Independent Creation and Originality in the Age of Imitated Reality: A Comparative Analysis of Copyright and Database Protection for Digital Models of Real People

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INDEPENDENT CREATION AND ORIGINALITY IN THE AGE OF Imitated Reality: A COMPARATIVE ANALYSIS OF COPYRIGHT AND DATABASE PROTECTION FOR DIGITAL MODELS OF REAL PEOPLE

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“Were I called on to define, very briefly, the term Art, I should call it ‘the reproduction of what the Senses perceive in Nature through the veil of the soul.’ The mere imitation, however accurate, of what is in Nature, entitles no man to the sacred name of ‘Artist.’”

– Edgar Allan Poe

I. INTRODUCTION

Artists have been attempting to reproduce reality through their artwork for centuries, providing a rich history behind the relationship between art and imitation. For example, Socrates introduced one popular concept of imitation, or mimesis, in fifth-century B.C. Athens, whereby stating that “‘imitation’ meant the copying of the appearances of things.” Plato and Aristotle further shaped this idea, theorizing that imitation resulted from “reflection upon painting and sculpture.” Contemporaneous notions reflected the idea that imitation meant “reproducing the external world.” On the other hand, modern discourse has reiterated Poe’s general sentiment that art and imitation are strange bedfellows. However, in contrast to these modern notions, the United Nations Education, Educational, Scientific and Cultural Organization (UNESCO), in apparent agreement with Aristotle, has defined an artist as “any person who creates or gives creative expression to, or re-creates works of art . . . .”

Copyright law’s treatment of subject matter drawn from the real world reflects this dilemma concerning the relationship between art and imitation. The United States has recently aligned itself with Poe’s general sentiment. It has done so under the guise of copyright’s

3. Id. (internal quotations omitted).
4. Id.; see also The University of Chicago, Theories of Media, Keywords Glossary, available at http://csmt.uchicago.edu/glossary2004/mimesis.htm (last visited Apr. 15, 2010).
5. 3 HISTORY OF IDEAS, supra note 2.
6. Tom Huhn, The Movement of Mimesis: Heidegger’s ‘Origin of the Work of Art’ in Relation to Adorno and Lyotard, 22 (4) PHIL. SOC. CRITICISM 45, 46 (1996) (“If mimesis occurs only as imitation, portrayal, or representation, it remains but a false and falsifying movement.”), available at http://psc.sagepub.com/cgi/content/abstract/22/4/45 (last visited Apr. 15, 2010).
requirement of originality, requiring an additional authorial “creative spark”\(^8\) that has not always been required in the United States or elsewhere.

Copyright protects an author’s original expression, as opposed to the underlying facts or ideas themselves,\(^9\) and circumscribes the ability of others to copy that expression.\(^10\) Whether aspects of an artistic imitation of the real world are the proper subject of copyright appears to be a settled point in more traditional contexts, such as photography.\(^11\) However, recent advancements in digital imaging technology have allowed digital artists to imitate reality in ways that are both reminiscent of the old and profoundly new in their application and scope. For instance, the present ability to digitally model and animate imitations of real people, places, and things in a virtual three-dimensional environment has raised a host of new and complicated legal issues, many related to copyright. In the first federal case to directly address the question, the Tenth Circuit held that copyright does not protect digital models created to imitate preexisting objects.\(^12\)

This Article addresses a few of the issues that confront digital artists and modeling companies in the context of copyright law’s requirements of originality and independent creation, and provides a comparative look at potential protection for these types of digital models under differing definitions of originality. In an age when “[a]nimators deal with pixels as well as paint brushes,”\(^13\) the laws of the United States potentially offer digital artists less protection in this context than do the laws of other countries, such as the United Kingdom and Australia. Specifically, the requirement of originality after \textit{Feist} and the lack of \textit{sui generis} database protection in the United States provide less protection for digital visual

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9. \textit{Id.} at 350 ("No author may copyright facts or ideas. The copyright is limited to those aspects of the work -- termed 'expression' -- that display the stamp of the author's originality." (citing Harper & Row, Publishers, Inc. v. Nation Enter., 471 U.S. 539, 556–57 (1985))).
10. \textit{Feist Publ'ns Inc.}, 488 U.S. at 350 ("[O]nly the compiler’s [expression] may be protected; the raw facts may be copied at will.").
11. In \textit{Burrow-Giles Lithographic v. Sarony}, 111 U.S. 53 (1884), the Supreme Court found copyrightable expression in Napoleon Sarony’s photographs of Oscar Wilde “so far as they are representatives of original intellectual conceptions of the author.” \textit{Id.} at 58. \textit{See also 1-3 NIMMER ON COPYRIGHT § 3.03[C][3] (2008)} ("As applied to a photograph of a pre-existing product, that bedrock principle [of originality] means that the photographer manifestly cannot claim to have originated the matter depicted therein . . . .").
effects artists engaged in modeling reality than do the laws of these other jurisdictions. In Part II, this Article examines some examples of recent advancements in digital imaging technology; specifically, the ability to create digital clones of preexisting things, such as living or deceased personalities and other, non-human, objects. In Part III, the Article provides a comparative analysis of copyright’s requirement of originality in the United States, United Kingdom, and Australia. Part IV presents a brief look at sui generis protection under the European Union’s recent directive on the legal protection of databases. Finally, Part V offers a brief conclusion.

II. THE CURRENT STATE OF THE ART

Digital technology is rapidly expanding the artist’s ability to imitate reality in various ways. In addition to the photograph’s ability to reproduce reality, digital technology and computer generated imagery (CGI) enable artists to animate their reproduced subjects in realistic three-dimensional form, albeit in two-dimensional media. Digital artists also have the ability to combine digitally created work with photographic and cinematographic material. As one commentator put it, “C.G.I. aspires to something different: a reality that is realer than real, more vivid and more dramatic.”

This technological evolution looks “toward what some call the ‘holy grail’ of reanimation—virtual humans who can see, speak, hear, touch and be touched, exhibit behavior, and think just as we do.”14 In some cases, both the environment and the actor are digitally created, or re-created, in photorealistic, or nearly photorealistic, form. “A character in Jean-Luc Godard’s ‘Petit Soldat’ (1960) memorably observed that ‘cinema is truth 24 times a second.’ The figure today is considerably less than that—maybe two or three times a second, at most.”16

In reality, the digital artist’s processes are really “nothing more than technologically advanced versions of traditional animation techniques, with the computer console replacing the drawing board and animation stand of the past.”17 The most prolific use of CGI to date has not been to

14. Id.
17. Id.
create digital actors, synthespians,\textsuperscript{18} or “create fantastic planets and sprawling, surreal urban environments,”\textsuperscript{19} but rather to make smaller, less noticeable alterations. “Much of the dreamy, nostalgic vision of Paris in Jean-Pierre Jeunet’s . . . ‘Amelie’ was created by digitally retouching actual locations—cars were removed from quaint, curving streets, graffiti was wiped away and perfect clouds were placed in the Parisian sky.”\textsuperscript{20} The apparent potential to recreate or imitate reality, whether modern or historical reality, through CGI is virtually endless.

