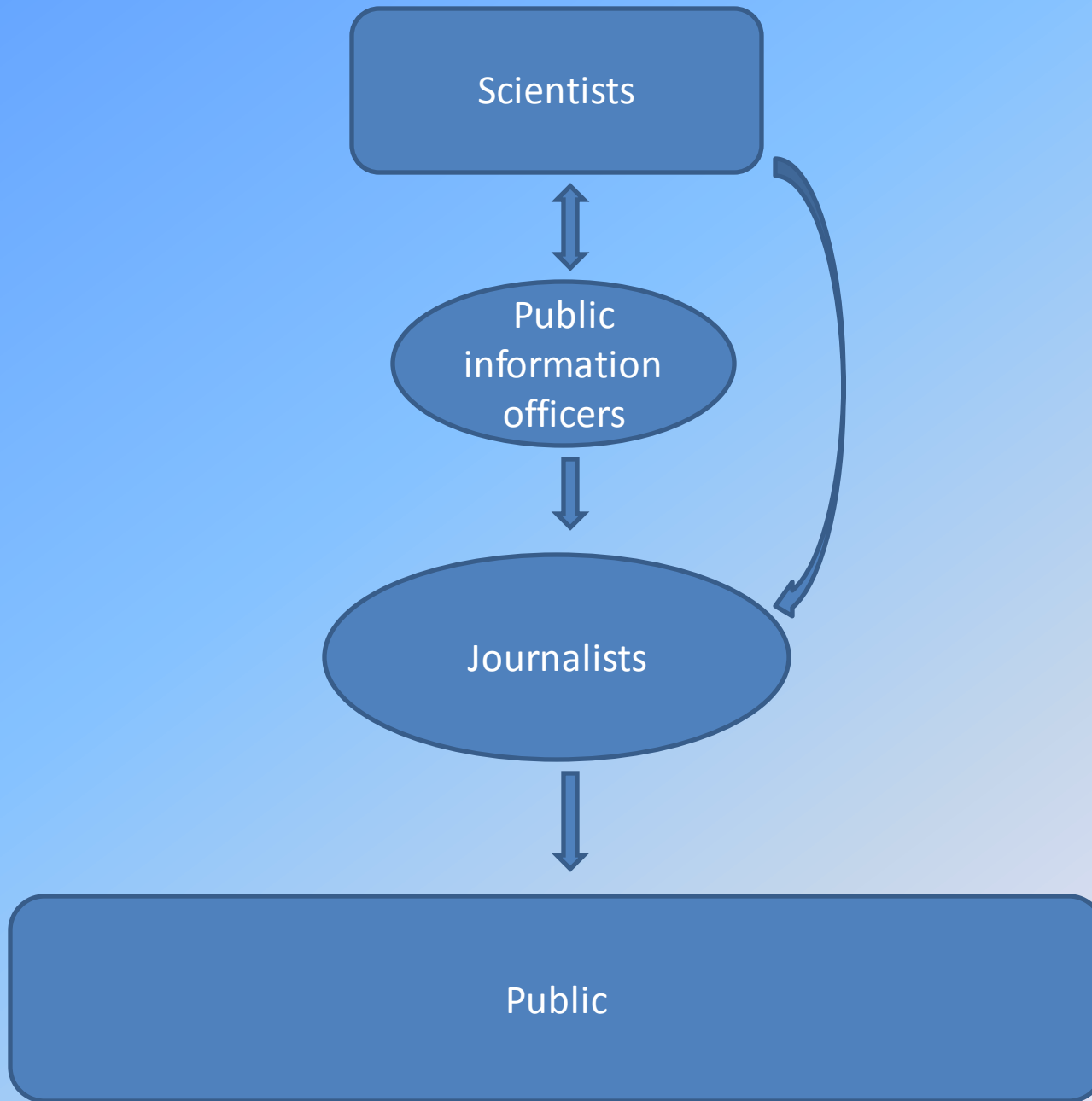
