Film Narrative and Computer–Interface Design

Gary A. Berg
California State University Channel Islands, USA

Some scholars have noted the link between film narrative and computer-interface design (Berg, 2003; Plowman, 1994). Similarities between early film and interactive multimedia in the establishment of narrative conventions such as intertitles and narration are clear. Burch (1981) describes the transition from early film involving a linearization of the narrative for viewers. Early film emphasized spectacle and the documentation of unrelated events. Events and individual shots were not woven into a coherent narrative until D. W. Griffith and others led to the development of montage and a cinematic narrative language. Some suggest that this same process of creating new media conventions needs to occur to increase the educational effectiveness of computer-based programs (Berg, 2003). Instructional designers working in computer environments do not have ready access to an established narrative language and consequently need to be more explicit in their structure. The user's knowledge of film conventions allows the authors to feel confident that their narrative can be quickly and simply understood. Consequently, instructional designers need to spend time developing narrative conventions and making narrative elements clear to the learners.

In *Computers as Theatre*, Brenda Laurel (1993) examines how computer interfaces might be best structured as dramatic structures in the tradition of Aristotle's *Poetics*. For Laurel, the computer is a medium, not a tool. Consequently, it needs to be analyzed in regard to its specific principles as a new medium, just as in photography and film. Laurel defines theater as representing whole actions with multiple agents and sees this as the essence of computer-interface design. Direct manipulation or engagement is a key aspect of interactivity on the computer. For Laurel, there are two primary advantages to thinking about computers as theater: significant overlap of action through the use of agents; and the familiar, comprehensive, and evocative nature of theater in the interface. Laurel distinguishes drama from narrative by stating that drama is more active, intense, and has greater unity of action in the Aristotelian sense, and concludes that interface design should focus on action.

Another important American scholar, Janet H. Murray (1997), argues that stories define how we think, play, and understand our lives, and sees computers as having a profound effect on the stories of the late 20th century. Murray asks how users can enter a fictional world without disrupting it, and points out that computer-based narrative seems to be showing the tendency to emphasize the border and test the fictional illusion. Murray proposes a notion of interactive computer narrative as a labyrinth, goal driven enough to guide navigation, but open-ended enough to allow free exploration. She argues that the navigational space lends itself to journey stories, and that the computer has transformative power that leads people to assume roles. She argues that formulas in storytelling are well suited to digital storytelling, but the ending of the story is key. Finally, Murray sees the most ambitious promise of the new narrative medium of the personal computer as its potential for telling stories about whole systems in detail.

If the computer is a medium and not a tool (Johnson, 1997; Turkle, 1995), then recent film theory has relevance to the discussion of computer-interface design. As noted above, the computer as a medium is in an early stage of development. Some interface designers have looked toward film models for structure and analogy. Computer applications such as Macromedia's Director, the dominant multimedia-authoring program, explicitly use the film metaphor in its design and its use of terminology such as scene, script, score, and stage. Additionally, digitized film is used in computer applications and some of the simple elements of its grammar, such as transitions, framing, camera movement, and camera angles, are often employed. With the increased power of computers, digitized video and sound is becoming prevalent. As an older medium, film produced theories that may supply some of the best

thinking on questions of narrative meaning in computer-interface design.

In recent years, film theory has seen the emergence of a cognitive theory of narrative linked to David Bordwell, Edward Branigan, and Noel Carroll, who analyze cinema in terms of an active viewer using psychological processes. Branigan (1984) emphasizes the cognitive role of the viewer, which is often minimized in psychoanalytic models of film. Narration is a logical relationship posed by the text as a condition of its intelligibility. For Branigan, the viewer actively constructs the space of a film. In comprehending or interpreting the screened images, viewers actually construct the film. Branigan argues that psychoanalytic film theory has ignored the importance of the cognitive skills of the viewer and defines narration as a linguistic and logical relationship posed by the text as a condition of its intelligibility.

For Bordwell (1989), cognitive psychology, he claims, best reveals the nature of those meaning-making processes. In holding that the film viewer actively realizes the film's meaning, Bordwell claims that the film, at least in its semantic content, is incomplete, only partially created. The film image is necessarily incomplete so that it can be fleshed out by the active participation of the viewer. By insisting on the semantic incompleteness of the film, he seeks to emphasize the necessary role of the active viewer. For Carroll (1988), a viewer internalizes the interests of the characters and assesses the series of options possible in the plotline. These subconscious expectations are formed as questions. Building on the Russian director Pudovkin's theories, he suggests that the relationships between scenes in a film are one of questions followed by answers.

One challenge in the use of narrative for education purposes scholars point to is that it might lead to passive and uncritical learning (Berg, 2003). According to Erickson, Rossi, and Rossi (1979), learning can involve a trance state. Narrative films can be seen to consciously work to create a trance state to involve the viewer and retain interest. Furthermore, narratives serve to transmit cultural beliefs and norms, while also allowing for some variation for individuals. In the literature on cinema, narrative film is considered illusionistic—not something that brings forth critical thinking. Both scholars and filmmakers working in documentary film, the French New Wave, and experimental film address this question through multiple techniques, many of which might be applied to the use of narrative in educational environments. In particular, the use of various forms of narrative devices (voice-over, editing approaches, characterization) in documentary film has long been a subject of debate because they may lead to abuse in promoting political points of view. In fiction film, the Italian neorealists and the French New Wave movements were to various degrees explicit attempts to subvert traditional Hollywood narrative-film patterns in order to allow (or force) the audience to think more critically. This was accomplished by the neorealists (Rossellini, DeSica, Antonioni) with the use of wide angles, deep focus, and long takes. The New Wave directors such as Godard and Truffaut used a more Brechtian technique of self-reflexive story content, jump cuts, and excessive camera movements to make the audience aware of the artifice of storytelling. The history of film theory and practice, in fact, shows a clear division and conflict between illusionistic Hollywood-style narratives and nonnarrative or nonillusionistic film. Abrahamson (1998) argues that rather than presenting course content in an objective fashion, storytelling allows the teacher to insert his or her own point of view in a conscious manner. He claims that this makes the teacher point of view obvious. As leading film critics argue, films come to the viewer as either impressions of reality or as dreams and are more convincing than other symbolic systems. Film has been extensively used in propaganda (such as in Leni Riefenstahl's *Triumph of the Will*).

Moving to the personal-computer medium, Reason and Forrester (1997) argue that in order to create narrative using hypermedia, a determined ending is necessary. They argue that soap operas with an episodic narrative structure provide a model for the use of narrative in hypermedia because of their open-endedness. Turkle (1995) sees the computer as a new medium on which to project fantasies and analyzes a trend toward people wanting to substitute computer images for representations of the real, seeking out the subjectivity that computer simulations offer. With an emphasis on the viewer, film theory has looked in a similar way at the film-viewing experience as dreaming. In *The Imaginary Signifier*, Christian Metz (1982) takes a psychoanalytic perspective in the interpretation of films as