



issue 9

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the art + science of seeing ™

GLIMPSE issue 9 investigates our personal, collective and technological relationships to moving image art, both historically and in the present moment.





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Image courtesy of Michael Glasgow

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Brandon Schaefer is a graphic designer, illustrator, and selfdescribed "thing maker." He co-curates and maintains Silver Screen Society, an organization that invites designers, illustrators, and graphic artists to create new poster designs for old movies. Schaefer has created designs for the Brattle Theatre, The New York Times, Sony, WIRED, and other organizations. His website is www. seekandspeak.com

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GLIMPSE journal is an independent, periodical of contemporary research, thinking and expression from leading and emerging scholars, scientists and artists about vision, "the visual" and perception.



technology can now enable people to literally watch a movie anywhere, why are so many of them choosing to watch them in groups?" asks *GLIMPSE Cinema* issue contributor, Dr. Kevin Corbett. We learn in these pages that the reasons are many, but that cinema has evolved from a more individualized experience, to a collective experience, and now, in this century, to both—an optionally individualized, *or* collective experience.

Innovation in science and technology drives the changes in cinematic experience, and in turn, drives changes in the artistic practice of movie-making. But perhaps cinematic science and technology are driven by *deeper* human impulses. We *like* cinema. It affects our brains. As Dr. Norman Holland explains, when we choose a movie, we are choosing a neurochemical experience. We are captivated by increasingly spectacular images, from the first innovations in color film, to Panavision, to 3D, to IMAX, to breathtakingly real-looking computer animation. Perhaps the evolving technologies of cinema are *really* driven by our neurochemical need for new spectacles?

Cinema's symbiosis of art and science and neurochemistry has deeply human, social, and political implications, as evidenced in Esther Howe's article on the role of citizen video and projection during Egypt's 2011 revolution. Perhaps this marriage of cinema and political revolution is not so unusual. Cinemas are one of our last remaining physical commons—a locus of collective experience shared among strangers—surpassed only in the West by sports arenas and shopping malls. In Egypt, the public commons of Tahrir Square and that of the Cinema became one.

Also in these pages, we examine: Vic Leeds' timeline of selected dates in the art, science and technology of cinema; Lauren B. Hewes' article on the Myriopticon, an American parlor precursor to cinema; Dr. Maureen Eckert's analysis of Plato's Cave for its analogies to cinema; Silver Screen Society designers' reinterpretations of movie posters; Tony Pacitti's essay on the centrality of *Star Wars* to his view of the world; Courtney Sheehan's account of filmmaker Natalia Almada's delicate artistic process of documenting Mexico's horrific drug wars, by focusing her camera on the daily lives of the cemetery keepers, in *The Night Watchman*. And we conclude with Arto Vaun's poem placing us on the drive home, after a movie date.

We hope you enjoy the show. Please silence your cell phones.

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Music to read this issue by...

Astronomic Club (from the cinematic score for Le Voyage Dans La Lune), Air Man with a Movie Camera, The Cinematic Orchestra The Harsh Truth of the Camera Eye, Morrissey



playlist

Drive In Saturday, David Bowie Cinema Tonight, Low vs. Diamond Cigarettes in the Theatre, Two Door Cinema Club Lights, Camera, Action! (Instrumental) Remix, Mr. Cheeks Clint Eastwood, Gorillaz The Camera, Lemongrass Drive-in Show, Eddie Cochran Movie Magg, Paul McCartney Saturday Night at the Movies, The Drifters I Turn My Camera On, Spoon Cinema, Benny Benassi

Your Brain on Movies

by Norman Holland

ou buy your ticket, walk into the theater, sit down, and watch. This passive sitting and watching, sitting and watching, sitting and watching is the crucial thing to remember for understanding your brain on movies. When you sit and watch this way, some special things happen in your brain-at least if you are, as the psychologists say, "transported" (or, as I would say, if you are really "into" the movie—"lost in it"). Unless someone yells "Fire!" or something else happens to take your attention away from the movie, four, at least four, odd things happen:

You cease to be aware of your own body. If you're tired, if you have a head cold, if

your back aches—you forget all that.