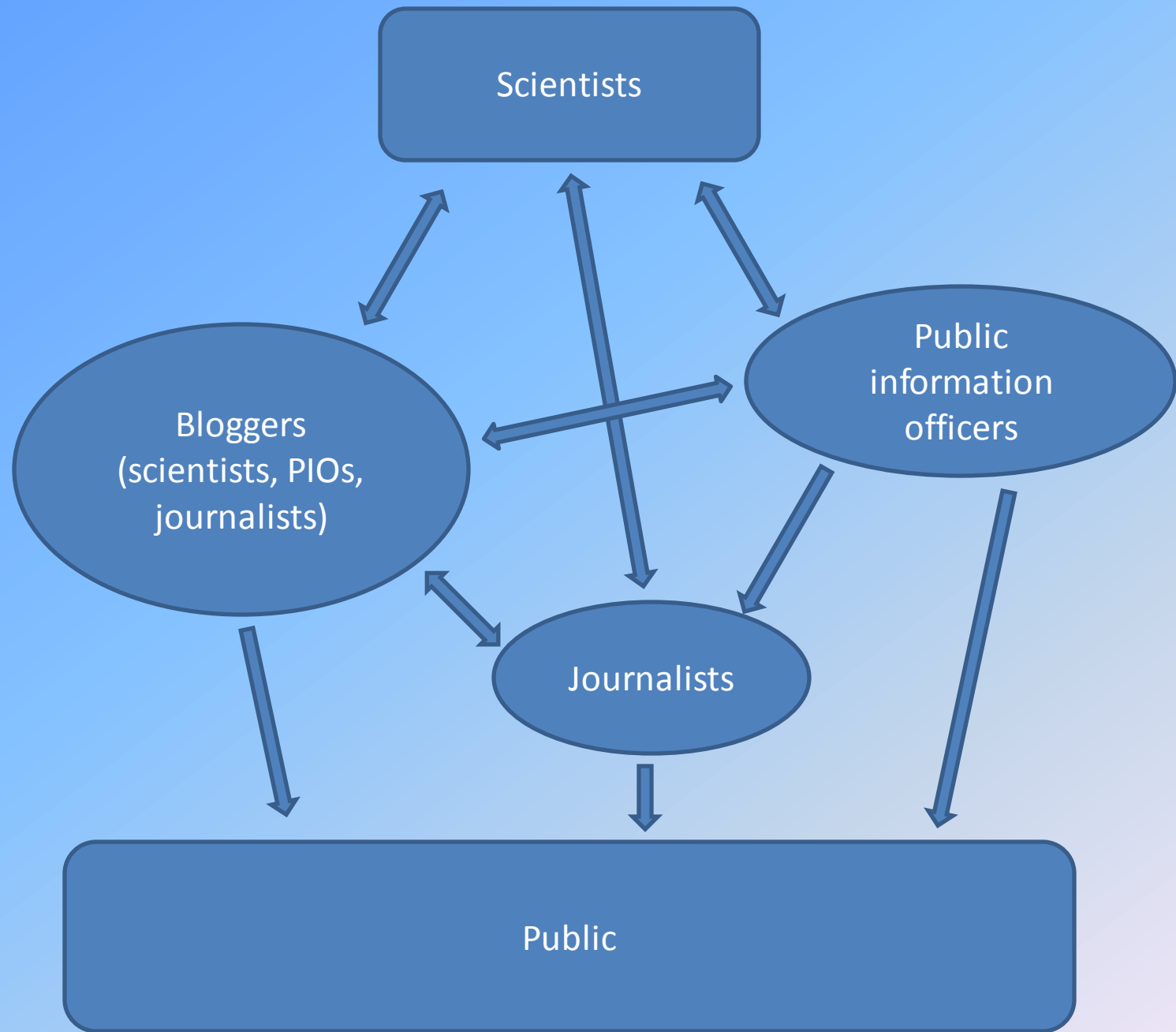