A. The Synthespian: A Brief History

In recent years, “[v]irtual humans have found steady employment in the entertainment field.”\textsuperscript{21} However, despite its recent popularity, the idea of putting digital actors to work has a relatively long history. Newspaper cartoonist Winsor McCay created the first “superstar synthespian” in 1914,\textsuperscript{22} as Gertie the Dinosaur came to life onstage as McCay pretended to sketch Gertie on a large drawing board—actually, a movie screen.\textsuperscript{23} McCay had meticulously hand-drawn the animated film frame-by-frame and, as he coaxed Gertie out of hiding to munch some greens, the synthespian became a reality.\textsuperscript{24}

Following Gertie the Dinosaur, the first celebrity synthespian was Marilyn Monroe, who died on August 5, 1962, fifteen years before her appearance in the 1987 independent film “Rendezvous in Montreal.”\textsuperscript{25} Subsequently, Sky Captain and the World of Tomorrow, released in 2004 by Paramount Pictures, which featured the reanimated clone of Sir Laurence Oliver, a celebrity who died in 1989. The film depicted Sir Laurence Oliver performing scenes and engaging in activity the actor had never participated in while alive,\textsuperscript{26} and marked “the first time a dead

\begin{itemize}
\item \textsuperscript{18} Jeff Kleiser, an L.A. based digital effects expert, coined the term “synthespian” “when he created the industry’s first virtual actor (or “vac tor’) for his 1988 short film ‘Nestor Sextone for President.’” Leslie Kurtz, Digital Actors and Copyright—From the Polar Express to Simone, 21 SANTA CLARA COMPUTER & HIGH TECH. L.J. 783, 783 n.1 (2005). Kleiser derived the term from the words “synthetic thespian.”
\item \textsuperscript{20} Joseph J. Beard, Clones, Bones and Twilight Zones: Protecting the Digital Persona of the Quick, the Dead and the Imaginary, 16 BERKELEY TECH. L.J. 1165, 1169 (2001).
\item \textsuperscript{21} Kehr, supra note 13.
\item \textsuperscript{22} Kehr, supra note 13.
\item \textsuperscript{23} Id.
\item \textsuperscript{24} Id.
\item \textsuperscript{25} Id.
\item \textsuperscript{26} Id. at 156.
\end{itemize}
actor’s reanimated clone perform[ed] completely original scenes...”

Such occurrences are now commonplace in today’s digital era. Digital technology has made it possible to watch video of Abraham Lincoln on national television, digital doubles of the baby in *Lemony Snicket’s a Series of Unfortunate Events* and of Tobey Maguire and Alfred Molina in *Spiderman*, Elton John acting alongside James Cagney, Humphrey Bogart, and Louis Armstrong, and John Wayne in a beer commercial.

In *Jurassic Park*, Robert Patrick’s digital double, having previously appeared as the “liquid metal cyborg in *Terminator 2: Judgment Day,*” returned to life (and death) as “T-Rex’s meal.” Filmmaker Andrew Niccols captured one of the possible synthespian dilemmas in his 2002 film *S1mOne* (or “Simone”). In *Simone*, a struggling movie producer played by Al Pacino “create[d] a digital replacement when a temperamental [real-world] actress walk[ed] out in the middle of a film.” When the digital replacement “becomes an overnight sensation,” however, Pacino’s character struggles to “maintain the fiction that she is real.”

**B. The Holy Grail: A Perfect Clone**

It has been said that the “holy grail” of CGI is to clone a living, breathing, human being in “photorealistic and perfectly animated” digital form. For years, this rapidly advancing technology has been “begging for its moment of truth.” In 2009, *The Curious Case of Benjamin Button* won the Academy Award for Best Visual Effects, and for some, the moment had arrived. David Fincher’s film included numerous CGI environments, crowd simulations, digitally created set extensions, and matte paintings. Most impressively, however, fifty-two minutes of the

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27. *Id.*
31. *Id.;* Beard, *supra* note 21, at 1169.
34. *Id.*
36. *Id.*
film also featured a 100% digitally animated 3D model of Brad Pitt’s head pasted onto the bodies of various other actors. Fincher casted petite actors to portray Benjamin (Pitt) at various ages, but because “lighting, continuity, and tracking issues” would have made merely compositing photographs of Pitt’s head onto various actors impossible, Fincher hired Digital Domain to create and composite the digital head onto these actors’ bodies instead. Digital Domain created casts of Pitt’s face and head, as well as shoulders-up casts of the various other actors who would embody Benjamin for much of the film. Using these casts of Pitt’s head, an artist created maquettes of Benjamin at 60, 70, and 80 years of age. Digital Domain then scanned the busts, creating three-dimensional digital meshes, and photographed Pitt in 120 different facial poses. Digital Domain manipulated these digital meshes to create thousands of possible expressions in line with Pitt’s photographs and retargeted the expressions onto the scanned Benjamin heads. Combining the busts and the expressions eliminated gaps between the facial markers employed in more traditional marker based capture. In effect, Digital Domain “effectively had the three old Benjamin CGI characters performing . . . with Brad Pitt’s full range of emotions and expressions.” According to VFX Executive Producer Ed Ulbrich, “You can put 500 markers on the face, but you still don’t get what happens between those markers, and that was what was critically important to us.” CGI’s moment may have arrived with The Curious Case of Benjamin Button, but its arrival did more than just open eyes to the effectiveness of CGI. It also opened the door to a whole new series of potential legal issues.

Pitt’s participation in Benjamin Button was voluntary, and the use of his scanned facial data may have been contractually limited to the scope of the film. However, his facial scans—the digital meshes and 3D models created by Digital Domain—still exist. They can be reused. This may become yet a bigger issue in the future when the practice of body-scanning actors becomes even more commonplace. Robert Zemeckis, director of such films as Beowulf, The Polar Express, Back to the Future, http://usa.autodesk.com/adsk/servlet/item?siteID=123112&id=12609262&linkID=5572947 (last visited March 15, 2010).

38. Dunlop, supra note 35.
39. Id.
40. Id.
41. Id.
42. Id.
43. Id.
44. Dunlop, supra note 35.
Forrest Gump, and Cast Away, has already made digital scans of all of the actors in his films.\textsuperscript{45} “I know some are worried about what uses will be made of it,” Zemeckis said. “But think of what we could have—complete digital versions of actors at various stages in their life.”\textsuperscript{46}

Not everyone is on board with this idea. Tom Hanks, whose image was scanned in during production of the Zemeckis film, The Polar Express, has voiced concern that his “hard-fought performances can be tampered with by after-the-fact computer amateurs, or that someone might make unwanted use of his digital self.”\textsuperscript{47} On the other hand, Hanks has also come to the realization that, “It’s going to happen. And I’m not sure what actors can do about it.”\textsuperscript{48} But some, like George Lucas, who claims to have used more digital characters than anyone else in the industry, have stated that they have no intention of cloning an actual human character. “It just doesn’t work,” Lucas said. “You need actors to do that.”\textsuperscript{49} But to Steven Spielberg, “It’s a nonissue.”\textsuperscript{50}

C. Robbing the Grave and Resurrecting the Dead

Aside from cloning living humans, there have also been numerous successful attempts to resurrect deceased personalities on the big screen, like the appearance of Sir Lawrence Oliver in Sky Captain and the World of Tomorrow.\textsuperscript{51} However, photorealistic cloning has not only been the product of Hollywood; smaller studios and individual artists have also gotten in on the action. On February 16, 2009, the History Channel aired a two-hour documentary entitled Stealing Lincoln’s Body that featured photorealistic virtual representations of Abraham Lincoln in a full motion video. Ray Downing and his team at Studio Macbeth in New York spent a whole year creating “about five minutes of faux footage” of the dead president by scanning life masks,\textsuperscript{52} creating animatable 3D...
models of the president’s face, and mapping the three-dimensional animation over the head of a live actor, similar to the process employed to create Benjamin Button’s digital head. They even had an actor mimic the particular physical characteristics reportedly exhibited by Lincoln while walking in real life.

The task of resurrecting Lincoln had a very personal attraction for Downing, and the fulfillment was an achievement of special magnitude. Downing and his team created the digital Lincoln in their spare time while keeping up with their regular paying projects. After completing the project, Studio Macbeth claimed to have created the “first new images of Lincoln in 140 years.” Of Lincoln, Downing said, “I never realized how much I wanted to see him walk down a street... until I did.” However, reactions to Downing’s project have not all been positive. One reporter said that the Studio’s work had “misplaced truth in history and missed the line between history and art.”

The History Channel documentary, which licensed the images from Downing after they were already substantially complete, documented the little known story of a series of grave robberies targeted at Lincoln’s remains. The documentary’s title is ironically fitting. Lincoln’s body has been stolen—cloned, resurrected, and animated in digital form. On a whim, Downing can now insert Lincoln’s digital replica into any imaginable situation with a few clicks of his mouse. Lincoln is not Studio Macbeth’s last resurrection project, either. Downing has recently reported that his next historical clone will really “make a splash.”

