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Hawking's latest incantations on black holes

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In a paper dated the 22nd of January 2014, bearing the title 'Information Preservation and Weather Forecasting for Black Holes', Stephen Hawking has not claimed that black holes don't exist. He has proposed that the event horizons of alleged black holes do not exist and that only apparent horizons form when gravitational collapse of a body such as a star produces a black hole. He's proposed his black hole apparent horizon in an attempt to prove that there are no black hole firewalls. Hawking retains all other alleged properties of black holes and still invokes quantum theory to claim that black holes evaporate by means of Hawking radiation. With his newfangled notions Hawking seeks to now redefine black holes. He says in his paper that,

"The absence of event horizons mean that there are no black holes - in the sense of regimes from which light can't escape to infinity. There are however apparent horizons which persist for a period of time. This suggests that black holes should be redefined as metastable bound states of the gravitational field."

Note that Hawking alludes here to the existence of black hole escape velocity. It's routinely claimed on the one hand that black holes have an escape velocity and that this escape velocity is equal to or greater than the speed of light in vacuum. If you toss a ball into the air, does it escape from the Earth? No. Does it leave the surface of the Earth? Yes; it goes up and then comes back down. So escape velocity doesn't mean that matter can't leave, only that it can't escape if its launch speed is less than the escape speed.

Consulting the Collins Encyclopædia of the Universe published in 2001 we find;

*"**black hole** A massive object so dense that no light or any other radiation can escape from it; its escape velocity exceeds the speed of light."*

Similarly, from the Dictionary of Geophysics, Astrophysics and Astronomy, published in 2001;

*"**black hole** A region of spacetime from which the escape velocity exceeds the velocity of light"*

So it's claimed that black holes have an escape velocity. However, on the other hand, it's also routinely claimed that black holes suck matter in so that matter can only go into a black hole and nothing can come out of it, including light. The black hole event horizon is said to be a one-way membrane, a boundary, from which nothing can even leave. In his book 'The Theory of Everything, The Origin and Fate of the Universe', published in 2002, Hawking says ;

"I had already discussed with Roger Penrose the idea of defining a black hole as a set of events from which it is not possible to escape to a large distance. It means that the boundary of the black hole, the event horizon, is formed by rays of light that just fail to get away from the black hole. Instead, they stay forever hovering on the edge of the black hole."

Professor Joss Bland-Hawthorn is a professor of astrophysics at the Institute of Astronomy, School of Physics, University of Sydney. In a televised interview on station ABC1 he told us that,

“A black hole is, ah, a massive object, and it’s something which is so massive that light can’t even escape. ... some objects are so massive that the escape speed is basically the speed of light and therefore not even light escapes. ... so black holes themselves are, are basically inert, massive and nothing escapes ...”

(Bland-Hawthorn 2013)

So it’s routinely claimed that black holes both have and do not have an escape velocity at the same time. But that’s impossible. Moreover, if the escape velocity of a black hole is the speed of light and light travels at the speed of light, then light must escape. However, Bland-Hawthorn assures us that because the escape speed of a black hole is that of light, light can’t escape!

It’s also important to note that escape velocity is an implicit two-body relation; one body escapes from another body. There’s no meaning to escape velocity in a model of the Universe that contains only one mass, and such a model bears no relation to reality anyhow. But all alleged black holes are universes which contain only one mass. Despite this, proponents of black holes and big bangs allege untold numbers of black holes present in an expanding big bang universe.

Now there are four alleged types of black hole universes and there are three alleged types of big bang universes. However, proponents of black holes and big bangs never specify what type of black hole in what type of big bang they allege. For instance, it’s claimed that there is a black hole at Sgt A*. What type of black hole in what type of big bang universe pertains to Sgt A*? They never say. This is always the case.

