

## Re: Black hole, strangelets and space phase transition at LHC?

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If you are logging in from Pluto and just want to check whether the Earth has been destroyed recently :-/ try

<http://ned.ucam.org/~sdh31/misc/geocide/board.html>

Hmm... I just checked and it looks like the mad scientists are -still- batting zero :-/

Anyway, for a concise discussion (by a math student at Oxford, I think) of various methods which have been suggested for destroying the Earth, try

<http://ned.ucam.org/~sdh31/misc/destroy.html>

The very first entry discusses strangelets. Not sure I completely agree with his miniblack hole scenario, but I can't argue with his overall conclusion: "the Earth was built to last", and is not likely to be reduced to rubble anytime in the next hundred years.

I seem to recall that a few years ago Livermore Labs wanted to try to ignite the atmosphere with X-ray lasers as a test of a Star Wars scheme. Well, -part- of it, anyway. Congress turned them down, possibly more out of budgetary concerns than safety concerns. Aye, there's the rub for mad scientists: even if you can figure out how to destroy the Earth (or Life on Earth) -in principle-, it's presumably much harder to figure out how to sterilize the Earth without spending trillions of dollars. Particularly if you haven't been able to, er, gain experience with less clever methods, like nuclear armageddon.

Which, btw, would not in fact sterilize the Earth, or even -entirely- eradicate humans, not that this should be much comfort. See the map in the current Bulletin of the Atomic Scientists for some insight into just how "hot" the continental U.S. would be post-armageddon. Any colored regions would be uninhabitable by current standards (think Chernobyl)---

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but the darned whole country gets colored -something-. Talk about "moving to Canada", sheesh--- any survivors would probably want to move to -Siberia-, since Canada would be pretty "hot" too. Recalling what recently happened in Texas, just imagine trying to evacuate -North America-.

Turning serious (sorry, this will be off-topic, except as an alternative perspective on fears that mad scientists are likely to do serious harm in the near future): At present, Mother Nature, via the next mutant of H5N1 or another "avian flu" strain), may be far more likely than humans to kill off a substantial fraction of the human population sometime during the next decade.

If you -really- want to worry about something, worry about this: some strains of avian flu have a 50% mortality rate, and the newest strains have been getting -more- deadly. That's right up there with Ebola. Compare the H1N1 flu strain ("Spanish flu"), which killed 25-50 million people around 1918, but achieved "only" something like a net 5% mortality rate.

In fact, this discrepancy is only to be expected: over the long run, the most transmissible illnesses (like the common cold) cannot be the most deadly; for a virus, killing your host in a spectacular manner is generally not a good strategy for long term survival :-/ Natural selection is very effective at finding workable compromises between transmissibility and mortality, and diseases like tuberculosis, AIDS, and syphilis always become far -less- virulent over time: possibly they still kill everyone who contracts the illness, but eventually they no longer kill -rapidly-.

The earliest H5N1 strains tended to kill victims before they could infect very many new victims; an alarming trend is that the latest strains seem to have a longer incubation period and a mortality of more like 20% and 50%. Expert say that the next generation of H5N1 strains is likely to be capable of igniting a global pandemic.

The trouble is that in the short run diseases sometimes very suddenly become both very deadly (5-20% mortality) and highly transmissible, before the host and disease organisms can "redjust the tradoff" between virulence and transmissibility. This natural process can be very unpleasant for the host species in the short run.

In the case of the avian flu, the fear for the human host species is that a new mutation could result in a strain which is far more transmissible by sneezing. Even if this strain had a mortality rate closer to 5% than 50%, it would still kill far more people than even the 1918 flu pandemic. Survivors would be better equipped to fight off subsequent avian flu strains, but the point is that spectacular die-offs due to epidemics are not -terribly- uncommon in Nature, particularly in the case of highly mobile species, such as 21st century humans.

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This is fine for future generations, I guess, but presumably a very undesirable outcome for the victims of a pandemic. I've seen mortality estimates for an avian flu pandemic ranging up to 20% of the world population (again, compare 5% of the global human population dying in the 1918 flu pandemic), a figure for which there is a possibly relevant historical precedent (the black death). In raw numbers, that would be more than one -billion- deaths in one or two years, worldwide, with perhaps 80% of the entire human population falling seriously ill at some point. Even for survivors, it would be a very protacted "near-death experience".

I understand that in the U.S., FEMA experts currently rate a flu pandemic at the very top, higher than terrorism, hurricanes, tsumanamis, lehars, etc., combined. IIRC, the director of the NIH has stated that if we ever see more than a thousand clustered cases of avian flu -anywhere in the world-, we will know that the next great pandemic has begun and will inevitably run its deadly course. And we've already come close to that in the last year.

These considerations should perhaps provoke a re-evaluation of current spending priorities. For example, the U.S. currently has -no- stockpiles of H5N1 vaccine. The stuff now being manufactured is only helpful against ordinary flu strains and is thought to offer -no protection whatever- against avian flu strains. Furthermore, the U.S. has no means of making or acquiring the tens of millions of doses of vaccine against a new flu N5N1 strain which would be needed in the first few weeks or months to help control a flu pandemic. (The goal would be keeping the population alive, not from keeping people from falling ill at all. Even in the best scenario, the economy would take a bit hit from absenteeism.) The same goes for certain antiviral drugs thought to have some effectiveness in some avian flu patients: no stockpiles, and no plans to acquire any.

This leaves us utterly helpless to offer more than palliative measures (e.g. oxygen in an ICU) in the event of an avian flu pandemic. Indeed, if say 50% of the population were ill with flu (by no means an outrageous assumption), it's very, very unlikely we could even offer -palliative- medical care to the sick and dying. Indeed, the authorities might well be forced to order -everyone- to stay at home (enforced 24 hours curfews), and might well -close- all the hospitals because a completely inadequate number of beds in isolation wards could quickly result in hospitals being nothing but the most likely places to -catch- the flu, if you are not already ill.

Thus, many or most Americans could be entirely on their own to cope with severe food shortages, in addition to being seriously or even mortally ill, or trying to nurse dying family members, possibly with little or no heat. (Because long-haul trucking of food and fuel would probably be curtailed, certainly because many truckers would fall ill and possibly even because authorities might be forced to close highways to quarantine the most severely affected areas.) There would probably be only limited emergency or trash services for many months in many large American

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cities. All these factors would greatly compound the challenge of surviving.

I've noticed that in recent days the U.S. government has cautiously sent up a few trial balloons (admissions that they know they are completely unprepared to cope with a flu pandemic). One of the least attractive features of American emergency management is that agency heads seem to always be terrified of "possibly causing a panic", when in fact Three Mile Island and even Katrina suggest that the American population would probably prove more stoic in the face of unpleasant news/events than our leaders tend to believe.

The lack of vaccine, antiviral, food and fuel stockpiles and other urgent shortcomings in our preparation for a global flu pandemic could be ameliorated by expenditures which, while not cheap, seem modest in comparison to re-establishing a large human habitation in the Gulf coast (particularly if we seriously try to protect them from future major storms). However, Congress is apparently too bewildered by a spate of recent national setbacks to muster the political will to try to address this issue.

It is of course ironic that the latest American "evolution trial" is starting up against the backdrop of a national policy of dicing with death by natural selection, which is what Congressional inaction amounts to. And to state the obvious: everyone is at risk to die in the next pandemic, quite irrespective of their personal beliefs about "evolution" :-/ Ah, it's a mad, mad world.

Oh, did I mention that some experts guess that the chances of an avian flu pandemic starting by the end of 2005 may exceed 10%?

"T. Essel" (hack hack)

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