separated from which life flows by
(Moholy-Nagy 1925, p.17)
it fails to involve the audience as a creative
force, and activate its consciousness. Without
adequate technologies, however, Moholy-
Nagy had to struggle to deliver his participa-
tive Gesamtkunstwerk. Projection facilities were
wholly inadequate to realize the full potential
of the Polycinema, and certainly no interface
could be established to facilitate true interac-
tivity.

Nonetheless, Moholy-Nagy and his col-
league Ludwig Hirschfeld-Mack did create
elaborate machines that compute and reconfig-
ure abstract narratives, and involve the audi-
ence in a deeply visceral way, by manipulating
its sense of kinesthesia, and depth and colour
perception. One such machine is the Reflected
Colour Display by Hirschfeld-Mack, which
Moholy-Nagy (1921) discusses in conjunc-
tion with Polycinema (1925, pp.80–83). The
Reflected Colour Display presents a model
for a reconfigurable abstract narrative based
on light, sound, colour and form. It consists
of several movable light-sources of different
colours and luminosity, projected through a
shifting set of templates to create a
fugue-like, firmly articulated experience
which shall proceed at any given time from a
specific theme of coloured forms.
(Hirschfeld-Mack, quoted in Moholy-Nagy
1925, p.81)
Hirschfeld-Mack recognised the problem of
maintaining a diegetic illusion for his kalei-
doscopic narrative, and used acoustical means
to provide a narrative frame. His investiga-
tions into the relationship between film and

Figure 3. Ludwig Hirschfeld-Mack, Reflected
de/works/farbenlicht-spielen/
music led him to become probably the first to write reconfigurable music for moving images (1925, p.83).

More successful as a delivery technology than the *Reflected Colour Display* was Moholy-Nagy’s *Light-Space-Modulator*, built from 1922–1930, and presented at the Paris exhibition of the Industrial Association in 1930. It is a machine of approx. 120cm x 120cm, which consists of a constantly rotating mechanism of screens and discs, some translucent, reflective or perforated, that move along different axes and at various speeds. Light is projected through this mechanism to illuminate a 360-degree space with a constantly-changing array of fleeting shapes and images, swirling or crawling, interpenetrating or chasing, vanishing or morphing. Moholy-Nagy hoped that the *Light-Space-Modulator* would

> take account of man’s subconscious, emotional properties through which his eyes can be activated

(*Moholy-Nagy 1932, p.317*)

and

> build a sensory bridge to our capacity for creating abstract concepts, which today can be approached only through extremely difficult and obscure forms of thinking.

(*Moholy-Nagy 1932, p.316*)

The *Light-Space-Modulator*, as well as the *Reflected Colour Display*, certainly provide...
more than a visual experience; they activate the eyes in the sense that they heavily rely upon the embodied, distributed nature of our vision. Experiencing the project as an installation effects a complete departure from the conventional human perceptual register, and viewers struggle to establish a sense of kinesesthesia, perspective and spatial reference. It is precisely such an embodied experience that Mark Hansen, in his *New philosophy for new media* (2004), identifies as an important feature of contemporary art. He argues that artists such as Jeffrey Shaw, Bill Viola, Douglas Gordon or Robert Lazzarini, have embarked on a...

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(Hansen 2004, p.13)

However, without an interface to connect media and viewer, in his time, Moholy-Nagy could not employ the viewer to initiate creative processes as such. For more concrete forms of interactivity, Moholy-Nagy and his colleagues looked towards the theatre.

3 ‘Total Theatre is the theatre of the future’

In *Theatre of the Bauhaus* (1925), Moholy-Nagy, Oskar Schlemmer (in charge of the Bauhaus’ theatre workshop) and Bauhaus-student Farkas Molnár propose a new way of thinking about both the physical stage and dramaturgy. In its foreword, Walter Gropius, founder of the Bauhaus, writes that

*the spatial separation of the two different worlds, the auditorium and the stage...fails to draw the spectator physically into the orbit of the play...The theatre is thereby robbed of one of its strongest means to make the spectator participate in the drama.*

(Gropius 1925, p.12)

In his criticism of the conventions of the proscenium-stage and the mimetic character of drama, Gropius begins from a similar point-of-departure to Brenda Laurel (1991) or Janet Murray (1997), who extol cyberspace as offering the possibility of a truly interactive performance-space.

The Bauhaus thinkers developed a range of plans for mechanical and dynamic theatres with reconfigurable levels and platforms. Molnár’s design for the U-Theatre (1925, p.71–78) conveys a desire not merely to transcend the separation between auditorium and stage, but also to be liberated from the confines of space, time and gravity—an ideal that would find its ultimate fulfillment only in cyberspace. However, Schlemmer and Moholy were successful in developing a new form of interactive, associational theatre. They aimed at the abolishment of drama’s literary mimetic aspects, so that
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once the predominance [of the exclusively logical-intellectual values] has been broken, the associative processes and the language of man, and consequently man himself in his totality as a formative medium for the stage... is to be employed ON AN EQUAL FOOTING WITH THE OTHER FORMATIVE MEDIA.