Even before weak measurement came along, the quantum realm was plenty weird. For example, your car can sit in only one parking lot at a time, but an atom or other quantum particle can be in two places at once or spin in opposite directions simultaneously. You





What's changed:

Everything is faster; all publications now essentially dailies.

With rise of bloggers, distinction between reportage and opinion starts to blur.

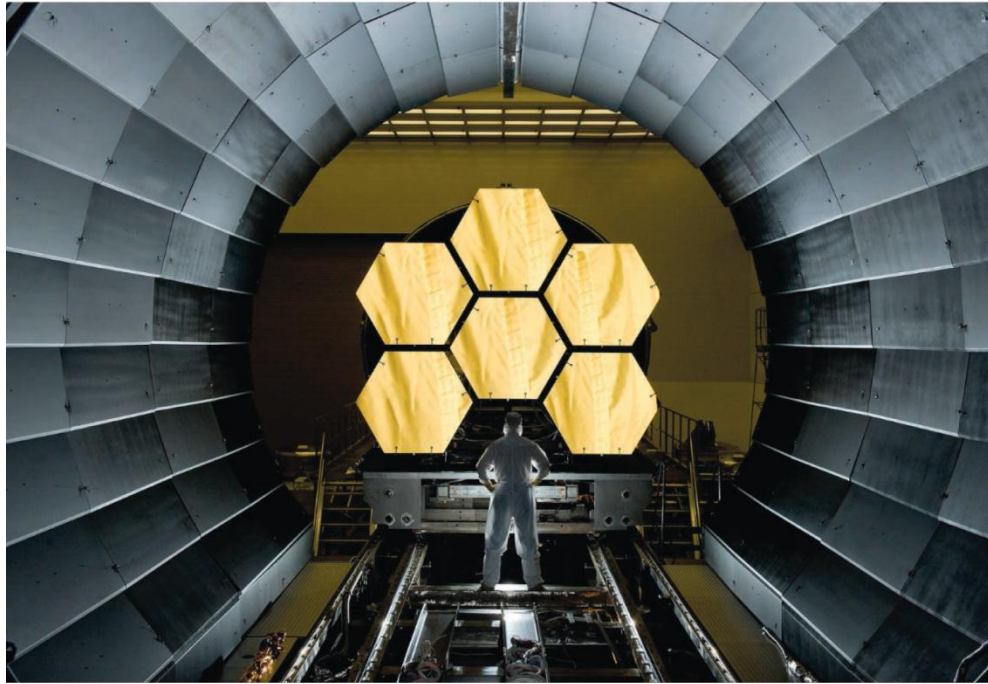
The future is uncertain; nobody knows what journalism will look like 20 years from now.

What's the same:

The basic craft of journalism: report and writing.

The ethics of independent journalism (at least for the journalists.)

The need for science writers who can put themselves in the confused reader's shoes.



U.S. SCIENCE BUDGET

## House Panel Would Kill Webb Space Telescope

Early last month, the auditorium of the Space Telescope Science Institute in Baltimore, Maryland, was abuzz with chatter about the

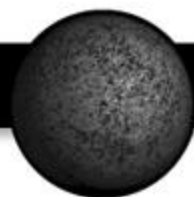
and dismay. “Killing the project now would be a devastating blow,” says astrophysicist Wendy Freedman, director of the Carnegie

**Real deal.** All 18 segments of the Webb telescope’s primary mirror, including the six seen here, have been built.

ing the Webb telescope. It’s only the first step in a long legislative process leading up to a final 2012 NASA budget. However, at a time when lawmakers on both sides of the aisle are looking for ways to slash government spending, the notion of killing the telescope may find enough supporters to sink NASA’s biggest and most ambitious astronomy project. “JWST has entered a very dangerous zone,” Illingworth says.