Dr. Stefan Gillessen of the Max Planck Institute for Extraterrestrial Physics and his colleagues have for years claimed that there is a big black hole at Sagittarius A* (Sgt A*). They made such claims in 2008 in this online report:

<http://www.space.com/scienceastronomy/081209-blackhole-stars.html#comments>

In 2013 Gillessen continued to expound on the alleged black hole at Sgt A* in these online reports:

http://www.krone.at/Wissen/Schwarzes_Loch_in_der_Milchstrasse_zerfetzt_Gaswolke-Kosmisches_Drama-Story-369073

<http://derstandard.at/1373512915711/Supermassereiches-Schwarzes-Loch-verwandelt-Gaswolke-in-Spaghetti>

However, on 21st December 2008 Gillessen admitted in writing (Crothers 2009) that not only is the notion of black hole escape velocity nonsense, but also that he and his colleagues had not in fact found a black hole at Sgt A*, and that nobody had ever found a black hole anywhere. Nonetheless, despite these admissions, Gillessen continues to claim a black hole at Sgt A*. Furthermore, Gillessen (2012) was awarded an ERC Starting Grant to continue studies of the alleged black hole at Sgt A*. Of

course, Gillessen and his colleagues are not the only astronomers to have claimed that there is a black hole at Sgt A*. It is quite a common false claim.

Hawking's latest paper really changes nothing because each and every alleged type of black hole and each and every alleged type of big bang are different and independent universes which can't be blended in order to manufacture multiple black holes in some big bang universe. In his paper Hawking refers to an asymptotically curved black hole universe – the so-called 'Schwarzschild anti de Sitter' universe. This universe is asymptotically anti de Sitter spacetime. Hawking also mentions the Kerr black hole universe. The Schwarzschild, Reissner-Nordstrom, Kerr and Kerr-Newman black hole universes are all asymptotically flat universes.

Consider this - all alleged black hole universes:

- (1) are spatially infinite,
- (2) are eternal,
- (3) contain only one mass,
- (4) are not expanding,
- (5) and are either asymptotically flat or asymptotically curved.

However, all alleged big bang universes:

- (1) are either spatially finite (in one case) or spatially infinite (in two different cases),
- (2) are of finite age,
- (3) contain radiation and many masses,
- (4) are expanding,
- (5) and are not asymptotically anything.

It's now plainly evident that all alleged black hole universes contradict all alleged big bang universes and so they can't coexist – they're mutually exclusive by their very definitions. In fact, no alleged black hole universe can be blended with any alleged big bang universe, with other black hole universes, or with itself. Similarly, no alleged big bang universe can be blended with any alleged black hole universe, with any other big bang universe, or with itself. This is easily reaffirmed by the Principle of Superposition. General Relativity is a nonlinear theory. Consequently, in General Relativity, the Principle of Superposition is invalid. For example, let **X** be some alleged black hole universe and let **Y** be some alleged big bang universe. Then the linear combination or superposition **X + Y** is not a universe, because the Principle of Superposition doesn't hold in General Relativity. Moreover, **X** and **Y** pertain to entirely different sets of Einstein field equations and so they have nothing whatsoever to do with one another.

Presumably Hawking has still retained his big bang dogma with his latest black holes. So he still has unspecified types of black holes all over the place inside some unspecified big bang expanding universe, notwithstanding that black hole universes and big bang universes can't be superposed. Superposition violates the mathematical structure of the General Theory of Relativity. Consequently, Hawking's latest paper is just as nonsensical as all his previous writings on black holes and big bangs.

There is a serious problem with modern physics, particularly astrophysics and particle physics. Many experiments are now one-off, and cost billions of dollars. It is impossible for these experiments to be replicated by independent scientists in different laboratories. Science rightly proceeds by experiments, and replication of experiments by different people in different laboratories is absolutely necessary in order to confirm or refute some reported experimental finding. Nowadays one group of scientists carries out an experiment with apparatus that costs the public purse huge sums of money. Independent scientists do not have access to such sums of money in order to conduct their own experiments and do not have access to the equipment that some group of scientists preferentially associated with that equipment has. The reports of a group of scientists whose experiments can't be replicated by any independent party do not constitute a substantiated scientific finding. Nevertheless, science now hinges on what some particular group of scientists merely alleges, without any possibility of independent experimental verification. The public at large is falsely led to believe that such isolated experiments are definitive. They aren't.

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