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Abstract: A great deal of evidence from animal research suggests that enhanced memory for emotional events stems from an interaction between endogenous stress hormones (released during and after the events) and a brain region called the amygdalae. Evidence from human subject work further supports this view. More recently, it has become clear that pronounced influences of both cerebral hemisphere and subject sex exist on these mechanisms. This lecture will cover first the background in animal and human work that provides the foundation of our understanding of how emotional arousal influences memory in the brain. I will then describe more recent work on sex and hemisphere influences. A straightforward, yet highly important conclusion is that studies of the neurobiology of emotionally-influenced memory can no longer assume that subject sex will not importantly influence the findings and conclusions. Three take home lessons: 1) Endogenous stress hormones and the amygdala interact to modulate memory for emotional events, 2) these processes do not appear to occur identically in men and women and 3) research into sex differences is necessary to understand and treat a host of brain disorders with sex differences in their incidence and/or nature