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**A Proposed Unification of Neutron Stars and Black Holes, with Implications from the Recent Radius Measurement of PSR J0740+6620.** BRADFORD BLAKE, None — Neutron stars and black holes are surprisingly similar objects. I examine the theory behind the maximal mass of neutron stars, and find unjustified the assumption that additional gravitational collapse of neutron stars creates black holes. Instead, I propose that black holes are created whenever the physical radius of a compact object is smaller than the object's Schwarzschild radius. My calculations indicate that this should happen for compact objects of mass larger than about 5.3 M. I propose that the apparent lack of compact objects between slightly larger than 2 M and about 5 M occurs because any such objects would be unstable neutron stars that would therefore shed mass. I will also discuss the recent measurements of the radius of the massive pulsar PSR J0740+6620, along with the implications of these measurements on my proposed unification.

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None

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