Of course, these are not the art and entertainment world’s first...

54. Hart, supra note 52.
55. Frazier, supra note 28.
56. Id.
57. Id.
63. Frazier, supra note 28.
attempts to create a photorealistic digital representation of an actual person. In fact, it is happening all the time. Digital imaging technology “has transformed filmed entertainment from the bottom up, removing the assurance that what the camera sees is, was, or is remotely related to something real. Seeing is no longer believing, even to the tiny degree it once was.”64 And of course, the cloning of actual people is not the only sort of digital replication that is occurring at a rapid pace. Products, automobiles, buildings, and entire cities are also being scanned or modeled in photorealistic clarity, and many consumers are all too happy to accept what they see as real.

Digital clones have come a long way since the “liquid metal cyborg in Terminator 2: Judgment Day”65 and the thousands of digital extras that populated films like Titanic, Lord of the Rings, Gladiator,66 and Pearl Harbor.67 Merely compositing footage to, for example, allow Tom Hanks to meet Presidents Kennedy, Johnson, and Nixon68 has become old news. Perhaps the future contains a line of new John Wayne westerns,69 or perhaps “Marilyn Monroe and Russell Crowe could co-star in a new film.”70 These possibilities raise a variety of fascinating legal concerns, including violations of the right of publicity, however this Article focuses predominantly on whether copyright or sui generis database laws should protect the digital artist’s creation embodying realistic depictions of real people—the basic digital model itself.

One of the biggest obstacles to photorealistic animation is the artistic and technical limitations to the objective itself, especially when motion is involved. In The Curious Case of Benjamin Button, for example, animators had to go beyond traditional tracking techniques to attach the digital head to the neck and spine of various actors despite moving cameras and lens distortion.71 These obstacles are dissipating at a dramatic rate, however, as technology improves. On the other hand, some new legal obstacles facing digital artists are only just beginning to

64. Kehr, supra note 13.
65. See Beard, supra note 21, at 1169.
67. Beard, supra note 21, at 1169.
68. Id. at 1206; Anderson, supra note 15, at 156.
69. Kurtz, supra note 18, at 785.
70. Id.
71. Dunlop, supra note 35.
become apparent. For example, copyright law’s requirement of originality and the lack of *sui generis* database protection in the United States may present artists with additional need to protect their digital data through technology and contract. Digitally recreating reality may also make an unwitting digital artist liable for violation of copyright, patent, trademark, and right of publicity laws.

**D. User-Generated Content: A Small Glimpse into the Future**

As digital modeling technology has begun to see rapid growth in user-generated content over the internet, some have commented that new technology has invited the great cloning debate into filmmaking. “It is the old Frankenstein scenario, played out in the most modern terms. Perhaps we will be able to bring back Cary Grant or Marilyn Monroe, but, like the mad doctor’s stitched-together monster, they probably won’t seem quite like their old selves.”\(^72\) Potentially, dead actors may work again and living actors might be employed to do things they never knew they did.\(^73\) Indeed, a celebrity’s virtual head may have already become a commodity on the internet. A preliminary search of the internet revealed digital models of Barack Obama, John McCain, Angelina Jolie, David Beckham, Jack Nicholson, Jessica Alba, Kevin Spacey, Sharon Stone, Albert Einstein, Abraham Lincoln, and Brad Pitt for sale online at prices ranging from $19 to $200 each.\(^74\) The majority of these models do not come close to the likes of Digital Domain’s photorealistic Benjamin Button, but most were probably created by individual artists in their basements and bedrooms, as opposed to established visual effects firms with Hollywood budgets. These artists are perhaps just hoping to make a few extra bucks and gain recognition in their own online communities by selling their own user-generated content online.

Perhaps soon the masses will control the grail.

**III. COPYRIGHT: THE REQUIREMENT OF ORIGINALITY**

**A. Originality in the United States**

In the United States, copyright protects “original works of authorship

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73. *Id.*

fixed in any tangible medium of expression.” 75 The constitution of the United States mandates that works must exhibit some degree of originality before copyright protection will adhere to them. 76 The Supreme Court has made it clear on multiple occasions that the terms “authors” and “writings” “presuppose [this] degree of originality.” 77 Despite this low bar, copyright does not protect facts or ideas, only expression. 78 Oddly enough, the destiny of the digital model might be dictated by the fate of an ordinary phonebook in the United States Supreme Court. 79

In the landmark Supreme Court decision, *Feist Publ’ns, Inc. v. Rural Tel. Serv. Co.*, Justice O’Connor declared, “The sine qua non of copyright is originality.” 80 Despite its supreme and long-recognized importance to copyright law however, federal courts have not been consistent in interpreting exactly what originality required. The Second, Fifth, Ninth, and Eleventh Circuits historically adhered to a “creative selection” theory that rewarded creativity, 81 while others circuits have granted protection for labor, skill, and investment on “sweat of the brow” principles. 82 These two lines of cases present the two principal justifications for providing copyright protection in the first instance; as a reward for effort and investment, or as a reward for creativity and allowing the public access to creative works. 83 The *Feist* decision, however, “dropped a bomb” on the country’s copyright jurisprudence when it espoused the former viewpoint. 84 The Court held that some threshold amount of material must be “independently created by the author (as opposed to copied from other works)” 85 and that the work must possess “at least some minimal degree of creativity.” 86 The Court held, quite clearly, that creativity is the only valid basis for granting

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77. *Id.*; Trade-Mark cases, 100 U.S. 82 (1879); Burrow-Giles Lithographic Co. v. Sarony, 111 U.S. 53, 53 (1884).
79. *Id.* at 340; see Meshwerks Inc. v. Toyota Motor Sales U.S.A., 528 F.3d 1258, 1258 (10th Cir. 2008), cert. denied, 129 S. Ct. 1006 (2009).
82. *Feist*, 499 U.S. at 352.
84. See *id.* at 1133 (citing Jane C. Ginsburg, *Statement on H.R. 2652: The Collections of Information Antipiracy Act* (Oct. 28, 1997), available at http://www.hyperlaw.com//topix/database/ginsburg.htm (attributing the quote to the Register of Copyrights at the time the *Feist* decision was announced) (last visited March 15, 2010)).
86. *Id.*
The required creativity is decidedly low, and the "vast majority of works make the grade quite easily, as they possess some creative spark." However, this definition of originality precludes some factually based work from copyright protection, including, as we shall see, digital models of real life objects and the telephone directory at issue in the Feist case itself.

In the 1880 Supreme Court case Baker v. Selden, the Court held that bookkeeping forms, designed to illustrate a system of bookkeeping and "consisting of ruled lines and blank columns," did not meet the required standard of originality. In that case, the Court found a distinction between the book itself and the system the forms illustrated—only the former was the proper subject of copyright. In Feist, the court analogized the plaintiff’s telephone books to the forms in Baker, and held that copyright would not protect the listings in the telephone directory because the information was purely factual, arranged in alphabetical order, and did not "possess more than a de minimis quantum of creativity.

Even after Feist, expression might be found in some creative arrangement of otherwise unprotected material. The Feist decision,
however, explicitly overruled the idea that hard work and industrious labor alone would merit copyright protection. This doctrine, alternatively labeled “sweat of the brow” or “industrious collection,” had been circulating through a number of lower courts for years by the time Feist was decided. These lower courts adhered to the “sweat of the brow” doctrine based on a line of authority that led all the way back to the English cases Kelly v. Morris and Morris v. Ashby from the 1860s. A classic example of this doctrine, discussed in the Feist decision, stated that:

[t]he right to copyright a book upon which one has expended labor in its preparation does not depend upon whether the materials which he has collected consist or not of matters which are publici juris, or whether such materials show literary skill or originality, either in thought or in language, or anything more than industrious collection. The man who goes through the streets of a town and puts down the names of each of the inhabitants, with their occupations and their street

In Kelly v. Morris, 1 Eq 697 (1866), the plaintiff claimed copyright in a street directory. Sir Wood VC said:

... a subsequent compiler is bound to set about doing for himself that which the first compiler has done. In case of a road-book, he must count the milestones for himself . . . generally, he is not entitled to take one word of the information previously published without independently working out the matter for himself, so as to arrive at the same result from the same common sources of information, and the only use he can legitimately make of a previous publication is to verify his own calculations and results when obtained.” Id. at 701–02.

