



Digital technology and cinema

Writing in *AfterImage* nearly a decade ago, Timothy Druckrey argued that computers were creating a new crisis in representation. Druckrey contended: 'The emergence of the computer is the central development of our age. It will recast our notions of time, memory and history and suggest that they are not simply historical categories representing culture but problematic concepts that are intimately bound to the political'. This shift became increasingly evident in still photography in the 1980s, as the truth value of the image was opened to new uncertainties. Following the mammoth success of films such as *Terminator 2* (1991) and *Jurassic Park* (1993), the digital wave has well and truly broken in cinema. Narrative cinema, which has always been an ambiguous realm in which the fictive meets the photo-realistic, has been dramatically changed in the process. As James Cameron (director of both *Terminator* films and co-owner of leading digital effects house, Digital Domain) puts it: 'Anything is possible right now, if you throw enough money at it, or enough time'.

It is this context that informs the research project on 'Digital Technology and Cinema' which I am currently undertaking for the Communications Law Centre. The project is being supported by an Australian Research Council collaborative grant awarded to Professor Stuart Cunningham of the Australian Key Centre for Cultural and Media Policy at Queensland University of Technology. The primary aim of this initial project is to develop an historically-informed framework for evaluating and understanding the impact of digital technologies on contemporary cinema production.

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This aim can be broken down into a number of related concerns, which might be summarised under the headings of 'production effects' and 'screen effects'. With regard to the first, it is clear that digital technologies have profoundly changed the way in which material is brought to the screen. Shifts such as the displacement of the ubiquitous Nagra analogue tape recorder by much smaller DAT machines in the late 1980s, or the move to non-linear editing systems such as Avid and Lightworks in the early 1990s, are merely the most obvious parts of the process. Today, there are few

facets of film production which are not affected by the digital threshold. This raises new questions, including the need to develop new production models now that so-called 'special effects' occupies a vastly expanded role in film production. At what point should an effects crew become involved in a project? How should a principal cinematographer work with the effects crew? What are the possibilities for using virtual sets? How does the director's role change in the digital domain?

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Such questions point towards the more general problem concerning the impact of technological change on work practices, including employment levels and the existing skills base in the film industry. Has rapid technological change created a generational split between those experienced in the 'sprocket' film industry and those with the computer-based skills demanded for digital production?

Framing these questions is a concern for what I am loosely calling 'screen effects'. It scarcely needs to be repeated that digital technology has significantly altered what we see and what we hear in the cinema. An

important aim of the project is to develop an account of the complex relation between representation and technological change. While the proliferation of Computer Generated Imagery (CGI) and sophisticated compositing techniques have received more attention, digital sound systems have played an equally important role in reshaping contemporary cinematic experience. By exploring the historical tensions that the new technologies open with regard to the camera's traditional association with 'realism', the project aims to test some of the conventions of screen theory against changing patterns of cinematic spectatorship and spectatorial pleasure.

In addition to an extensive review of contemporary literature on film and digital technology, I am currently conducting a series of interviews with practitioners working in different areas of the film industry. My aim is to produce a draft report by April 30, and a final report by May 31. If anyone would like further information concerning the report, or would like to contribute to the process, they can contact me at the email address given below. □

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