(Moholy-Nagy 1924, p.57, emphasis in original)

In the following description, Schlemmer provides an impression of such a production:

We shall dress one...two...three actors in stylized padded tights and papier-mâché masks. The effect of the tights and masks together is to regroup the various and diffuse parts of the human body into a simple, unified form ... If we now assign to each of these actors a different way of walking....and...let them measure out their space, so to speak, in time to a kettledrum, a snare drum, and wooden blocks, the result will be the 'space dance'...If we put certain basic forms, such as a ball, a club, a wand, and a pole, into their hands, and if we let their gestures and movements instinctively follow what these shapes convey to them, the result is what we can call 'form dance'...If we now provide the masks with moustaches and glasses, the hands with gloves, the torsos with stylized dinner jackets, and if we add to their various ways of walking places to sit down (a swivel chair, an armchair, a bench) and also various kinds of sounds (murmuring and hissing noises; double-talk and jabbering; an occasional bit of pandemonium ... the result is what we call 'gesture dance'...Finally, we shall create for the players a universe of walls, props, and other stage equipment which can be easily transported and put up anywhere.

(Schlemmer 1925, pp.97, 100)

Schlemmer’s theatre, especially if imagined to take place in Molnár’s dynamic U-Theatre, bears a striking resemblance to current projects such as Bill Seaman’s The World Generator/Engine of Desire (1996–7).

In a way similar to Schlemmer’s play with abstract media elements, Seaman invites ‘vusers’ to generate and recombine music/sound, spatial text, juxtapositions of computer-graphic objects, images, digital movies, as well as attached behaviours, all functioning as relative fields of meaning force in an interactive virtual environment.

(Seaman 1999, p.63)

But while Seaman’s ‘vusers’ engage in what he calls ‘recombinant poetics’ only through an interface of selections, Schlemmer’s stage-productions allow players to manipulate media elements in a much more immediate, embodied and spontaneous fashion.

Seaman is able to create a performance-space that Bauhaus thinkers could only imagine; but Schlemmer achieves what Seaman does not—incorporating the human body with all its senses into an exploration of media elements, expanding the dramatic environment into a collaborative arena, with multiple players, and...
facilitating an unobstructed liberation of the play instinct...the source of man’s real creative values, [which] is the un-self-conscious and naïve pleasure in shaping and producing, without asking questions about use or uselessness, sense or nonsense, good or bad.

(Schlemmer 1925, p.82)

New media researchers have recently begun to incorporate elements from traditional forms of theatre into the design of avatars and virtual environments. Ben Salem (2005), for example, has used rules and conventions from the Commedia dell’Arte and the Japanese Noh theatre to create a universally recognisable facial, gestural and behavioural choreography with which to facilitate social interaction among avatars in cyberspace. In contrast to Commedia dell’Arte or Noh, however, Schlemmer’s theatre is not easily reducible to a set of codes; it differs in the sense that there are no clear rules, character-types or dramatic structures. It is purely abstract—the masks are fantastic and ambiguous and the ‘plots’ consist of nothing more than the pure movement of forms, colour, and light.

(Schlemmer 1925, p.88)

But perhaps the Bauhaus theatre can offer inspiration to current discussion, and practice, on integrating associational play within collaborative virtual environments, computer games and interactive narrative. Artists and theorists such as Seaman (1999), Rieser (2002) and Thomas (2002; 2005) have certainly shown that associational narratives have the capacity to transform digital interactivity into a far more compelling and sensuous activity than many other narrative models.

4 Conclusion

The Bauhaus projects and theories presented in this article question the revolutionary paradigms often associated with the digital revolution. Embodied cognition, technology and human desires for interactivity and immediacy are shown to have developed in much more complex and accretive ways than contemporary notions of the computer-age, uninformed by history, might recognise.

When Moholy-Nagy observes that no one has been able to solve the problem of how to use man on stage successfully as a creative force and that to the new artists of the stage, we can make only general suggestions (Moholy-Nagy 1927, p. 300) he is presenting a situation that was as current 80 years ago as it is now. As artists and theorists still struggle to develop truly interactive—rather than only participatory—narratives, a glance back to the days of the Bauhaus may provide inspiration, not merely for interaction design, as Ehn suggests, but for digital narrativity and virtual environments themselves.

The forthcoming interactive installation, PolyAlphabet (working title, Phillip Prager, 2007, Digital Studio, CU) takes seriously Moholy-Nagy’s suggestions, to create an interactive Polycinema, which will explore
John Cage’s *An Alphabet* (1983 [1982])—a text consisting of 37 short scenes constructed of spoken words, originally organised according to chance operations. In *Poly-Alphabet*, individual film spots will correspond to each textual scene, and viewers will be able to reconfigure an audiovisual version of Cage’s *An Alphabet* through associational play, following literary, visual or aural themes and motifs. This project will test the ideas advanced above, and enable a clearer identification of those features of Moholy-Nagy’s *Polycinema* that qualify it as a precursor to, and viable inspiration for, new kinds of contemporary recombinant and embodied, interactive cinematic experience.

References:


*PolyAlphabet* (forthcoming 2007) directed by Phillip Prager, Digital Studio, Department of Architecture, University of Cambridge, [interactive installation].


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