In Morris v. Ashbee, 7 Eq 34 (1868), the defendant in the earlier case, claimed copyright in his trade directory comprised of an alphabetical list of names and occupations of merchants and traders carrying on business in London. Giffard VC said:

The Plaintiff incurred the labour and expense first of getting the necessary information for the arrangement and compilation of the names as they stood in his directory, and then of making the actual compilation and arrangement . . . . [I]n a case such as this no one has a right to take the results of the labour and expense incurred by another for the purposes of a rival publication, and thereby save himself the expense and labour of working out and arriving at these results by some independent road. If this was not so, there would be practically no copyright in such a work as a directory. Id. at 40–41.
number, acquires material of which he is the author.100

In one earlier district court case, *Alva Studios, Inc. v. Winninger*, 101 the court upheld a sculptor’s copyright in his miniaturized duplication of Rodin’s “Hand of God” sculpture. 102 Although not explicitly relying on the “sweat of the brow” doctrine, the court’s reasoning reflected similar concerns. Despite the fact that the plaintiff claimed his reproduction was designed “to duplicate as closely as possible the exact shape, patina, color and texture of the original,” 103 the court found creative expression and originality in the “skill and originality” required to produce “an accurate scale reproduction.” 104 In particular, the court found that “it takes ‘an extremely skilled sculptor’ many hours” 105 to “produce a scale reduction of a great work with exactitude.” 106 The combination of a slight difference in the base of the reproduction (the rear of the plaintiff’s base was closed, Rodin’s was open) “when coupled with the skilled scaled sculpture is itself creative.” 107

If not for the reasoning in later cases, despite their reluctance to overrule it, the *Alva* case might have provided an argument that digital models of actual objects are original, especially when the artist expended great effort to reproduce them on a much smaller scale. *L. Batlin & Son, Inc. v. Snyder*, 108 a Second Circuit case of more recent vintage, though still pre-*Feist*, held that a mere change in medium was not enough to confer the requisite creativity. 109 Sitting *en banc*, the court said that “there must be at least some substantial variation, not merely a trivial variation such as might occur in the translation to a different medium.” 110 In *Batlin*, the appellant had copied a public domain Uncle Sam bank and translated the design from cast iron to plastic. Because various elements would “not reproduce well in plastic on a smaller size,” appellants deviated from the exact design of the original bank, changing

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100. *Feist*, 499 U.S. at 352–53 (quoting *Jeweler's Circular Publ’g Co. v. Keystone Publ’g Co.*, 281 F. 83 (2d Cir. 1922), *cert. denied*, 259 U.S. 581 (1922)).
102. See id.
103. Id. at 266.
104. Id. at 267.
105. Id. at 266.
106. Id. at 267.
107. Id.
109. The court quoted Professor Nimmer and held that “the mere reproduction of a work of art in a different medium should not constitute the required originality . . . .” *Id.* at 491.
110. *Id.*
the size of the bank and its base, the texture and shape and positioning of various elements, and changed arrows grasped in the eagle’s talons into leaves. The court concluded that the variations in the appellant’s bank were “trivial” because “the [plastic] bank is extremely similar to the cast iron bank, save in size and material.” The court found that the many similarities were more important than the differences, and held the bank not copyrightable.

Despite its holding, the en banc Second Circuit declined to overrule *Alva* or, apparently, the implicit “sweat of the brow” rewarded in that case, because “[t]he complexity and exactitude” involved in reproducing the Rodin sculpture was the product of “an extremely skilled sculptor” while the appellant’s bank was nothing more than a “‘knock-off’ reproduction.” Despite the confusing lack of consistency among the circuit courts prior to 1991, *Feist* has presumably cleared up any confusion these cases might have provided about the vitality of the “sweat of the brow” doctrine in the United States.

However, to properly assess the copyrightability of digital clones against this backdrop of evolving originality jurisprudence, it is important to first understand a few of the creative and technical processes involved in creating these digital models.

*i. The cloning process*

There are essentially two general approaches to digitally cloning an individual or another object: a direct approach and an indirect approach. This Article will provide only a brief overview of these complex and rapidly evolving processes to provide the foundation required to analyze the resulting digital data in the context of copyright and database law.

The direct approach involves using laser scanners or other types of

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111. *Id.* at 489 (changes noted by the court included “the carpetbag shape of the plastic bank is smooth, the iron bank rough; the metal bank bag is fatter at its base; the eagle on the front of the platform in the metal bank is holding arrows in his talons while in the plastic bank he clutches leaves . . . [t]he shape of Uncle Sam’s face is supposedly different, as is the shape and texture of the hats . . . [i]n the metal version the umbrella is hanging loose while in the plastic item it is included in the single mold. The texture of the clothing, the hairline, shape of the bow ties and of the shirt collar and left arm as well as the flag carrying the name on the base of the statue are all claimed to be different, along with the shape and texture of the eagles on the side.”).

112. *Id.* (internal citations omitted).

113. *Id.*

114. *Id.* at 491–92.

115. This definition is attributed to Professor Joseph Beard, who discussed the process of creating digital clones in some detail. See *Beard, supra* note 21, at 1172–90.
digital recording devices to capture the geometry of the object.\textsuperscript{116} This includes motion or performance capture, like that used in films such as \textit{The Polar Express}, where the studio records an actor’s movements by digitally tracking various points on the actor.\textsuperscript{117} The indirect approach, utilized to create the models for Digital Domain’s Benjamin Button and Studio Macbeth’s Abraham Lincoln, involves the use of life masks, busts, photographs, and other reference material to model a realistic clone.\textsuperscript{118} In either case, the process results in a digital mesh that can be edited and manipulated in 3-D modeling software, such as Autodesk Maya or even free open source software such as Blender, to create an animatable model. These models, somewhat like a phone directory, exist as collections of data representing factual information. These data points can be expressed onscreen in modeling software as small dots placed at corresponding X-, Y-, and Z-axes, and each individual data point can be manipulated independently. The model itself can be animated, colored, textured, and rendered with a few clicks of a mouse.

In the context of digital cloning, or digitally replicating other pre-existing material, the requirement of originality presents a pressing question: Do these three-dimensional models exhibit the “spark of creativity” required by Feist? If the digital data is sufficiently original, it would be copyrightable.\textsuperscript{119} As Professor Leslie Kurtz pointed out, “Digital actors are created by combining elements of human beings and elements created by human beings. Only the latter are protected by copyright. Copyright . . . will not protect a person’s voice and image.”\textsuperscript{120} On the other hand, the late Professor Joseph Beard believed that scanned data might exhibit the required originality to be copyrightable.\textsuperscript{121} Professor Beard, however, was only cautiously optimistic.\textsuperscript{122} He felt that digitally sculpted models created independently of scanned data should be copyrightable, as essentially involving the same creativity as traditional sculptures.\textsuperscript{123} It was not until 2008 that a federal appellate court finally weighed in on the matter.\textsuperscript{124} However, the principal case discussed below, still leaves some of these questions unanswered.

\begin{footnotesize}
\begin{enumerate}
\item[116.] \textit{Id.} at 1172–73. This process was used to create the models at issue in \textit{Meshwerks}, discussed \textit{infra}.
\item[117.] Kurtz, \textit{supra} note 18, at 786.
\item[118.] Beard, \textit{supra} note 21, at 1186–90.
\item[119.] \textit{Id.} at 1177.
\item[120.] Kurtz, \textit{supra} note 18, at 791 (emphasis added).
\item[121.] Beard, \textit{supra} note 21, at 1177.
\item[122.] \textit{See id.}
\item[123.] \textit{Id.} at 1188.
\item[124.] \textit{See Meshwerks v. Toyota}, 528 F.3d 1258 (10th Cir. 2008).
\end{enumerate}
\end{footnotesize}
ii. Meshwerks v. Toyota: Originality and digital models

In 2008, the Tenth Circuit applied these long-standing rules of originality to digital models of real objects; in this case, Toyota automobiles. Concerning the requirement of independent creation, the Meshwerks court asked “how might that doctrine apply in an age of virtual worlds and digital media that seek to mimic the ‘real’ world, but often do so in ways that undoubtedly qualify as (highly) original?” In many ways, copyright law’s treatment of photography is telling and relevant to the issue of digitally cloning the real world, as the Meshwerks court recognized. The court stated, “[w]hile there is little authority explaining how our received principles of copyright law apply to the relatively new digital medium before us, some lessons may be discerned from how the law coped in an earlier time with a previous revolution in technology: photography.”

