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Religion is a virtually ubiquitous feature of human societies. It seems to be a very ancient feature of humanity as attested by the archeological record. There exist nowadays several attempts at explaining its emergence and evolution, some more focused on biological mechanisms, other more concerned with cognitive or cultural dynamics. In my paper, I will first present a possible complex mechanism of bio-cultural evolution based on the notions of "cultural exaptation" and "cultural neural reuse". Cultural exaptation points to cases in which already existing cultural strategies are exapted for (i.e. co-opted for and put at the service of) new domains of human life. This might have been the case, for example, of technological means originally devised for subsistence practices and then co-opted for "artistic" and "expressive" reasons. The use of ochre as a means to protect skin from UV radiation and later co-opted for decoration of body and objects provides a specific example. The ability to incise objects for utilitarian reasons (like increasing the grip between hand and tool) later co-opted for symbolic practices (like object decoration or, more relevantly, production of so-called artificial memory systems to store and transmit information) provides a second interesting case. Cultural neural reuse points to cases in which already existing brain structures (set by genetic evolution in view of essential cognitive abilities) are reused and put at the service of newly emerging cognitive functions without concomitant of triggering genetic evolution. This may be beautifully exemplified by the neural substrates for reading, which form in the human brain when an individual learns to read (even if this happens in late adulthood) without any genetic evolution possibly shaping the human brain for such a recent cultural strategy like literacy. I will present a model in which cultural exaptation and cultural neural reuse may work in tandem to ensure the emergence of complex cultural features like literacy or arithmetic. Then, I will apply this model to the evolution of religion. In doing this, two points will be stressed: 1) that religion requires a complex social domain in which notions and practices are passed on in the course of generations (and means for transmitting such notions and practices are to be excogitated); 2) that religion is not primarily a subsistence-related cultural strategy but essentially concerns the tendency of the human being to improve its life-conditions, to overcome itself and its limits, and to long for the better (in other words, religion is much more concerned with the "wants" than with the "needs").