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DEATH BECOMES HER
Technical Description
Industrial Light & Magic

The recent Universal Pictures release *Death Becomes Her* features some fantastic special effects from Industrial Light and Magic. Not the least of these can be found in a scene in which Meryl Streep's character, Madeline Ashton, falls down a flight of stairs and twists her head around completely backwards.

To accomplish this effect, director Robert Zemeckis enlisted the services of ILM's Computer Graphics team. A crew of 20 animators, digital compositors, rotoscope artists, technical directors and software engineers worked for 4 months on the 13 shots in the "Madeline Falls" sequence, using Silicon Graphics computers.

Three live-action background plates, or "elements," were filmed: one with Meryl wearing a stretchy blue hood over her head and walking backwards, one with no one at all (a *clean plate*), and one of Meryl in a blue bodysuit against a bluescreen. The blue hood was digitally removed from the first plate and replaced with the corresponding area from the clean plate using black-and-white *mattes* created using Parallax's *Matador Paint* system. Meryl's head from the third plate was extracted from the bluescreen and match-moved into position using proprietary software written at ILM. Finally, a computer-generated twisted neck piece was modelled, animated and matchmoved to fit between Meryl's body and extracted head using a combination of SoftImage 3-D animation software and custom ILM software. It was rendered using Pixar's *RenderMan* software. All elements had to be color-balanced and composited with each other and with other elements such as shadows and reflections, again using in-house ILM software. Some additional painting and matte-creation work was performed on Apple Macintosh IIx computers running Adobe *Photoshop* software.

The results of their efforts is a level of seamless integration of computer graphics and live action never before seen in motion pictures or television.

INDUSTRIAL LIGHT+MAGIC

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