

DARK CINEMA

By Lenny Lipton

This morning, after having driven my three kids to two schools in the San Fernando Valley, I was heading west on Ventura Boulevard when a man in a tank-like black SUV raced toward me on my side of the road. With moments to spare, I swerved out of the way, and you know what? The guy smiled at me and gave me a friendly wave; a grey haired demon, refusing to take responsibility, or just the angel of death trying to do his job? I came home and told Julie what had happened, shouting in outrage. Did it do any good to get excited? Why can't I view existence with equanimity? I am far from a perfect driver – so live and let live...right? But that's not who I am and so I move on to the next outrage: a threat to my beloved stereoscopic cinema.

I have made the stereoscopic cinema my life's work. I could have picked many other challenges – for example, world peace; but I don't have any talents in that direction, and for whatever reasons the stereoscopic cinema has been my lifelong passion. From being a reviled disabled child, the stereoscopic cinema has become a mainstay of the theatrical film business. Yet, along the way to acceptance, there are problems with projection.

When I moved Los Angeles more than five years ago I was treated to the best-projected motion pictures I had seen. I'm not talking about studio screening rooms or industry screenings. I'm talking about going to the movies, to the theaters that were a short distance from where I live in Laurel Canyon. The picture and sound were much better than what I had been seeing in practically all of the theaters in the Bay Area. And it made perfect sense. Los Angeles is a film town, so why shouldn't the theater owners follow industry standards and project good images for a discerning audience?

But such is not the case for the stereoscopic cinema. I've gone to many local 3-D theatrical screenings and often the projection isn't good. There are examples of well projected stereoscopic images in local theaters but there are also examples that make me wonder about the future of the stereoscopic cinema – about how much bad projection an audience will stand for. I ask myself, what is going on in the rest of the country if L.A. is the best place to see movies? What is going on in the rest of America? (I can't even begin to worry about the rest of the world.) My family and I went to New York City about a year ago and we went to three neighborhood theaters where the 2D projection was fair to poor. I found it hard to believe that in the capital of the world projection of 2-D movies was mediocre. So what is projection like in most American towns?

The projection of 2-D movies in the vast majority of cases takes place in 35mm. The 35mm projection medium is extremely robust; it's a 100-year-old technology. The system has what I think of as a lot of "headroom." The technology is so tried and true, and the engineering so refined, that there is a considerable amount of room for error in the system. For example, if the projector has a lamp run past its rated lifetime and the projector isn't perfectly adjusted a fair picture can still wind up on the screen.

The shutter phase can be out of synch, the intermittent doesn't have to be up to spec, the lamp can be running at a fraction of the amperage it should have, and the resultant image is okay for the sitting audience to be engaged in the story. There can be adequate projection even with somebody running the

projector who's paid little more than the minimum wage. That's one of the curiosities of the theatrical cinema; a hundred-million-dollar movie may be projected by a projectionist who may or may not be well trained, and who in most cases is not being well paid, and who is usually not in the booth during the show.

How does this apply to the stereoscopic cinema? The majority of stereoscopic movies are projected using digital projectors, and the majority of those digital projectors are DLP projectors. As I said, I don't know what's going on in the rest of the country and the rest of the world; but after having been to stereoscopic projections in Los Angeles I feel a certain degree of anxiety about the future of the stereoscopic cinema.

The blame cannot be laid off entirely on the exhibitors. The problem is the technology and the products based on that technology. DLP technology for projecting stereoscopic images is intrinsically inefficient. It's usually field-sequential, and that means that half the light goes to one eye and half to the other, which immediately results in a 50% reduction in illumination. (The illumination seen by each eye is not additive as some people think. If that was the case closing one eye would make the visual field darker.) In addition to the duty cycle concern, whether it's shuttering eyewear using the Xpand glasses or polarization modulation using the RealD system or the Master Image system, there is another big hit because of the polarizers' absorption of light. The Dolby system, a refined anaglyph, also uses up a lot of light for its selection technique. Of these the brightest systems extant are the RealD XL ZScreen system and DLP projection systems using two projectors, like the IMAX digital 3-D system. (I was a participant in the development of the XL system, and I have an interest in Real D. I have had nothing to do with the development dual projector systems or any of the other products mentioned here.)

I recently saw an XL ZScreen projection of the laudable *How to Train Your Dragon*, on what I was told was a 70-foot screen at the Gibson Amphitheatre at Universal and the projection was, for a screen of that size, decently bright. A gigantic screen filled with 3-D image coming out of a single projector that looked OK? – not too shabby.

But I recently went to a neighborhood theater screening of *Alice* on a 40 foot screen using the Dolby system, and it was so dark I have to say that it was the worst projection of any movie, planar or stereoscopic, that I have ever seen. It was an outrage. People are not going to return time and again faced with crappy projection. I've seen the Dolby system projected on smaller screens and it was OK. Was the lamp shot at this venue? Would the projection have been improved with a higher gain screen (I am sure they didn't have one)?

The XpanD system looks fine on small to moderate screens but when there are attempts to project it on big screens, no go. Both of these systems can present adequately bright images when they project on high-gain screens probably up to about 40 feet. But generally speaking, the stereoscopic cinema is stuck, for the vast majority of projection venues, at somewhere between 3 and 5 foot-lamberts. When you get about 4 or 5 foot-lamberts the image starts to look okay. Below 3, it's a catastrophe. And I suspect that there are a lot of catastrophes out there based on my random sample.

Some people in the industry are trying to justify a dark 3-D cinema. There is no SMPTE standard for illumination for stereoscopic image as there is for 2-D images. Open gate (no film) for a 35mm projector is 16 foot-lamberts – which translates to about 14 foot-lamberts if you have clear leader in the gate, and

that's the way to do an apples-to-apples comparison with digital projection, whose standard is 14 foot-lamberts. If there is projection at that level there will be well-saturated colors and an image that is lovely to behold. When you're sitting in a cinema, it's not like being at home. Television images at home are probably 10 times brighter, but they have to be because there is a lot of ambient light. Think about this: A bright sunny day may be at about 5000 foot-lamberts.

When you're in the cinema and it's dark, and your eyes are more-or-less dark-adapted, 14 to 16 foot-lamberts presents the eye with a splendidly bright image. But to say that a 3 foot-lambert stereoscopic image is acceptable is a crime against observable reality and common sense. There is no psycho-physical reason why stereoscopic images shouldn't be as bright as 2-D images. There are product/technology factors that prevent realizing decent brightness, but that's not the same thing. The industry needs to rethink how it (literally) looks at the projection of stereoscopic images. Dark images aren't going to help the industry. Just because the technology can't do the job today, it doesn't mean we have to live with it. We have to develop better technology and the exhibitors have to run the projector illumination at or near SMPTE spec for 2-D or brighter if possible. Digital 3-D projection hasn't got enough headroom.

To my mind the biggest threat to the stereoscopic cinema and its continuing acceptance is the fact that in many of my neighborhood cinemas the image is just too damn dark; and I am afraid that people are not going to come back to see dark images. I know -- I'm outraged. It would be better if I could view life with equanimity. The man in the black SUV is a much bigger threat to me than poor stereoscopic projection. But both piss me off.