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Neutrinos and the r-process

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While the mechanism for producing the heaviest elements has been understood for half a century, the astrophysical site remains a mystery. We will consider and compare two possible sites - the neutrino driven wind of the type II supernovae and the outflow from accretion disks surrounding black holes. These disks are likely to form from either neutron star mergers or from the collapse of rapidly rotating massive stars. In either case there is a significant flux of neutrinos which will impact the neutron-to-proton ratio and thus the nucleosynthesis. We will discuss the role of the neutrinos and the prospects for obtaining an r-process in each environment.