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## Methods of Proof: The 'Real Child' Issue in Child Pornography Cases

By Damon A. King<sup>1</sup>

### Introduction

The Supreme Court's decision in *Ashcroft v. Free Speech Coalition*<sup>2</sup> made clear that the *New York v. Ferber* prohibition on sexually explicit images of children applies only to images depicting "real" children. Therefore, the burden is on the government to prove that an image of child pornography depicts a "real" child. This is especially true where the defense is that an image might be of a "virtual" child, created out of whole cloth by digital imaging software and indistinguishable from a real child. While the PROTECT Act sought to provide some assistance in resolving this issue, proving that a depicted child is real remains a matter of great concern.<sup>3</sup> This article suggests several strategies for proving that a child depicted in an image of child pornography is a real child.

### 1. Establish the Actual Identity of the Child

"Known victim" identification programs at the National Center for Missing and Exploited Children (NCMEC) in Alexandria, Virginia; the Federal Bureau of Investigation (FBI) Innocent Images Unit in Calverton, Maryland; and the National Child Victim Identification Program (NCVIP) at the Bureau of Immigration and Customs Enforcement (ICE) Cyber Crime Center (C3) in Fairfax, Virginia can help agents and prosecutors determine whether a particular image possessed, received or distributed by a defendant is of a "known" victim.<sup>4</sup> Each of these programs will conduct an analysis of questioned images submitted by law enforcement for a particular case and generate a report regarding its findings. Since these databases may overlap, the prudent course is to check each one.

Although such identification may aid in obtaining a plea agreement, to overcome a hearsay objection at trial, the state's witness must have personal knowledge regarding the identity of the children depicted as in *United States v. Marchand*<sup>5</sup>, rather than rely solely on information contained in the NCMEC, FBI, or NCVIP databases as in *United States v. Padgett*<sup>6</sup>. Yet because the government need only prove that one image is of a real child to secure a conviction, this remains an effective approach.

### 2. Rely on the Images Themselves

Although not all collections will contain images of known victims, the identification of known victims is by no means the only way to meet the government's burden of proving a real child. There is support for the position that simply entering the images into evidence can meet the government's burden. All five of the circuits that have addressed the issue in light of *Free Speech* have concluded that the jury can make its decision by simply viewing the images themselves.<sup>7</sup>

### 3. Introduce Expert Digital Imaging Testimony

Prosecutors can present testimony regarding digital imaging technology and the images at issue when faced with the 'real child' defense. For example, in *United States v. Guagliardo*, the government introduced evidence that the defendant's images had been published in magazines dating from the 1970's and 1980's, before computer "morphing" technology was available. This was done through the testimony of a Customs Service mail inspector who had personally encountered magazines that contained copies of Guagliardo's images.<sup>8</sup>

Where the production dates of the images cannot be determined, or where the images were produced after computer "morphing" technology became available, prosecutors can present opinion testimony from a digital imaging expert that the charged images are not "morphed" or wholly computer-generated. An example of successful use of such expert testimony appears in *United States v. Rearden*, where the court accepted as an expert an employee of a visual effects studio based on his training and experience in the film industry. This expert testified that the images at issue had not been composited (altered by, for example, transferring the head of one person to the body of another) or morphed (in the expert's view, an image created from two other images).<sup>9</sup>

In addition to industry experts who can be sought out locally within the technology industry or on the faculty of colleges and universities, several law enforcement agency resources are available to perform digital imaging analysis and to provide testimony. For example, in *United States v. Marchand*<sup>10</sup>, a digital imaging expert from the FBI Forensic Audio Visual and Image Analysis Unit (FAVIAU) in Quantico, Virginia, testified in rebuttal to the defense's expert that images in the defendant's possession could have been created virtually.

Similarly, the Department of Defense Computer Forensics Laboratory (DCFL) located in Linthicum, Maryland, can perform quantitative and qualitative analysis of a questioned image using specifically designed forensic tools to determine if a picture is of a real person or if it has been digitally created. This analysis, however, is expensive, requiring approximately eight to twelve analyst hours per image.