Fortunately, this previous technological revolution is one area of copyright where the United States has been at the forefront. Despite Herman Melville’s declaration that “[i]t is better to fail in originality than to succeed in imitation,” the fact that a copyright may be obtained in a photorealistic imitation of reality has been clear since Napoleon Sarony’s photographs of Oscar Wilde were found copyrightable in 1884.

Despite arguments that a photograph merely “copies everything and explains nothing” (the copies, of course, are unprotected by copyright), the Burrow-Giles Court welcomed photographs as “full-fledged members of the copyright genus.”

Photography was included as copyrightable subject matter in the 1909 Copyright Act. Under the 1976 Copyright Act, section 102(a)(5)’s classification of “pictorial, graphic and sculptural works” (PGS works), copyright “explicitly extends to photographs.” Digital artists engaged in recreating reality would be wise, however, to fully understand what exactly copyright does, and does not, protect—even in a photograph.

Current copyright law in relation to photographs establishes specific

125. Id. at 1260.
126. Id. at 1263.
127. Id.
131. 1-2 NIMMER ON COPYRIGHT § 2.08 (2008).
132. Id.
133. Id.
guidelines for determining when copyright protections apply. In *Burrow-Giles*, the Supreme Court recognized that a photographer was an author, and exhibited the requisite creativity, by virtue of “posing [the subject] . . . , selecting and arranging the costume, draperies, and other various accessories in said photograph, arranging the subject so as to present graceful outlines, arranging and disposing the light and shade, suggesting and evoking the desired expression . . . .”  

134 These are the elements of the photograph protected by copyright, and Sarony had no claim to the depiction of Wilde himself because “Wilde’s inimitable visage does not belong, or ‘owe its origins’ to any photographer.”  

135 Others could photograph or otherwise reproduce Wilde as they wished, as long as they did not copy the protected elements from Sarony’s photos. If another individual independently created those elements (for example, someone with no prior experience with Sarony’s work), Sarony would have no infringement claim and the subsequent author would acquire protection for the expressive elements in his or her own work. Likewise, in *Bleistein v. Donaldson Lithographic*, the Supreme Court held that the plaintiff’s works, chromolithographs created to advertise a circus, were copyrightable even though they represented objects from real life.  

136 “Others are free to copy the original,” the Court opined. “They are not free to copy the copy.”  

137 In *Meshwerks*, the models at issue were “unadorned, digital wire-frames of Toyota’s vehicles.”  

138 The models formed the basic components of “computerized substitutes for product photographs” for Toyota to use on its website and in advertisements.  

139 The models allowed Toyota’s advertising agency to avoid the hassle of multiple photography shoots because, with the click of a mouse, “the advertiser can change the color of the car, its surroundings, and even edit its physical dimensions to portray changes in vehicle styling.”  

140 Meshwerks created these digital models by taking copious measurements of Toyota’s vehicles by covering each car, truck, and van with a grid of tape and running an articulated arm tethered to a computer over the

135. *Meshwerks v. Toyota*, 528 F.3d 1258 (10th Cir. 2008) (citing *Burrow-Giles*, 111 U.S. at 59); *see also* 1-3 NIMMER ON COPYRIGHT § 3.03[C][3] (2008) (“As applied to a photograph of a pre-existing product, that bedrock principle [of originality] means that the photographer manifestly cannot claim to have originated the matter depicted therein . . . .”).
136. *Bleistein v. Donaldson Lithographing Co.*, 188 U.S. 239, 249 (1903) (“[E]ven if they had been drawn from the life, that fact would not deprive them of protection.”).
137. *Id.*
139. *Id.*
140. *Id.*
vehicle to measure all points of intersection in the grid. Based on these measurements, modeling software generated a digital image resembling a wire-frame model. In other words, the vehicles’ data points (measurements) were mapped onto a computerized grid and the modeling software connected the dots to create a “wire frame” of each vehicle.141

Meshwerks’s employees, using the scanned data as reference, then “fine-tuned” or “sculpted” the models by manipulating approximately ninety percent of the individual data points to more accurately and realistically resemble the defendant’s vehicles.142 Because some aspects of the models (e.g., wheels, headlights, door handles, and emblems) “could not be accurately measured using current technology,” Meshwerks’s employees added these features manually by referring to photographs.143 They spent between 80–100 hours completing this second “sculpting” stage. After Meshwerks completed the basic models, Toyota’s advertising agency sent the models elsewhere for “color, texture, lighting, and animation.”144

Toyota made use of the finished products in its advertising campaigns. Meshwerks filed suit because it objected to various subsequent uses of the models, including the fact that Toyota’s advertising agency sent one of Meshwerks’s wireframe models to one of Meshwerks’s direct competitors.145 Consequently, they sued Toyota for copyright infringement. In 2008, the Tenth Circuit held that Meshwerks’s digital wire-frame models of Toyota vehicles were not original and were not entitled to copyright protection, despite the substantial amount of effort involved in manually sculpting the models. The court affirmed summary judgment for Toyota while quoting from *Feist*: “[C]opyright assures authors the right to their original expression, but encourages others to build freely upon the ideas and information conveyed by a work.”146 Implicitly, this meant Meshwerks’s competitors earned a free ride in Meshwerks’s model cars because the models alone did not contain creative elements of expression, such as camera and lens choice, lighting, color, and environment. Essentially, they were just the raw data based on preexisting design that allowed Toyota to later create copyrightable images.

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141. *Id.*
142. *Id.* at 1260–61.
143. *Id.*
144. *Meshwerks*, 528 F.3d at 1258.
145. *Id.* at 1261 n.1.
146. *Id.* at 1262–63 (quoting *Feist Publ’ns Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 340 (1991)).
Thus, without implementing creative elements of independent expression, it is unlikely there will be copyright protection. For example, in *Meshwerks*, the court affirmed summary judgment against the modeling company, and held that “the uncontested facts reveal that Meshwerks’s models owe their designs and origins to Toyota and deliberately do not include anything original of their own.” In short, they were “merely copies of Toyota’s products.” This holding would seem to apply equally to models of cars as well as models of human beings or buildings, and the fact that Meshwerks’s goal was to replicate Toyota’s vehicles as closely as possible only bolstered the court’s reasoning. The *Meshwerks* decision indicates that even those models created, at least partially, by digital sculpting techniques, rather than by scanning devices like those used in the case, would not be protected by virtue of the artist’s intent to replicate the original with fidelity. Importantly, the court’s analysis also compared the models to other PGS works, including photographs and sketches of automobile parts, and did not discuss potential database protection for the scanned automobile data. This apparent lack of protection has serious consequences for companies like Meshwerks, who are involved in digitizing and modeling objects on a regular basis.

