

I-MATTER LIBRARY SUMMARY

~Stacey Wheal, 18 Jan 2007~

Interactivity

The term interactivity, as Espen Aarseth states, seems to have a “magic power” (Aarseth 48). This power stems from not only the word's varied use in sociology and communication studies, but also, its use in marketing campaigns to describe everything from household appliances to videogames (Jensen 185-186). Eric Zimmerman perhaps describes the ambiguity of interactivity best when he calls it a “naughty concept in need of discipline” (*First Person* 154). Muddled by its capitalist undertones and overuse, the term remains a point of contention between scholars. However, both interactivity enthusiasts and critics seem to agree on two points: Firstly, there needs to be comprehensive theory that scholars can use to study the complex relationship between people and emerging forms of media like online virtual communities and hypertexts. Secondly, this knowledge should be used to design better user experiences. The authors included in this library approach the study of interactivity in three general ways: They apply existing philosophical, film, theatre and narrative paradigms to multimedia works; develop categories or continuums; and create new terminology.

1. Existing Theories

Brenda Laurel uses theatrical terms to describe human computer interaction. Instead of using the linear models of dialog between a sender and receiver, she imagines computer interfaces as stages and users (represented via avatars) as actors with the ability to manipulate dramatic elements like props (*Computers as Theatre* 17). Likewise, Geoffrey Rockwell uses Socratic dialog as a model for interactivity, likening the user to an eavesdropper on a conversation between both user-controlled characters and computer-controlled characters in digital environments (Rockwell 7). Many debates rage over whether or not terms from other disciplines should be applied to the study of digital environments. Within the field of digital games, there is a persistent tug-of-war between academics

who wish to focus on play centered models of interactivity and others who take more traditional, narrative based approaches (Wardrip-Fruin 29).

2. Categories and/or Continuums.

Janet Murray, Sally McMillan, Eric Zimmerman and Jens Jensen concentrate on developing categories through which to better understand the subtleties of interactive experiences. Murray defines four key characteristics of virtual environments. Their procedural, rule based nature; allowance for participation; spatial qualities and encyclopedic range of data (Murray 72-83). McMillan breaks down interactivity into three types of dialog: user-to-user, user-to-document and user-to-system (McMillan 242-243). Zimmerman divides the term into four modes: perceived interactivity (how interactive something 'feels'), the structure of the work or “functional” interactivity, “participation with designed choices and procedures in a Text” and “Meta-interactivity; or Cultural Participation with a Text” (Zimmerman 161). Finally, Jens Jensen develops his categories, “Transmissional”, “Consultational”, “Conversational” and “Registrational” interactivity, even further by plotting them on a three dimensional diagram he calls “The Cube of Interactivity”. He presents this cube as a means for comparing and contrasting characteristics of a wide range of media including (but not limited to) video-on-demand, e-mail, hypertexts, Internet cookies and videogames (Jensen 201-202).

3. New terminology.

While the aforementioned scholars attempt to salvage interactivity as a useful term, Espen Aarseth and Chris Crawford seek to replace the concept with their own terminology. In an attempt to escape interactivity's ideological associations with cutting-edge technology and progress, Espen Aarseth uses the terms “ergodic” and “cybertext”. “Ergodic” is used to describe the “non-trivial” work required by readers to traverse a text (Aarseth 1). “Cybertextuality” takes into account the variability of both analog and digital texts—how their forms are altered by the choices readers make (Aarseth 3). Similarly, Crawford replaces interactivity with the term “gaminess”, in order to stress that he is not

talking about puzzles or toys (which advertisers commonly call interactive) but rather digital works that are based on rule systems and respond to a wide range of player choices (Crawford 12).

With so many differing views of interactivity competing for attention, it is easy for one to become overwhelmed. Thus, many of the authors included in this library attempt to orient themselves and their readers through discussions of what makes 'interactive' works so intriguing in the first place. Mihaly Csikszentmihalyi's concept flow is repeatedly referenced as a desired state of interaction, where the interface disappears and the user becomes completely absorbed in what they are doing (Csiks 36, Heeter 12, Douglas 204, Geirland 1). Such discussions of ideal interactivity clarify why the study of human-computer-interaction *matters*. Only by understanding interactivity better, we can design environments that facilitate rather than hinder play, work and knowledge creation.

Research through Multimedia Design

Theoretical studies of interactivity can only take us so far. To learn the most about the realities and possibilities of interactive works, we must descend from the the ivory tower of theory and get our hands dirty. In other words, one of the best ways of discovering why interactivity matters, is to design an interactive experience in response to a problem or set of questions.

The process of making knowledge through multimedia design has been given many labels. Simon's "science of the artificial" and Schön's idea of "the reflective practitioner" remain touchstones for practitioner-scholars not only in communications media but also, numerous other fields such as medicine, business and engineering (Simon 79, Schön 37, See also references to Simon and/or Schön in: Cross 54, Candy 19, Wakkary 66). Herbert Simon critiques the emphasis in schools on theory and argues that design processes should be the basic unit of study for both the scientist and liberal arts major (Simon 83). Shifting even further away from the paradigms of "technical rationality", Schön argues that the questions most important to humanity are the murky, contextual ones that have many possible answers---questions that theory cannot address without the aid of creative, playful practice

(Schön 42). Alternatives to Simon and Schön's terms include “design (as) research” (*Design Research* 82) “practice-based research” (Candy 1) and “action research” (Seago 11).

In an attempt to demystify the hazy subject of research through design, several scholars have presented their own methodologies. Linda Candy's comprehensive guide for students attempting to get their PhDs, stresses the continued importance of literature review and publishable documentation in practice-based-research (Candy 2). Alternatively, Rosenberg presents a visual/metaphorical model called “the Reservoir” for melding traditional theory-based research and creative practice both inside and outside of academia (Rosenberg 7-8). Wakkary takes a far more playful approach, showing how workshops, scenarios and prototypes were used to develop an interactive tour guide system for a museum (Wakkary 70).

The main stumbling block for practitioner-scholars seems to be the existing academic systems which privilege traditional, theory-based approaches to research. Design-scholar Nigel Cross problematizes attempts made by Simon and others to “scientise design” (Cross 49). Similarly, Tim Marshall and Sid Newton critique the demands placed upon practitioner-scholars to produce knowledge that meets traditional academic standards; they argue that scholarly design processes and products can be considered discourses in and of themselves (Marshall 1).

Despite political and theoretical tensions surrounding research through design, there are several examples of how it can be done well and documented effectively. Micheal Naimark discusses how he researched “sensory anomalies” through the design of video installations (*Design Research* 109). The *Pompey Project*, which involves the creation of a 3D model of the Theatre of Pompey, demonstrates how interactive models can help historians and archaeologists synthesize their knowledge into virtual realities that others can learn from and explore (Beacham 133). Other projects featured in this library include Anthony Dunne's exploration of design practice (Seago 14) and Kempadoo's website/installation that seeks to give racial minorities a voice (Kempadoo 138). These projects prove

the value of research through interactive media design by showing how design processes, artifacts, theory and reflection can be combined to form new kinds of knowledge about the past, present and future.