Evolutionary Adaptations and Male Mortality

Insights from evolutionary biology help explain current male mortality rates.
Posted Sep 20, 2016


Although he and his wife eat similar foods, jog, are about the same age, and have similar lifestyles, Richard Bribiescas, a professor of anthropology and ecology and evolutionary biology at Yale University, knows that “by simple virtue of being male,” in all likelihood she will pick out his headstone.

In How Men Age, Bribiescas draws on evolutionary biology to explain the current rate of male mortality. It is “all but certain,” he claims, that “we are designed” not for longevity, but “to live long enough to create the optimal number of copies of ourselves in the context of others who are trying to do the same.” If natural selection favors a particular kind of health, “it is reproductive health.” Changes in the reproductive roles of older men, however, may well point the way to “where we are heading as a species.”

The most social of the sciences, evolutionary biology is, perhaps inevitably, speculative. Unlike physics and chemistry, evolutionary biologists cannot isolate variables in a laboratory, experiment with them, and construct chains of causation. And, as Bribiescas indicates, we are all affected by our environment as well as our genes: “when it comes to nature or nurture, the answer is ‘yes.’”

That said, Bribiescas draws on the latest findings in anthropology, endocrinology, and genetics to help us understand the male-aging process, including the shift from muscle to fat, changes in...
testosterone levels, and enlarged prostates. *How Men Age* is wry, sly, informative, and provocative.

Bribiescas attributes the gender gap in mortality rates to neuroendocrine factors that stimulate risky behavior (meant to attract the attention of potential mates) in adolescent males – and to a metabolism, advantageous for higher energy demands, whose “downstream costs,” in the form of the toxic byproducts of burning calories, may increase susceptibility to infection and accelerate aging.

According to Bribiescas, as men age (and have less need to attract a sexual partner) they lose hormonal plasticity, become less efficient in putting on muscle and regulating the accumulation of fat: “Hello, stretch-o-matics.” Pizza, potato chips “and other goodies that promote fat deposition,” Bribiescas points out, “have nudged their way into the picture only recently,” complicating the environment “in a manner that is unique in our evolutionary history.”

At the same time, a not trivial number of men in their ‘50s, ‘60s and even ‘70s are having children, leading Bribiescas to associate himself with the observation of biological anthropologist Frank Marlowe that human longevity might not be driven by women but by men (whose children, male and female, would be the beneficiaries of genes associated with a longer life).

Recognizing however, that older men “have fewer options to increase their reproductive fitness,” Bribiescas also entertains “the difficult to test hypothesis” that decreases in testosterone promote a greater investment in the care of children (along with a reduction in mate-seeking behavior and competition with other males), with the added advantage of bolstering a father’s immune system and reducing the risk of passing pathogens on to offspring. Either way, “paternal investment” provides an evolutionary rationale for survivorship.

Clearly, *How Men Age* is a work in progress. Bribiescas is “hard-pressed” to develop an adaptive explanation for male hair loss (alopecia). It might serve as a signal of age, he guesses, “although we would be standing on shaky theoretical ground.” He recognizes that the question of how gay men fit evolutionary hypotheses about aging merits “much more detailed discussion” than he has provided. And he posits that, given the aggressive tendencies of men (of all ages), empowering women to address risks to the species of global war and climate change “would be a tremendously powerful step.”

In the meantime, he concludes, as prostates swell, muscle diminishes, and nap time beckons, attractive evolutionary alternatives, such as “fathers caring for children, pudgy bellies for cats and grandchildren to snooze on,” appear to have granted us a few more years “to enjoy the wonderful absurdity of life.”