Although *Meshwerks* provides guidance as to what form of expression qualifies for copyright protection in the digital context, some questions inexorably remain. The *Meshwerks* court discussed the copyrightability of models after subsequent modeling companies had introduced color, lighting, and texture. The court also found a direct connection between photographs of Oscar Wilde and models of Toyota cars such that,

the facts in this case unambiguously show that Meshwerks did

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147. Id. at 1260.
148. Id. at 1261.
149. Id. at 1260.
151. Id. at 1269 (citing ATC Distrib. Group, Inc. v. Whatever It Takes Transmissions & Parts, Inc., 402 F.3d 700, 712 (6th Cir. 2005)).
152. The services portion of Meshwerks’s website states that “Meshwerks routinely digitizes objects of all types and sizes, from the very small and ornate, to full-sized automobiles and beyond. Our highly accurate measuring systems are portable, allowing for on-site data acquisition almost anywhere.” See Meshwerks, http://www.meshwerks.com (click on ’services’) (last visited Apr. 15, 2010).
153. *Meshwerks*, 528 F.3d at 1266 n.8.
not make any decisions regarding lighting, shading, the background in front of which a vehicle would be posed, the angle at which to pose it, or the like – in short, its models reflect none of the decisions that can make depictions of things or facts in the world, whether Oscar Wilde or a Toyota Camry, new expressions subject to copyright protection.\textsuperscript{154}

The \textit{Meshwerks} holding reflects the intent of \textit{Feist}. However, the application of these long held rules eschewing the “sweat of the brow” to the circumstances in \textit{Meshwerks} presents a significant hurdle to those who create these types of digital wire-frame models, including those of human clones and commercial products, which parties will need to address by contract. This is especially true since protection for databases in the United States is currently limited to the creative arrangement of information under copyright and no \textit{sui generis} database protection exists, unlike in the European Union.\textsuperscript{155} After all, the model itself is not subject to creative elements such as camera angle and lighting, it exists solely as a set of data points—an empty mesh. These creative elements are necessarily the province of the actual renderings of the model which, like the expressive elements of a photograph, are the proper subject matter of copyright, whether as PGS or audiovisual works.

\textbf{B. Originality and Industrious Collection Elsewhere: A Look at the Law in the United Kingdom and Australia}

Copyright laws in both the United States and Australia came into existence against the backdrop of England’s original copyright act, the Statute of Anne, in 1710.\textsuperscript{156} The current standard of originality in the United States, however, bears little resemblance to the present day standards in the United Kingdom and Australia.\textsuperscript{157} Contrary to the position in the United States after \textit{Feist}, both U.K. and Australian courts have continued granting copyright protection to works based on

\textsuperscript{154} Id. at 1265.
\textsuperscript{155} See Beard, supra note 21 at 1178–80.
industrious collection and “sweat of the brow” principles.\textsuperscript{158} In a recent Australian case applying copyright originality standards to a factual compilation, \textit{Telstra Corp. Ltd., v. Desktop Marketing Systems Pty. Ltd.},\textsuperscript{159} the Australian Federal Court confronted facts similar to those in \textit{Feist}. In \textit{Telstra}, however, the court declined to follow \textit{Feist}’s line of reasoning, and held that the telephone directories were original—thus copyrightable.\textsuperscript{160} In \textit{Telstra}, the plaintiff had created a number of white and yellow page telephone directories\textsuperscript{161} and claimed that the defendants had infringed its copyrights.\textsuperscript{162} The court examined British and American case law,\textsuperscript{163} including the \textit{Feist} decision, and held that the plaintiff’s directories were copyrightable as a whole,\textsuperscript{164} explicitly rejecting the \textit{Feist} rationale requiring a “spark of creativity”\textsuperscript{165} in favor of a “labour and expense” test. Because “\textit{Telstra} had undertaken substantial labour and incurred substantial expense” in compiling and presenting the information in its directory, the directories were worthy of copyright protection.\textsuperscript{166} For a time, the \textit{Telstra} decision appeared to reflect the generally accepted originality standard in Australia. However, in 2009, the Australian High Court indicated that the \textit{Telstra} decision should be read with some caution. In \textit{IceTV v. Nine Network Australia},\textsuperscript{167} two concurring judgments of three judges each both disapproved of the analysis set out in the previous case, although it was ruling on a different issue.\textsuperscript{168} These judgments considered the proper test of originality to be the skill and effort directed at a \textit{particular form of expression} rather than just a broad inquiry into expense and labor extended.\textsuperscript{169} The language in the judgment, however, is restricted to the context of compilations, and may reflect a change in standard applicable only to factual compilations.

Recent decisions in England have confirmed the vitality of rewarding diligent effort with copyright protection. In 2005, the English Court of Appeal was confronted with a dispute over the copyrightability of

\begin{enumerate}
\item \textit{Id.}
\item \textit{Telstra Corp.}, [2001] FCA at 612.
\item See \textit{id.} \textsuperscript{¶} 90.
\item \textit{id.} \textsuperscript{¶} 1.
\item \textit{id.} \textsuperscript{¶} 7.
\item \textit{id.} \textsuperscript{¶¶} 50–85.
\item \textit{id.} \textsuperscript{¶} 90.
\item \textit{Telstra Corp. Ltd., v Desktop Mktg. Sys. Pty. Ltd.}, [2001] FCA 612, \textsuperscript{¶} 85.
\item \textit{id.} at 14.
\item \textit{id.} \textsuperscript{¶¶} 52, 134, 187–88.
\item See \textit{id.} \textsuperscript{¶} 52.
\end{enumerate}
modern performing editions of public domain musical works in Sawkins v. Hyperion Records, Ltd. The court discussed the present state of the “sweat of the brow” doctrine and held:

Reproductions requiring great talent and technical skill may qualify as protectable works of authorship, even if they are copies of pre-existing works. . . .” In the end the question is one of degree: how much skill, labour and judgment in the making of the copy is that of the creator of that copy? Both individual creative input and sweat of brow may be involved and will be factors in the overall evaluation.

In that case, Dr. Lionel Sawkins had composed and recorded modern performances of music by Michel-Richard de Lalande, court composer for Louis XIV and Louis XV. In the suit, Dr. Sawkins claimed that his modern editions were original and that the defendant music publishing company had infringed his rights by refusing to pay royalties after distributing Sawkins’s sound recordings on CD. Sawkins spent approximately 300 hours to create the works at issue. His contributions included adding bass lines, re-creating missing viola parts, and modifying over 1000 notes to make the music playable. In that case, Lord Justice Mummery concluded that “the effort, skill and time . . . spent in making the three performing editions” satisfied the originality requirement of copyright, “even though (a) Dr Sawkins worked on the scores of existing musical works composed by another person (Lalande); (b) Lalande’s works are out of copyright; and (c) Dr Sawkins had no intention of adding any new notes of music of his own.” The other two justices on the panel agreed.

The Sawkins decision came after the implementation of Britain’s current copyright statute, the Copyright, Designs and Patents Act
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(CDPA) of 1988. Its holding was based on an interpretation of originality that existed in case law long before the word “original” ever appeared in a British copyright statute. The CPDA states that “Copyright is a property right which subsists . . . in the following descriptions of work—original literary, dramatic, musical or artistic works.” The word “original” first appeared in the Copyright Act of 1911. The current definition of “work”—as fleshed out by the British courts—is closely linked to the definition of “original.”

This alternate approach to originality and the “sweat of the brow” or industrious collection doctrine has a long and rich history in English and Australian law. Prior to England’s Copyright Act of 1911 (which Australia adopted in 1912), the English courts had already begun to recognize that compilations were “of a different character” than works of art or literature, and that “the originality requirement for a compilation could not be the same as for other works.” British courts recognized copyrights in court calendars, a “dry list of names” in a chemist’s alphabetically arranged stock list, street directories, trade directories, and, in the landmark case of Walter v. Lane, a reporter’s written record of a public speech.