Conceived as a successor to the Hubble Space Telescope, JWST’s price tag rose from an estimated \$1 billion in 2001 to \$5.1 billion in 2008 when NASA confirmed the project and set a launch date of 2014. Last year, an external review ordered by Senator Barbara Mikulski (D-MD)—who chairs the equivalent spending panel in the Senate—determined that the telescope would cost between \$6.2 billion and \$6.8 billion (*Science*, 19 November 2010, p. 1028). The reviewers, led by John Casani, said that the earliest viable launch date was September 2015, but only if NASA added \$200 million to Webb’s projected annual budget in each of the fiscal years 2011 and 2012. NASA officials said it would be impossible to find the additional money and this year floated 2018 as a possible launch date.

NASA has not released its latest plan for completing the project. “We have a pro-



## Cosmic Variance

« James Webb Space Telescope  
Endings »

### Why We Need the James Webb Space Telescope

by Julianne

Over the last 24 hours, the astronomy community has begun facing the possible cancellation of the James Webb Space Telescope (JWST). The House Appropriations Commerce, Justice, and Science Subcommittee has recommended: "\$4.5 billion for NASA Science programs, which is \$431 million below last year's level. *The bill also terminates funding for the James Webb Space Telescope, which is billions of dollars over budget and plagued by poor management.*" This is not the end of the game for JWST, as many other branches of government have yet to weigh in, but it's not good



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by Robert F. Service on 3 August 2011, 4:48 PM | 0 Comments

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For the third time in a decade, a federal judge in Portland, Oregon, has rejected as inadequate the U.S. government's plan for making hydroelectric dams safer for endangered salmon and steelhead in the Pacific northwest. The plan, known as a biological opinion, was put forth by the National Oceanic and Atmospheric Administration's Fisheries Service, and is an attempt to rebuild seven populations of salmon and steelhead considered on the brink of extinction.

In his latest ruling yesterday, U.S. District Court Judge James A. Redden concluded that the current biological opinion fails to identify specific habitat improvements after 2013 needed to ensure continued recovery of the fish runs. "Here, NOAA Fisheries improperly relies on habitat mitigation measures that are neither reasonably


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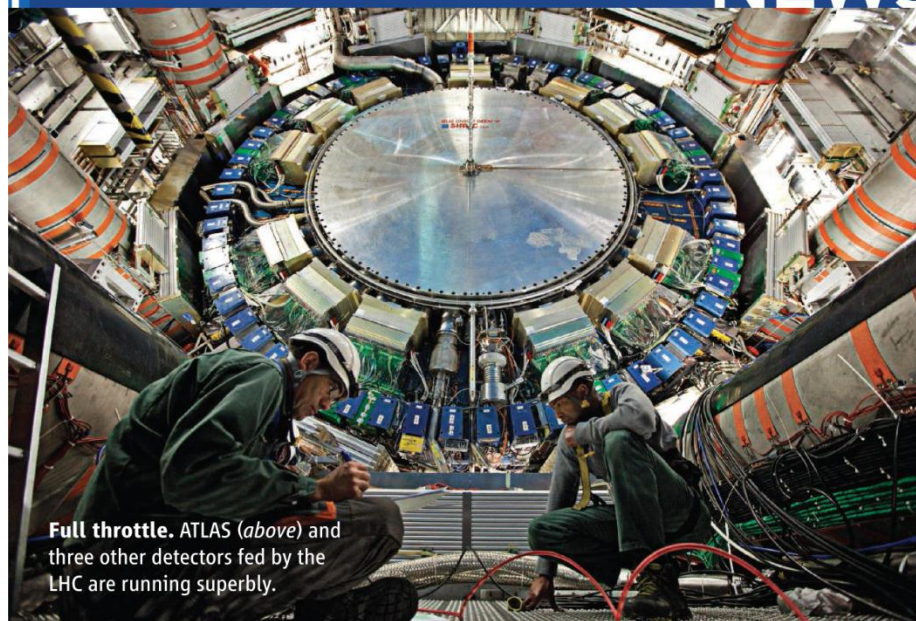
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GRENOBLE, FRANCE—Physicists working with the world's largest atom smasher may have spotted evidence of the long-sought Higgs boson. At least that's the unofficial result that has the 800 physicists here for the biannual Europhysics Conference on High-Energy Physics abuzz. Officially, experimenters working the Large Hadron Collider (LHC) at the European particle physics laboratory CERN, near Geneva, Switzerland, have merely ruled out vast ranges of potential masses for the Higgs, the particle key to physicists' explanation of how all other particles get their mass. But it's a slight excess in another region of mass that has people talking, especially as the LHC should be able to confirm or quash the putative signal within a year.