### 4. Look for Embedded Data

In some instances, even a cursory examination of a digital image can reveal significant evidence that the image is a real photograph rather than wholly computer generated. Images created with a digital camera may contain metadata in the form of an Extended File Information (EXIF) header. An EXIF header may include such information as the make and model of the camera used to take the picture and the date and time the picture was taken. If the

questioned image has an EXIF header intact, it undermines the claim that the image was computer-generated or altered. Additionally, because metadata is a broad class of information, the metadata contained in an image may also indicate whether an image has been altered by a program such as Adobe Photoshop®. It is important to note, however, that metadata, including EXIF headers, are often not present in questioned images because the versions of many Photoshop-type programs strip this information from the image. Still, this type of embedded data can yield a large amount of information about image origin and alteration and can be quite useful in helping to establish that a questioned image is a real or altered photograph of a real child.<sup>11</sup>

### 5. Introduce Expert Medical Testimony

A physician may also be able to testify that characteristics such as the proportions, body fat distribution, and skin tone of the children depicted are consistent with those of real children. Medical testimony can be helpful in rebutting the defense that the images at issue might be composite images prepared with adult pornography. In *United States v. Nolan*,<sup>12</sup> the First Circuit held that the government was not required to present expert testimony from a photography expert to negate speculation by the defense that the charged images may have been “doctored” or prepared from composites. The court also noted the pediatrician’s opinion in that case that composite photos of, for example, adult genitalia with a child’s torso, arms and legs, would look unnatural and bizarre appearing.<sup>13</sup>

### 6. Let the Numbers Speak for Themselves

There is also support for the proposition that a trier of fact may infer that one or more of the charged images involve actual children merely from the number of images at issue.<sup>14</sup> “[C]ollectors of child pornography tend to have hundreds of images in their collections. . . . A reasonable doubt, then, amounts to a reasonable belief that top-drawer, Hollywood-caliber professionals might have spent tremendous amounts of time, money, and effort, creating every instance of suspected child pornography presented.”<sup>15</sup> Consequently, a prosecutor may wish to charge or otherwise introduce into evidence at trial more images than he or she would have sought to charge or introduce prior to the *Free Speech* decision.

### 7. Consider Charging Attempt

Prosecutors also should consider charging an attempt offense conjunctively with the substantive distribution, receipt or possession offense. As recognized in *United States v. Starr*, “[e]ven if the Government’s evidence—whatever form it may take—is insufficient to prove beyond a reasonable doubt that the individuals captured in the case-based photographs are real people, vice computer-generated, non-human images, a conviction of the lesser-included offense of an attempt. . . is still a viable possibility. . . .”<sup>16</sup>

### 8. Consider Charging Obscenity

One final option is to alternatively charge child pornography as obscenity in cases where proof is lacking that real children are depicted in the images. Specifically, 18 U.S.C. § 1461 criminalizes the use of the mail for delivery of obscene material, 18 U.S.C. § 1462 criminalizes the importation or transportation of obscene material, and 18 U.S.C. § 1470 criminalizes the transfer of obscene materials to minors.<sup>17</sup> Notably, however, neither Section 1461 nor 1462 punishes mere private possession of obscenity.

<sup>3</sup> The PROTECT Act, enacted on April 30, 2003, created a new definition for child pornography, to include a visual depiction that “is a digital image, computer image, or computer-generated image that is, or is indistinguishable from, that of a minor engaging in sexually explicit conduct.” 18 U.S.C. § 2256(8)(B) (2004).

<sup>4</sup> See *United States v. Marchand*, 308 F.Supp.2d 498 (D. N.J. 2004) (law enforcement agents from the United States, England, and Brazil testified that they could positively identify by name the children in eight of images as children whom they had met in person at a time not distant from the age that child was when he or she was photographed). See also *United States v. Padgett*, 302 F.Supp.2d 593 (D. S.C. 2004) (at habeas corpus hearing in which the defendant challenged the sufficiency of evidence of his conviction for transporting and shipping child pornography, court accepted testimony from FBI special agent who testified that she had confirmed from FBI child exploitation database identities and ages of some children depicted in some of images upon which defendant was convicted).

<sup>5</sup> 308 F. Supp.2d. 498 (D. N.J. 2004).

<sup>6</sup> 302 F. Supp.2d. 593 (D. S.C. 2004).