The Telstra court concluded, after reviewing these older English cases, that these decisions stood for the proposition that “copyright protection could be claimed by a person who brought out a directory in consequence of an expensive, complicated and well organised venture, even if there was no creativity in the selection or arrangement of the

180. Fenzel, supra note 157, at 569.
181. Copyright, Designs and Patents Act, 1988, c. 48, § 1(1) (U.K.) [hereinafter CDPA]: Copyright is a property right which subsists in accordance with this Part in the following descriptions of work—
(a) original literary, dramatic, musical or artistic works,
(b) sound recordings, films, broadcasts or cable programs, and
(c) the typographical arrangement of published editions. Id.
The Act defines “artistic work” as: (a) a graphic work, photograph, sculpture or collage, irrespective of artistic quality, (b) a work of architecture being a building or a model for a building, or (c) a work of artistic craftsmanship. Id. § 4(1).
182. Fenzel, supra note 157, at 569.
183. Id. at 569.
185. Id. ¶ 84.
186. Id. ¶ 51 (quoting Matthewson v. Stockdale, (1806) 12 Ves. 270; 33 ER 103, 105–06).
187. Id. ¶ 49 (citing Collis v. Cater, Stoffell and Fortt Ltd., (1898) 78 LT (NS) 613 (1898)).
188. Id. ¶ 52 (quoting Kelly v. Morris, (1866) 1 Eq 697, 701-02 (1866)).
189. Telstra Corp., [2001] FCA at 612, ¶ 53 (quoting Morris v. Ashbee 7 Eq 34, 40–41 (1868)).
190. Walter v. Lane, [1900] AC 539 (Eng.).
data. Thus, these cases held that intellectual effort is not required to obtain copyright, only "sufficient work involved and expense incurred in gathering the facts or other data."

English case law after the Copyright Act of 1911 has rarely denied copyright to compilations of data, yet decisions have been somewhat unpredictable. For example, in one case, a railway timetable’s index, updated monthly, was copyrightable. In another, it was not. The difference appears to be the result of the different amount of labor and expense invested by the respective plaintiffs. Summing up the last century or so of British case law on the subject, the Telstra court concluded, “[c]opyright will subsist if there has been sufficient intellectual effort in the selection or arrangement of the facts. It will also subsist if the author has engaged in sufficient work or incurred sufficient expense in gathering the facts.” The Sawkins decision appears to validate this conclusion.

There have been some cases, however, that demonstrate that even English “sweat of the brow” principles will not always protect copies of existing works (photographs in particular) or other items. In the English High Court case of Antiquesportfolio.com v. Rodney Fitch & Co., Neuberger J. (quoting Nimmer on Copyright) stated that in cases of slavish copying, such as photographing another photograph or two-dimensional work of art or recreating exactly a prior scene and taking another photograph in an effort to copy the first, no originality could be found under English law. The court also quoted from a U.S. case, Bridgeman Art Library v. Corel, which applied U.K. law and denied copyright in such a photograph due to lack of originality. On the other hand, “if the photographer in such a case could show that he had in fact used some degree of skill and care in taking the photograph,” he might be able to claim copyright. In AntiquesPortfolio.com, the Judge found that simple catalog photographs of “individual antiques such as items of furniture, glassware, metal-work, sculpture and the like” exhibited the

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192. *Id.* ¶ 84 (emphasis added).
193. *Id.* ¶ 50.
194. *Id.* ¶ 62.
198. *Id.* ¶ 64 (emphasis added).
201. *Id.* at 426–28.
203. *Id.* ¶ 13.
required originality\textsuperscript{204} because “[i]n the case of photographs of a three-
dimensional object . . . the positioning of the object (unless it is a
sphere), the angle at which it is taken, the lighting and the focus, and
matters such as that, could all be matters of aesthetic or even commercial
judgment.”\textsuperscript{205} The court continued to justify its holding by stating that
“some degree of skill was [also] involved in the lighting, angling and
judging the positioning” of the objects.\textsuperscript{206}

The explicit rejection of \textit{Feist} by the Australian and English courts
would appear to allow copyright protection for the models in a case like
\textit{Meshwerks} as long as the creation of the models involved a significant
investment of time, skill, and effort. Arguably, the hours of “digital
sculpting” and modeling of certain additional portions of the overall
models in that case would have survived attack under the industrious
collection standard in these jurisdictions. However, part of the problem
of analyzing protection for digital models, at least in their basic
subsistence as editable wire-frame meshes, is figuring out where they
ought to fit within the various subject matter of copyright, or whether
they might more properly fit under a distinct database protection regime.
If the artistic or PGS works categories are appropriate, as the United
States Tenth Circuit appears to have assumed, they will be subject in the
United States to the same requirements of originality as for other PGS or
artistic copyright works of art after \textit{Feist}. In this situation, U.S. law
appears to grant less protection potentially than do “sweat of the brow”
regimes like the U.K. or Australia. However, if the digital models were
considered databases (which they might properly be, as digital
compilations of numerous X, Y, and Z coordinates and related
information), the current state of database protection in the European
Union might not actually provide any greater protection than would
copyright law in the United States.\textsuperscript{207} Potentially, however, under a dual
copyright and \textit{sui generis} database regime, digital models could find
protection under both.

IV. DATABASE PROTECTION FOR DIGITAL MODELS: IS THERE SUCH A
THING?

Over the past decade or so, the U.S. Congress has “considered—and

\textsuperscript{204} Id. ¶ 39.  
\textsuperscript{205} Id. ¶ 34.  
\textsuperscript{206} Id. ¶ 35.  
\textsuperscript{207} Fenzel, \textit{supra} note 156, at 570.
considered—and considered database protection.”

Database protection bills have been introduced in the 104th, 105th, 106th, 107th, and 108th Congresses—none have become law. As a result, the strict originality requirements of *Feist* apply to any potential copyright protection for databases and other compilations in the United States.

There has also been a debate about the constitutionality of these congressional attempts to provide protection for databases beyond that granted by copyright, based on the premise that such protection would “alter the balance between protection and public access/competition embodied in the Copyright and Patent Clause” of the U.S. Constitution.

The international approach to the problem consists of varying levels of protection. A number of countries currently do not provide *sui generis* protection, and others protect databases through copyright, subject to varying interpretations of originality. The major international treaties have also not done much to provide protection for “non-original” databases. The Berne Convention, TRIPS Agreement, and WIPO Copyright Treaty all condition database protection on the requirement that they are independent “intellectual creations,” predicated on the author’s contribution of “non-trivial, non-mechanical choices.” Additionally, WIPO’s proposed treaty on the legal protection of databases remains in draft form years after its inception. The European Union has taken some initiative on the issue. However, it remains unclear whether the resulting Directive would protect “non-original” databases such as the Meshwerks models.

208. *Beard*, supra note 21, at 1180.


211. *Id.* at 1142.

212. *See id.* at 1148–57 (comparing protection in a variety of countries).

213. *Id.* at 1118.

214. *Id.* at 1114–18.


216. *Id.* at 1119.
A. Sui Generis Protection Under the E.U. Database Directive

European Union Directive 96/9/EC on the legal protection of databases (the Directive) provides sui generis protection for databases that have been created by “the investment of considerable human, technical and financial resources.” Apparently, the Directorate-General introduced the Directive as an antidotal response to Feist. The intent of the Directive was to expand protection beyond the “limited reach of copyright caused by the originality/creativity requirement.” Under the Directive, injured parties can find relief, regardless of copyright, whenever another party extracts or reutilizes a “qualitatively or quantitatively substantial part of the database.”

The Directive itself protects copyrightable and uncopyrightable data that has economic value, and grants fifteen years of protection to the maker of the database, separate and distinct from any potential copyright protection. Protection under the Directive does not affect copyright status in otherwise copyrightable data. In order for protection to adhere, the maker of the database must have made a qualitatively or quantitatively substantial investment in obtaining, verifying, or presenting the data. Recital 17 of the Directive defines its scope:

Whereas the term “database” should be understood to include literary, artistic, musical or other collections of work or collections of other material such as texts, sound, images, numbers, facts, and data; whereas it should cover collections of independent works, data or other material which are systematically or methodically arranged and can be individually accessed; whereas this means that a recording on an audiovisual, cinematographic, literary or musical work as such does not fall within the scope of this Directive.