You cease to be aware of your environment.

You don't pay attention to the people around you, the exit sign, or your seat.

You don't doubt. You believe in unrealities. You simply

accept what you're seeing even if it's totally improbable: hobbits, quidditch, Mickey

Mouse, Spider-Man. You have what poet and philosopher Samuel Taylor Coleridge called the "willing suspension of disbelief."1

You care.

You feel real emotions toward things that you know perfectly well are not real, that are mere sparkles on a projection screen.

At least, you do these things if you are "transported." Why?

The short answer is, because you're just sitting and watching. You have shut down your brain's systems for acting. For a longer answer, let's take them one by one.

You know you can't change what's going on onscreen, and you aren't trying or planning to change it. The movie is in control. You know this in your prefrontal cortex, which is the most sophisticated part of your brain, and the part that is highly developed in us and other primates. It is here that we plan actions, think about the future, delay gratification, and so on. You know in your prefrontal

Image courtesy of Kenneth Lu.

cortex that you aren't going to do any of those things while you are "into" this movie, so you lose track of your body and your environment. That's partly because you're intensely involved with the movie, or as psychologists describe this, you are experiencing "flow."² When you're doing something to which you devote all your attention, balancing your checkbook, say, you don't have any attention left over for your body or your environment. In effect, the executive function located in your prefrontal cortex says, "Only sense *this*. Don't waste energy sensing irrelevant distractions."

But this is a movie, not a checkbook, and movies are special. You're living out a concept Immanuel Kant put forward: when you're properly appreciating a work of art, you are "disinterested."³ That is, you don't plan any action toward the thing. You're not going to try to change it or move it or even judge it and write a review of it. You're just "into" it.

In that happy trance-like state of mind, you're not aware of your body or your environment because they're no longer relevant. You're not going to *do* anything about them. The brain is an economical organ. What isn't necessary, it doesn't bother doing.

You also don't doubt. Here, disinterestedness plays the key role. Richard Gerrig conducted a number of experiments in the '80s that showed that people (or at least Yale undergraduates) didn't exactly suspend disbelief when they read short, paragraph-length stories. Some stories contradicted what they already knew, and some didn't. When asked about the stories' truth or falsity, the Yalies took a significantly longer time to answer with the false stories. In effect, they had believed the stories for the moment and then, when asked to check the story against other facts in their memories, they actively disbelieved them.⁴ Gerrig's work

confirms a well-established human failing: we're very poor at detecting lies. Psychologists call it "lie blindness." You might just as well flip a coin to decide whether someone is telling you the truth.⁵ Probably, from a survival point of view, it's more advantageous to believe a warning or an invitation in the first instance and only later, if need be, disbelieve.

Kant's "disinterestedness" addresses the aesthetics of the matter, but neuropsychology has long established that we assess the reality of a stimulus only if we act or plan to act in response. Neuropsychologist Andrew Clark writes, "Perception is itself tangled up with specific possibilities of action—so tangled up, in fact, that the job of central cognition often ceases to exist."⁶ Two specialists

in frontal lobe function, Robert T. Knight and Marcia Grabowecky, put the principle this way: "Reality checking involves a continual assessment of the relation between behavior and the environment."⁷ Rodolfo Llinás writes: "the brain's understanding of anything, whether factual or abstract, arises from our manipulations of the external world, by our moving within the world and thus from our sensory-derived experience of it."⁸

But at the local Bijou you're just sitting there and watching. You're not behaving. You're not

Not only do you not doubt.

you care. You feel real

emotions about the romances and murders and car chases that are happening on screen.

manipulating the external world. You're not planning what you're going to do tomorrow. You're "into" that movie. You have ceded control to the movie projector. It will go on doing what it's doing and you can't, and don't want to, do anything about it. Again, the brain is economical. If we are not going to act on something or not even going to plan to act on it, why bother to decide whether it is real or not? And the brain doesn't. When you shut down your motor systems in the frontal lobes, you also shut down reality-testing.

