

Chapter 20

Forensic Technologies in the Courtroom: A Multi-Disciplinary Analysis

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ABSTRACT

Forensic animation is the use of digital animation technologies to recreate or simulate an event for use as probative evidence in a court proceeding. Acceptance by courts of this technology varies by jurisdiction. Some courts disallow its use because of the technology's prejudicial impact when weighed against the probative value and perceived tendency to bias jurors; such courts typically do not consider the relevant legal psychology research. This article examines the body of scientific evidence with respect to value of the technology, with a focus on criminal proceedings. It concludes with a policy recommendation for courts to employ in light of these considerations.

INTRODUCTION

Forensic animation refers to computer generated 'movies' created for courtroom presentation. Forensic animation is distinct from most other visual technologies because it is completely orchestrated by one party and intended to be an integration of all relevant evidence. In other words, it is designed to present a party's story in a visually powerful narrative format.

Since the mid-eighties forensic animation technologies have been increasingly employed by attorneys to present demonstrative evidence in U.S. courts (Breux, 2001; Burton, Schofield, & Goodwin, 2005). Parties have employed these technologies in both criminal and civil cases to recreate murders, automobile accidents, airline disasters, pathological/medical visualization, complex engineering systems, and other physical, environmental, or behavioral events (Kassin & Dunn, 1997). Some applications of technology

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have greater transformative effects in court proceedings than others- both in terms of the mode of the presentation itself as well as judge and jury perceptions¹.

Strong support suggests that forensic animation is the first paradigm shifting courtroom technology since the acceptance of photography. Its distinctive characteristics and ability to vividly and powerfully present either party's story will prove, in the long run, to be no less transformative and beneficial than the role of photography by the end of the 19th century.

Little is known, however, about what prejudicial effects this new technology may have on the perceptions of triers of fact or law, how the existence of this technology impacts attorney preparation of cases, or how litigants themselves are impacted by its availability. While forensic animation holds the promise of bringing tremendous clarity and efficiency to the interpretation of the alleged factual circumstances of a case; unlike photography it has the potential to yield an environment where courts are misled and justice is perverted. Thus, the ultimate question for researchers, legislators, and courts is: *When does forensic animation affect a case's outcome- under what circumstances, for whom, and in interaction with what other factors?*

Clarity on this question will provide courts and legislators the insights needed to make fair and reasonable policy decisions going forward. Forensic animation, as a courtroom aid, is a positive development whose potential for positive value outweighs the downside risk of prejudice. The purpose of this article is:

- To objectively assess current statutory and court rule authorities concerning the admission (or not) of forensic animations into trial; and
- To address what further research is required and provide a 'best practices' framework for courts and legislatures who may be confronted with questions of admissibility.

PRESENTATION TECHNOLOGIES IN THE MODERN COURT

The idea of incorporating newer modes of technology into courtroom procedures should not surprise anyone. It is neither new nor radical to suggest that lawyers, attempting to win a case for their clients, will use technologies that allow them to communicate their ideas powerfully. The admissibility of photographic evidence in legal proceedings was a paradigm-shifting application of new technology. It provided a means to accurately record events, individuals, and places as they were observed by people- rather than through the interpretation of an artist and his or her brush. The first known decision admitting photographic evidence in a jury trial was in *Luco et al. v. United States* (1859); Prior to this "legal photography" was already in use as a way for police to identify and document known criminals.² By the turn of the last century the admissibility of photographic evidence in a variety of circumstances and forms was well established in American jurisprudence; for example, courts consistently held that photography was a fair and reliable approximation of reality and that the photographic process was analogous to the way light reacts with the human retina.³

The adoption of increasingly advanced and vivid technologies did not end with photography. Attorneys are progressively using newer and more intense forms of technology that, heretofore, were under the strict domain of Hollywood filmmakers. An increasing pool of suppliers and economies of scale are bringing access to these technologies beyond the soundstage and into the courtroom. This has led some legal commentators to advocate that litigators should begin to view themselves as "attorney/producers" (Ryan, 2003). Ryan is not alone in suggesting that future cases will, in part, be decided on the produc-

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