218. Beard, supra note 21, at 1178 nn.62–68.
219. Gervais, supra note 81, at 1120.
220. Id.
221. Id. at 1123.
222. Beard, supra note 21, at 1178.
223. Id. at 1178–79.
224. Id. at 1179.
225. Directive, supra note 218, at recital 17; see also Beard, supra note 21, at 1179.
Professor Joseph Beard analyzed potential protection for digital scans of human subjects under both copyright and database theories.\textsuperscript{226} Of the scan data’s relationship to copyrightable subject matter, Beard said, “The digital capture of the actor’s static visual data is the equivalent of a three-dimensional photograph or a sculpture.”\textsuperscript{227} Beard also looked at potential protection for scan data under the E.U. Database Directive, and concluded that it is not clear that that theory would protect the data either.\textsuperscript{228} Professor Beard felt that scan data might not fit within the Directive’s requirement of independent data that “can be individually accessed.”\textsuperscript{229} However, evinced by the Meshwerks’s employees resculpting of the scan data for the Toyota cars during the modeling process, digital artists can access and manipulate each discrete data point individually through modeling software, referenced by their distinct XYZ coordinates. On the other hand, the application of these traditional notions of accessibility and independent data to the realm of digital modeling and its specific qualities remains untested, and Professor Beard might well be correct. Commentators have said that the mere conversion of analog material to a digital format is likely insufficient to qualify as a substantial investment.\textsuperscript{230} However, substantial verification or updating of this material might be.\textsuperscript{231} Whether it was this type of updating and verification that Meshwerks engaged in after their initial scans remains questionable. Indeed, some commentators have said recent cases in Europe have shown that the Directive provides even less protection for fact-based compilations than U.S. copyright law after\textit{Feist}.\textsuperscript{232}

In 2004, the European Court of Justice (ECJ) limited the scope of the Directive’s protection when it clarified the amount of investment required to obtain protection under the\textit{sui generis} right.\textsuperscript{233} The court articulated a “spin-off” theory, and held that substantial investment in obtaining, presenting, or verifying\textit{pre-existing} data would enable the creator to benefit from protection, while investment in\textit{creating} the data would not.\textsuperscript{234} In holding that the Directive did not protect the investment

\begin{itemize}
\item \textsuperscript{226} See Beard, supra note 21.
\item \textsuperscript{227} \textit{Id.} at 1177.
\item \textsuperscript{228} \textit{Id.} at 1179.
\item \textsuperscript{229} \textit{Id.}
\item \textsuperscript{230} Gervais, supra note 81, at 1126.
\item \textsuperscript{231} \textit{Id.}
\item \textsuperscript{232} Robert Clark, \textit{Sui Generis Database Protection: A New Start for the UK and Ireland?}, 2 \textit{INTELL. PROP. L. \\ & PRAC.}, 97, 98 (2007).
\item \textsuperscript{233} Gervais, supra note 81, at 1126.
\item \textsuperscript{234} \textit{Id.} at 1127.
\end{itemize}
at issue in the *Fixtures Mktg.* cases (football fixture data), the ECJ held that

> finding and collecting the data which make up a football fixture list do[es] not require any particular effort on the part of the professional leagues. *Those activities are indivisibly linked to the creation of those data*, in which the leagues participate directly as those responsible for the organization of football league fixtures. Obtaining the contents of a football fixture list thus does not require any investment independent of that required for the creation of the data contained in that list.\(^{(235)}\)

Similarly in *British Horseracing Bd. v. William Hill*,\(^{(236)}\) the ECJ stated that the effort and investment in organizing horse races and collecting and verifying the large amounts of data at issue constituted investment only in creating the data—not in obtaining, presentation, or verification.\(^{(237)}\) Following these decisions by the ECJ, a Dutch court, in *Zoekallehuizen.nl v. NVM*,\(^{(238)}\) attempted to make the distinction between these different types of investment. That court held that creating property descriptions and taking photographs of properties to be posted on a real estate website did not qualify as substantial investment—despite the fact that such investment required the expenditure of both time and resources.\(^{(239)}\) This distinction between obtaining data and activities which are “indivisibly linked” to the creation of data might frustrate the attempts of a digitization firm such as Meshwerks in their attempt to secure database rights in the E.U., because the data generated while modeling the Toyota vehicles (even the manually sculpted data) was likely the necessary byproduct of the undertaking itself. Thus, it was created and not obtained, as required by the ECJ.

Indeed, the formidable volume of case law spawned by the Directive, both in national courts and the ECJ, has, to the despair of database makers everywhere, turned to “a pronounced hostility to affording either

\(^{(237)}\) Id., at [80], [39]–[41].
\(^{(239)}\) Clark, *supra* note 232, at 99.
copyright protection or *sui generis* protection to ‘factual’ databases” because they lack originality or substantial investment. This hostility appears to be in opposition to the intent of the Directive’s drafters, because it draws European database law closer, rather than away from, the result in *Feist*. In the United Kingdom and Ireland, the amendments to the CDPA and Copyright and Related Rights Act of 2000 implementing the Directive now only protect works that constitute the author’s own “intellectual creation,” “which seems to hold compilations to a *Feist*-like standard” and represents a heightened standard for original databases.

V. CONCLUSION

It seems clear that copyright protects digital models, even those that replicate reality, when they include elements of creativity, such as color, shading, texturing, animation, and lighting. Additionally, it is clear that copyright protects renderings of digital models, such as Studio Macbeth’s images and video of Lincoln and Benjamin Button’s head in Fincher’s film, as either artistic or audiovisual works. However, as the Meshwerks studio discovered all too late, copyright and database laws in the United States, and perhaps elsewhere, do not protect the basic models themselves. Perhaps the digital artist’s sweat will secure protection in those jurisdictions that recognize labor and skill as elements of originality. Potentially, other theories based in contract, tort (including misappropriation), or some other theory such as trespass to chattels.

240. Id. at 97.
241. Id.
242. The E.U. Database Directive defines a database as “a collection of independent works, data or other materials arranged in a systematic or methodical way and individually accessible by electronic or other means” and requires European Union member countries to provide harmonious laws regarding copyright protection for databases. Directive, supra note 217, art. 1.2.
244. Fenzel, supra note 156, at 570. The United Kingdom amended the CDPA in 1997 by enacting The Copyright and Rights in Databases Regulations, 1997, S.I. 3032/1997 (U.K.), to include protection for databases as literary works under section 3(1). The regulations added section 3(A), which provides “For the purposes of this Part a literary work consisting of a database is original if, and only if, by reason of the selection or arrangement of the contents of the database the database constitutes the author’s own intellectual creation.” CDPA, at 3(A); Fenzel, supra note 156, at 570 n.212.
245. Clark, supra note 232, at 97.
246. One such theory, though not completely relevant to the issue at hand, was delineated in *Nat’l Basketball Ass’n v. Motorola, Inc.*, 105 F.3d 841 (2d Cir. 1997), under the theory of *Int’l News Service v. Ass’cd Press*, 248 U.S. 215 (1918) [hereinafter INS]. The Court defined a “hot news” misappropriation claim that would survive preemption by federal copyright law, including the following five elements “central to an INS claim”: the plaintiff generates or collects information at some cost or expense; the value of the information is highly time-sensitive; the defendant’s use of the
may provide some answers for model creators in the U.S., although these issues are outside the scope of this Article. The landmark originality and creativity requirements of *Feist* protect the vitally important public domain and provide free access to factual information by protecting creativity, not investment. However, this lack of protection for databases created through significant amounts of physical or financial investment may prove economically unwise if it lowers incentive to create, although this result has not been borne out in research on the results of implementing the E.U. Database Directive.248 Perhaps, in this particular situation—the entertainment world of three-dimensional virtual reality—the incentives offered by any potential *sui generis* database right are too minimal to be important. Perhaps, as one commentator put it, “*copyright is not the proper vehicle to protect these non-creative, non-original compilations,*”249 and we should leave it to the other possible theories to provide protection. In any event, the U.S. Congress may continue to consider the merits of database protection beyond that provided by copyright. If it does, it should do so with an eye to the importance the Constitution places on preserving the public domain. If a database protection act becomes inevitable, and it surely might given the rising amount of information stored, organized, and available in digital networks, Congress should pass legislation that will protect valuable ‘factual’ data compilations from unauthorized access and reutilization in a way that preserves public access to information. However, until that day comes, and even if it does, digital artists, entertainment companies, actors, and digitizing companies need to understand the potential risks involved and protect themselves through contract and technological data protection measures.

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