Not only do you not doubt, you care. You feel real emotions about the romances and murders and car chases that are happening on-screen. You experience fear, anger, contentment, sadness, awe,

lust—all the emotions we might have in life. You feel them although you know as sure as you're sitting in a movie theater that the things you are seeing aren't real. But you'll jump when the hockey-masked creep jumps out at the pretty blond starlet who just opened a door that she shouldn't have. And everybody else will, too. We moviegoers react emotionally to the mere images as though they were real.

When we react to movies, we are demonstrating that our brains have different levels. We make the judgment that what we're seeing isn't really real in our frontal lobes, probably in the prefrontal cortex. But we may not make that judgment at all, because of our passive, disinterested state, and even if we do, we cannot stop the emotions. Recently, I wrote an essay on the 1951 A Christmas Carol, the one with Alastair Sim, and, sitting in front of my computer noting changes from the novel, the tears were running down my cheeks, even as I felt contempt for responding to such treacly sentimentality. Those sorts of emotions can't be turned off, since they come from a more primitive, sub-cortical part of your brain, inside and at the back of your sophisticated frontal systems. You are responding from your limbic system, a group of structures that form the inner border of the cortex. This is a brain region we share with other mammals (and, if you don't think animals have emotions, you've never owned a dog or cat). By contrast, our prefrontal cortices are much enlarged in us and other primates compared to other mammals. But these evolutionarily later systems cannot suppress the subcortical activity in the earlier, more primeval limbic system.

Curiously, we enjoy having even *unpleasant* emotions aroused by movies—anger, disgust, fear (think of horror movies)—so long as there are no *real* consequences. Hence movies, plays, stories, poems, music, art in general, can give us pleasure. We seem to enjoy having even our displeasing emotions stimulated so long as we don't have to act on them.

I don't think anybody quite knows why this is the case. The question is as old as Aristotle who wondered why we enjoy still life paintings with disgusting objects in them.⁹ There have been



hints lately that perhaps this mechanism serves an evolutionary purpose. We become more likely to survive and have offspring if we can regulate our emotions. Perhaps movies and stories generally allow us to have powerful emotions without being carried away by them as we might be in real life. We practice modulating our emotions—but this is speculation.¹⁰

And all this is going to change, anyway. What isn't speculation is the new way

A group of friends huddle together to watch a clip of a movie on an iphone, while sitting inside a cinema. June 2010, UK. Image courtesy of Geek Calendar. we watch movies. Remember Jon Stewart at the 2008 Oscars? He pulled out his iPhone and announced, "I love new media. I'm watching *Lawrence of Arabia*. It's awesome. . . . To really appreciate it, you have to see it on the wide screen." And he turned his iPhone on its side.

Stewart and the rest of us with our iPods, iPhones, iPads, and all their iCopycats and DVDs and streaming—we aren't just sitting and watching. We're in control. We can turn the iPhone on its side. We can stop the DVD and start it when we wish. Or perhaps we're sitting in our living rooms with the day's mail, ads, bills, and solicitations confronting us, reminding us that there are things we need to do.

What's going to happen in our brains with these new ways of seeing films? I don't have my crystal ball with me, and anyway, my crystal ball doesn't show movies like an iPad. But I suspect, not much is going to happen. We're not going to have the same thrills and chills that we used to have in the local Bijou. And that's too bad.

The moral of my story, then, is, give your brain a vacation. Put down your iGadget. Go to your local movie theater, sit down, and just watch and enjoy. Get disinterested, free your limbic system, drop your reality-testing. Let the movie take over

your brain. 👁



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