<sup>7</sup> *United States v. Slanina*, 359 F.3d 356 (5th Cir. 2004) (holding that juries are capable of distinguishing between “real and virtual images” and that neither expert testimony nor evidence of victim identity is required by the *Free Speech* decision); *United States v. Kimler*, 335 F.3d 1132, 1142 (10th Cir. 2003) (same); *United States v. Deaton*, 328 F.3d 454, 455 (8th Cir. 2003) (per curiam) (holding that images alone were sufficient to prove that production of charged images involved use of a real minor); *United States v. Fuller*, 77 Fed. Appx. 371, 379 (6th Cir. 2003) (*unpublished*) (jury could draw its own conclusions from viewing images); *United States v. Hall*, 312 F.3d 1250, 1260 (11th Cir. 2002) (despite unconstitutional jury instruction, examination of charged images showed that no reasonable jury could have found that images depicted virtual children as opposed to actual children).

<sup>8</sup> 278 F.3d 868, 871-72 (9th Cir. 2002) (citations omitted). See also *United States v. Marchand*, 308 F.Supp.2d 498 (D. N.J. 2004) (Government’s computer expert linked 11 of the charged photographs to pre-1986 magazine photographs which were taken when computer technology was so primitive that a sound inference could be drawn that the 11 images depict a real child).

<sup>9</sup> 349 F.3d 608, 613-614 (9th Cir. 2003). For additional discussion and analysis regarding the limitations on creating wholly computer generated photo-realistic images of human beings see *Prosecuting Computer-Generated Child Pornography in the Wake of Ashcroft v. Free Speech Coalition*, National White Collar Crime Center, at [http://www.nw3c.org/downloads/child\\_porn.pdf](http://www.nw3c.org/downloads/child_porn.pdf) (October 2002).

<sup>10</sup> See *supra* note 3.

<sup>11</sup> For an excellent discussion of the value and methodology of using EXIF header and metadata information in child pornography investigations and prosecutions in the wake of *Ashcroft v. Free Speech Coalition*, see Paul Alvarez, *Using Extended File Information (EXIF) File Headers in Digital Evidence Analysis*, 2 INT’L J. DIGITAL EVID. 3 (Winter 2004), at [http://www.ijde.org/docs/04\\_winter\\_v2i3\\_art4.pdf](http://www.ijde.org/docs/04_winter_v2i3_art4.pdf).

<sup>12</sup> 818 F.2d. 1015 (1st Cir. 1987).

<sup>13</sup> *Id.* at 1019. See also *United States v. Bender*, 290 F.3d 1279, 1282 (11th Cir. 2002) (pediatrician testified that “photographs appeared to portray real children”); *United States v. Vig*, 167 F.3d 443, 449-50 (8th Cir. 1999) (jury could infer from images and pediatrician’s testimony that children depicted were real).

<sup>14</sup> *United States v. Diehl*, 2004 WL 637896 (A.F.C.C.A. Mar. 16, 2004) (where defendant viewed at least 67 files containing minors engaged in sexually explicit conduct “probability and common sense dictate that some of these images were of actual children.” (citing *United States v. O’Connor*, 58 M.J. 450, 457 (Crawford, J., dissenting)).

<sup>15</sup> *Prosecuting Computer-Generated Child Pornography in the Wake of Ashcroft v. Free Speech Coalition*, National White Collar Crime Center, at [http://www.nw3c.org/downloads/child\\_porn.pdf](http://www.nw3c.org/downloads/child_porn.pdf) (October 2002).

<sup>16</sup> 2002 WL 31098482 (N.M.Ct.Crim.App., Sep. 16, 2002).

<sup>17</sup> See, e.g., *United States v. Kussmaul*, 987 F.2d 345 (6th Cir. 1993) (defendant ordered child pornography through the mails and charged with violations of both statutes); *United States v. Cofer*, 916 F.2d 713 (*unpublished*) (6th Cir. 1990) (charged under both child pornography and obscenity statutes); *United States v. Maday*, 1989 WL 53023 (W.D.N.Y. 1989) (same); *United States v. Johnson*, 855 F.2d 299 (6th Cir. 1988) (same).

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<sup>2</sup> 535 U.S. 234 (2002).

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