Research paper on black holes

Sociology, Violence

Black holes are space zones in the universe that are dark in nature and possess natural forces of attraction that have a very high gravity. This implies that they are able to attract and pull anything including light at a very high speed. This explains the origin of the name, Black hole. Several myths have been generated in many attempts to try and explain what a black hole is and Hollywood is at the forefront of it. Movies from Hollywood portray black holes as time physical entrances to tunnels that if one goes through, he can either move back or fourth in years. This means that they can go into the future or the past years.

Black holes are simply said to be the evolutionary endpoints of stars that happen to be 10-15 times massive to the sun. This is to say that an object with a high gravitational field that has a high velocity is more likely to surpass the speed of light (Parker 25). Therefore, it is argued that if a larger and massive star explodes, it might possibly leave behind a massive burned out stellar remnant e. g. if a heavy stone falls on the ground it leaves behind a huge man hole. Black holes will collapse on their own due to the fact that it has no outward forces that are opposing it. A general theory that has been put forward suggests that the content found in a black hole is usually compressed to a point that it is usually called the singularity point (Luminet 295). Its eventual collapse to a point of zero volume and an immeasurable density leads to a creation of singularity. Singularity is therefore an area in which the force of gravity happens to be stronger in such a manner that nothing can escape away from it including light. This is the main reason that explains why there is no information received or found from this region. This in essence tells us where the name black hole came from. Its surface is

called the event horizon which happens to be its border. Theoretically speaking, a sufficiently compressed mass will become a black hole.

A black hole on the other hand is believed not to be a cosmic vacuum cleaner. For example, incase the sun is substituted with a black hole that has a similar weight it subsequently affects its rotational behavior (Rau 23). A non rotating black hole's horizon appears to be spherical on the surface with a radius which is similar to the Schwarzschild while a spinning black hole has a distorted horizon that makes the equator to swell due to its rotation (Parker 30). The sun would have become a victim if it happened that it was shrunk to a ball close to a diameter of approximately 2. 5km. In addition, the earth's temperature will automatically change and as such there will be no wind or solar and solar magnetic storms that affect us. For one or something to be considered to be sucked in a black hole then it has to cross the Schwarzschild radius where its speed is similar to the speed of light. Therefore, it is believed that even if light passes this radius it cannot escape at all costs (Luminet 93).

The question being asked is, if we cannot see the black holes themselves, then how do we know that they are there in the first place? Stellar black holes are believed to be very small in that not even the light that would enable us to see them can escape; therefore, a black hole that is floating on its own in space would be hard to see in the visual spectrum (Luminet 215). Despite this fact, some people argue that whenever a black hole bypasses a cloud that has interstellar matter or rather comes near a normal star; there is a possibility that it will enlarge in size on its own. Stellar black holes are

mainly as a result of heavy weight stars whose remains exceeded the Oppenheimer Volkoff limit due to a supernova explosion that took place (Parker 32). Two dozen stellar black holes have timidly been identified within the Milky Way which that is part of the binary system where the other component is a star. Any matter that happens to be going down the same direction as the black hole acquires kinetic energy automatically that makes it to heat up and ends up being compressed by tidal forces. This heating leads to the ionization of the atoms that emit x-rays (Rau 14). The x-rays are then let out into space before the matter traverses past the Schwarzschild radius and lower it to a singularity. This aforementioned gives us a reason as to why we are able to see x-ray emissions.

It therefore goes without say that incase a star has a mass that might be more than that of the sun then it will cave in and fall down and nothing can stop it including the emanated neutrons. The main reason that will make the star to collapse eternally is that there is nothing that can stop the contraction from taking place. In addition, the material itself is thick in such a manner that light cannot escape from it (Luminet 100). The reason as to why light cannot be seen in a black hole is that it cannot escape. Whenever a black hole is close to another star, it takes in matter that leads to production and creation of x-rays. In general, there are four other black holes namely a black Schwarzschild black hole which has no charge and completely with no angular momentum (Parker 15). The second one is Reissner-Nordstorm black hole that does not have any charge at all with no angular momentum. The third one is called a Kerr black hole. This one has an angular momentum but

does not have charge and last but not least Kerr-Newman black hole that does not have charge and an angular momentum (Rau 25).

In conclusion, several myths have been forward especially by Hollywood inform of movies explaining black holes. All these myths and theories put forth are just theories that are yet to be proved. However, the explanation of these myths and theories adds flesh or rather make the theories more credible. Black holes are simply believed to be the evolutionary endpoints of stars that are 10-15 times massive to the sun. Although many people question that if we are not able to see black holes, then how do we know that truly they exist? Stellar black holes are very tiny and small in that not even light would escape through it. Black holes are believed to be four in total. It is said that incase a star that has a mass greater than that of the sun about four times and it ends up collapsing, then not even the neutrons can stop the force of gravity that is being radiated. The first one is the Schwarzchild black hole which is believed to have a charge but no angular momentum. The second one is called the Reissner-Nordstorm black hole that does not have charge and no angular momentum. The third one is a Kerr black hole with an angular momentum though it does not have a charge. The last one is a Kerr Newman black hole that has no charge plus no angular momentum. Therefore this simply suggests that there is no definite explanation or evidence of the being of black holes although theories have been put forth to show that indeed they are in existence.

Works cited

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