sity it was not until the 1960s that theoretical work showed they were a generic Prediction of general relativity. he discovery of neutron stars by Ocelyn ell urnell in 1967 sparked interest in gravitationally collapsed compact objects as a possible astrophysical reality. lack holes of stellar mass are expected to form when very massive stars collapse at the end of their life cycle. fter a black hole has formed, it can continue to grow by absorbing mass from its surroundings. y absorbing other stars and merging with other black holes, supermassive black holes of millions of solar masses » may form. here is consensus that supermassive black holes exist in the

black hole is a region of spacetime where gravity is so strong that nothingno particles or even electromagnetic radiation such as lightcan escape from it.6 he theory of general relativity predicts that a sufficiently compact mass can deform spacetime to form a black hole.78 he boundary of the region from which no escape is possible is called the event horizon. lthough the event horizon has an enormous effect on the fate and circumstances of an object crossing it, it has no locally detectable features.9 n many ways, a black hole acts like an ideal black body, as it reflects no light.1011 oreover, quantum field theory in curved spacetime predicts that event

ng radiation, with the same spectrum as a black body of a temperature inversely proportional to its mass. his temperature is on the order of billionths of a kelvin for black holes of stellar mass, making it essentially impossible to observe.bjects whose gravitational fields are too strong for light to escape were first considered in the 18th century by ohn ichell and ierreimon aplace.12 he first modern solution of general relativity that would characterize a black hole was found by arl chwarzschild in 1916, although its interpretation as a region of space from which nothing can escape was first published by avid inkelstein in 1958. lack holes were long

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