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3-D

Seeing in depth is a function of human binocular vision. Each eye sees an object from a slightly different perspective. The combined view creates the appearance of depth and dimensionality. The search for three dimensional representation, like the invention of motion pictures themselves, predates the invention of photography. About 1600 Giovanni Battista della Porta created pairs of 3-D drawings. (It's not known how or if he intended viewers to combine these pictures.) In 1838 Charles Wheatstone, a British physicist used mirrors and drawings to create 3-D illusions. His apparatus restricted the vision of each eye to a single drawing. The parlor stereoscope used photos shot from 2 slightly different perspectives (about 2 1/1 inches apart) and lenses to create a popular Victorian amusement. The stereoscope was shaped like a pair of binoculars. The photos were arranged on a sliding armature to allow for focussing. Distinct images were presented to each eye---replicating our natural vision. Mounting a paddlewheel behind a stereoscope, Coleman Sellers presented handheld 3-D moving images in 1861. As the paddlewheel turned, a series of sequential images gave the appearance of 3-D motion.

Commercial applications of 3-D in the '50's depended upon viewers wearing red and green glasses with polarizing lenses developed by Edwin Land between 1928 and 1932. Each eye viewed an image shot from a slightly different angle. *Bwana Devil* premiered 11-27-52. A total of thirty-eight 3-D films were made in 1953-54 including *Kiss Me Kate* and Hitchcock's *Dial M for Murder*. 3-D was a fad developed to combat the loss of audiences to commercial television. Cumbersome glasses, headaches and the generally poor production values of 3-D films caused the novelty to fade rapidly. In the words of one advertiser: "Do you want a good movie---Or a lion in your lap?"

IMAX (see Widescreen) is currently experimenting with a 3-D format. Productions have included nature films like *The Last Buffalo* and *Into the Deep*. The first planned IMAX 3-D narrative film is *Wings of Courage*. To view the film each member of the audience will wear a high-tech version of the old 3-D glasses. A headband places liquid crystal display shutters over each eye and transducers near each ear.

The promise of 3-D continues to be "just around the corner." In 1995 James Carnes, president of the David Sarnoff Research Center, predicted the development a 3-D television service in the year 2005. Like the previous technologies, this process would depend on shooting two distinct images, and upon viewers wearing polarized glasses.

3-D is part of the historical search for "total cinema." The development of the motion pictures has paralleled a search for increased realism ---sound, color, motion and 3-D---- combined with public spectacle. Today the urge to reproduce our experience of the world has lead to the development of virtual reality technologies. These inter-active, tactile,

computer based systems offer the possibility of individual participation in dimensions unavailable to motion picture spectators.

Historically new communications technologies have not readily replaced the old formats. Instead a process of niche specialization has allowed letter writing, telephones, motion pictures, radio, television and computer technologies to co-exist. It remains to be seen whether or not the much ballyhooed information revolution will break-down the familiar distinctions among media, and exactly how the development of new audio-visual technologies will affect our understanding of the "movies."