



## DIGITAL PRODUCTION CHALLENGE II

### **3-D Filmmaking**

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Stereoscopic photography is a very old idea, almost as old as photography itself. It was a big success in the 1950's and 1980's but disappeared after a while. The problems with 3D mainly concerned the shooting with big and heavy rigs and the projection technology.

For today's digital cinemas it is fairly easy to switch to 3D due to digital projection. Shooting equipment is still bulky and heavy. However, the computer game industry is a powerful industry movement fostering the development of 3D content.

Still, 3D is not just double 2D. You have to open your mind and start thinking new. If you plan a 3D production, it is good to shoot a short trailer up front in order to see how it works – production is much more clumsy than for 2D, to begin with a change of lenses which takes much more time than in 2D since you have to re-check everything.

Regarding your aesthetic choices you will see that 3D images put a priority on edges and contrasts over surfaces. Depth-cue-combinations can be used on purpose in 3D-imagery to create perspective just like in old paintings. You should be very aware of which objects have to be in front of, on, or behind the screen – start thinking in the concept of the scenic box. This is important in terms of depth continuity because the effect of objects which change place from behind the screen to in front of the screen between two scenes can be very disturbing. In stereoscopy you have to think twice about jumping between objects in order not to overstress the eyes of the spectator. Depending on your target screen size (you should discuss this with the distributor) you have to calculate the depth budget, which is the maximum 3D-depth before and behind the screen. Exceeding it would make the spectator uncomfortable.

3D also offers new creative possibilities: firstly, there is an intentional irritation of the visual perception. 3D offers means of aggressive communication with the viewer, objects and persons entering his radius of privacy. The spectator can “walk the stage” and see the scenography as if touchable. But there are framing and lighting changes to be observed. The typical staging of the main actor in 2D – with the background out of focus - does not work in 3D. You have to bring the background into focus, which is more entertaining for the audience. This corresponds to the natural focusing mechanism of the eye. You also have to think twice about changes of



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location and scenery. As a result, set designers and scenographers will become more important. With time being spent longer in one set, the amount of cuts per minute is decreasing.

3D sound will also evolve and become more-dimensional, starting with Dolby 7. In addition to that, wave field synthesis is being researched by institutions such as Fraunhofer Institute and IRT in Germany, and could provide a virtual acoustic sound environment to cinemas in the near future.