Matte Painting: Art in Film Special Effects

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The Science of Art CS 99-D
Final Presentation
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The Art of Special Effects

- Picture control = art
  - Manipulation of image
  - George Melies
  - Use of glass panels similar to Brunelleschi’s panels
Use of Glass Panel: 3D and 2D combined with perspective

- Early 1900’s
- Required painting with emphasis on realism (a Renaissance revival?)
- Techniques vary: rear projection, front projection, Latent image projection

Images from Hitchcock’s *The Paradine Case*
Hitchcock’s Paradine Case: B/W Matte Paintings

Limited to Zoom or Still shot
More Paradine Case...
Latent Image Matte Painting

- A photographic technique of combining two scenes
- Runs film through twice, once with a portion blacked out and unexposed
- Used now with stills and paintings

Notice the use of bridal veil material on the right to create diffusion and a sense of atmosphere in this filming for *An Ewok Adventure*
Latent Image, cont.

- **Pros**
  - Original stock quality (highest)
  - Matching of hues easy
- **Cons**
  - Hard to estimate need footage with live action
  - Mistakes are expensive

Latent image projection used with Matte Painting in *Return of the Jedi*
Rear Projection

- Movie projector placed behind glass with painting
- Window covered with frosted plastic
- Camera films from front
Rear Projection, cont.

- **Pros**
  - Easiest

- **Cons**
  - Loss of image quality
  - Least sharp image of all techniques

Composite of Completed Rear Projection from *Return of the Jedi*
Front Projection

- Both camera and projector on same side of glass panel.
- Scene projected through glass backed with Scotchlite (highly reflective)
- A partially reflecting mirror is placed between camera and projector at 45 degree angle (to put both in exact same perspective)
Front Projection (cont)

- **Pros**
  - Sharper image than rear (with highly reflective screen)
  - Well regulated perspective from exact same point

- **Cons**
  - Complicated

A woman paints a matte on glass for *Temple of Doom*. 
Digital Painting

- Advantages
  - Ability to move camera
  - No more limitations of pan
    - Ex. In Empire Strikes Back
  - Reflections and moving animations can be combined easily
  - Digital editing is cost efficient and easier
Truman Show: Digital Matte goes 3D

A “camera”, like those seen in our graphics demos is tracked with the image in the exact motion and perspective of the actual camera.
Titanic: Matte and more

- Digital Matte Clouds
- Digital Animation Water (with reflections)
- Model Boat
- Animated People
- Digital Animation smoke
In Conclusion

- Many of the same principles used in Renaissance art are at work in the creation of Special Effects.
- The impact of computer graphics is revolutionizing the way movies are made, in bringing a realism of perspective to movement.
- The use of matte paintings and digital matte paintings is still a question of aesthetics. When constructed via computer, does the art disappear?
Some Video Clips

- Raiders of the Lost Arc (long shot)
- Paradine Case
- Truman Show (digital 3D)
- Empire Strikes Back (bad perspective with a pan)
- Return of the Jedi (Rear Projection/Latent image matte)