[ENLARGE IMAGE](#)


On the verge? Physicists working with both the CMS particle detector (above) and its sister detector ATLAS report





**Full throttle.** ATLAS (above) and three other detectors fed by the LHC are running superbly.

## PARTICLE PHYSICS

# One Year On, LHC Sees Hints Of Higgs—And Nothing Else

**GRENOBLE, FRANCE**—When physicists announced here\* this week that they'd seen hints of the famed Higgs boson—the last missing piece in their “standard model” of the known particles—a buzz swept through the auditorium and rapidly around the globe. But while experimenters working with Europe's

masses to particles leads to nonsensical infinities. So interactions among particles themselves must somehow give rise to mass. In the standard model, a “Higgs field” pervades empty space and drags on particles to give them inertia and, hence, mass. And just as an electric field consists of photons lurking “vir-

of the University of California, San Diego, who is co-convenor of the CMS Higgs working group. But the results are more convincing because CMS and ATLAS see excesses in roughly the same mass range, says Bill Murray of the United Kingdom's Rutherford Appleton Laboratory in Didcot, senior convenor of the ATLAS Higgs working group. “What we didn't know until now is that CMS's result looks exactly the same,” he says.

The LHC will produce five times as much data by year's end, so scientists should confirm or rule out the excess within months. However, both teams see the excesses by looking for the Higgs decaying in a way in which it is difficult to determine its mass. So to clinch the case for the Higgs, they will have to spot it decaying into a rarer “golden mode” that can pin down its mass, Sharma says. That may take until next year.

Meanwhile, ATLAS and CMS are also searching for new particles predicted by a concept called supersymmetry, an extension of the standard model that predicts that every known particle has a more massive “superpartner.” Neither detector has seen any superpartners below 1000 GeV, however. “The particles we expected are not there,” says Iacopo Vivarelli, an ATLAS team member from the University of Freiburg in Germany.

So far, the LHC results test only the simplest of myriad specific supersymmetric theories. Still, physicists say that if the super-

## News story versus blog item:

A news story is about an event or finding; a blog is at some level about the blogger.

A reporter tries to sound and convey the reaction of the community; a blog item gives the insider's (often unbeatable) scoop on an event.

A good news story is short, tight, and accessible to a wide audience. Blog items go into the details.

## Press release versus blog item:

Press release officially represents an institution or publication; blog usually represents the blogger.

Press release tries to encourage coverage in press; blog item *is* coverage.

Press release is heavily scrutinized and edited; blog item seems to be mostly blogger's own work.

A journalist:

Serves the interests of readers, not sources. Strives to present fair, accurate, and disinterested accounts of newsworthy events.

A public information officer:

Serves the interests of the institution (and the public, if it's a public institution.) Strives to inform the press and public when newsworthy events have taken place at the institution.

A blogger:

Serves him or herself? The scientific collaboration?

Three things you should know about journalism:

You and the journalist are not partners. The journalist's job is not to help you convey a particular message, it's to report the news.

In an interview, the really good science reporters are not waiting for you to explain an advance in your own words. Instead, they want your gut reaction, a pithy quote, the bigger picture, etc.

If you don't want it in the newspaper, don't tell it to a reporter!

The big nasty truth for journalists:

We journalists like to think that a free and independent (i.e. disinterested) press is necessary for the healthy functioning of society. But more and more, the public gets its news from blogs and institutions write copy that runs directly in newspapers, magazines, etc. So it seems that many people make little distinction between new media (i.e. bloggers and the like) and old-fashioned journalism.

So bloggers may very well be the journalists of the future.  
Who knows?