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MARIJUANA Momentum to legalize grows in California

Pro-pot votes in other states propel the effort

By Kurtis Alexander

After Tuesday's election, just one piece of the West Coast remained unwelcoming to recreational pot: California.

But with voters in Oregon and Alaska legalizing the use and sale of marijuana — joining Washington and Colorado in inviting retail spreads of cannabis-infused teas and brownies and joints — advocates see fresh momentum behind the slow shift in how the public regards the green stuff and those who enjoy it.

California residents rejected legalization in 2010, with a 54 percent vote against it, but supporters of recreational marijuana are growing more confident about reversing that result in the 2016 election.

"I see a parallel — not a perfect parallel, but a parallel — with marriage equality," said

Tracking contaminated food by a DNA bar code



Lee Suzuki / The Chronicle

George Farquar, a scientist at Lawrence Livermore National Laboratory, uses water to show how DNA would be applied.

NATION

FILMS

Science disclaimers may be needed

Matthew McConaughey (left), Anne Hathaway, and David Gyasi in "Interstellar," a film that pays close attention to scientific detail. Not all science films do, and can mislead the public and have a powerful influence on science policy.



Melinda Sue Gordon / Paramount Pictures

By Dov Greenbaum

Christopher Nolan has been somewhat secretive about his science fiction blockbuster "Interstellar," released Friday. One detail that has managed to leak (this is not a spoiler) was the time, effort and actual scientific discovery associated with a central plot construct in the film, a giant black hole.

Using calculations provided by theoretical physicist Kip Thorne, the final crunching of the data revealed a rendering that not only supposedly accurately represents how a black hole would appear in space, but also provides a scientific breakthrough regarding the characteristics of the black hole's accretion disc.

Thorne's and Nolan's excessive attention to scientific detail is admirable: Film has the potential to become more than fodder for break-room small talk or fanboy message board rants. To this end, the National Academy of Sciences promotes the cooperation between scientists and the entertainment industry in an effort to find ways to communicate accurate science and technological knowledge to the public. In this way particular films can become touchstones for lay understanding of science.

However, film can be more than a vehicle for simply teaching science. Many films have arguably misinformed

the public and/or disproportionately affected science policy, purposefully or otherwise. Some examples include:

The "China Syndrome's" coincidental release in 1979 with the partial meltdown at the Three Mile Island nuclear plant helped seal the fate of the American nuclear power industry; no new nuclear power plant has been built since.

The success of the Jack Horner-inspired "Jurassic Park" franchise reportedly ensured that Horner's theories and ideas got some degree of preferential treatment in grant funding and research.

"Gattaca," the film about a genetic dystopian future continues to be a reference point in many discussions regarding issues related to genetics policy.

The way-over-the-top climate change displayed in the film, "The Day After Tomorrow," helped to mobilize the general public with regard to climate change.

The CSI television franchise has such an impact on the way that the public perceives forensics science that there is an effect named after it — relating to how juries perceive scientific evidence in criminal trials.

And, arguably the panic associated with Ebola in the United States can be traced back to films like "Outbreak" and the fear they engendered.

This isn't an argument against "Star Wars" mangling a unit of measurement or a scientific principle every so often. The chances that the public becomes misinformed is likely less so in science fiction movies, but rather in instances where the science is central to the plot of an otherwise fictional movie. As filmmakers strive to present a seemingly more realistic representation of science and technology in film to woo an ever more jaded audience, audiences might tend to believe that what they are seeing onscreen is an accurate depiction.

Some might argue that filmmakers have no moral duty to promote accurate science in film — after all, it's just fiction, and we should expect the movie-going public to be able to discern between entertainment and education. I would tend to agree, but with studies indicating that the general public continues to receive much of their information regarding science and technology from the popular media, something needs to be done.

Perhaps, in some instances where science and technology have central roles, the movie might provide a disclaimer for their audience. Just like the American Humane Association awards filmmakers with their "No animals were harmed" credit, perhaps one or more sciences societies could provide a similarly worded disclaimer: "The science presented herein does not accurately represent the views and opinions of the general scientific community." Or, as Brett Ryan Bonowicz begins his recent film, "The Perfect 46:" "This film is scientifically authentic. It is only one step ahead of present reality."

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