Introduction

Steve Jones, best-selling British science writer, host of a hit BBC science series, and witty science popularizer, tells us everything we've ever wanted to know about the bearers of the Y chromosome in *Y: The Descent of Men*. Jones brings to bear his expertise in genetic research and his formidable writing skills to tell the tale of the tiny chromosome that has shaped, probably more than any other single chromosome, the way humans view and experience the world.

Like the best-selling *Woman: An Intimate Geography* by Natalie Angier, *Y: The Descent of Men* is a tour de force combining scientific and cultural insights about the evolutionary and biological latecomer we call the male. In *Y*, Jones marshals the most recent research to reach a conclusion that many women (and some men) have long held: males are the weaker — the second — sex. Indeed, the twenty-first century might be the "age of women," given the growing list of males' biological shortcomings:

- The "prince of chromosomes" is not so royal after all. The Y chromosome essentially exists to shuffle genes between females.
- Love "may start as chemistry, but it ends in physics: an exercise in pumps, valves, and fluids" prone to mishaps and malfunctions.
- Men survive the death of a partner far less well than women do.
- Over the past ten thousand years, genes show, most of the time men have stayed at home and women have migrated.
- Men's sperm undergo more mutations than eggs of women the same age do.
- Testosterone makes males aggressive but also suppresses their immune system, hindering their ability to fight disease.
- Chemical pollution is driving down sperm counts.
Many people know that all fetuses start out as female, but few understand that the Y chromosome may be wilting away and may actually cease to exist within a "mere ten million years." Although males will find new sex selection mechanisms, what it means to be male will be changed forever. While Jones uses the most up-to-date scientific research as a basis for his argument, his ultimate focus is on the ways in which science influences how men — compared to women — interact with the world. Like the popular astronomer Carl Sagan, Jones explains complex scientific ideas in an entertaining, approachable way. The result is an illuminating, instructive primer on the precariousness and peculiarity of the male.

When released in Britain a few months ago, Y: The Descent of Men created a media stir. In the Sunday Times, Mark Ridley said Jones "is an expert, but somehow makes his reader feel like an equal." Fay Weldon, in the Daily Telegraph, wrote, "The shocking news is that long before the earth topples into the sun, the SRY gene will be gone and with it mankind as we know it."

About Steve Jones

Steve Jones is professor of genetics and head of the Galton Laboratory, University College, London, and has previously written three books, two of which were published in the United States: Darwin's Ghost and The Language of Genes. He has written for the New York Review of Books and has a regular column about science in the London Daily Telegraph. Jones has had a series on BBC television, has appeared on BBC radio, and is frequently quoted in British publications.

Some Themes Raised in Y: The Descent of Men

• Females produce relatively few eggs, while males deploy battalions of sperm to fertilize the egg. Jones examines strategies that result from this fact and the advantages and disadvantages of approaches animals use to deliver sperm to egg.

• Jones compares the physical, social, and economic costs and benefits of raising males versus females in different countries and cultures. He also describes the odd courtship and parenting strategies of various animals.

• Masculine love "may start as chemistry, but it ends in physics: an exercise in pumps, valves, and fluids." Jones explains the mechanism of erections and what happens when things go wrong (and how treatments like Viagra intervene).

Did you know...

• Man's sexual habits — as a fairly monogamous creature that lives in huge colonies — are much closer to those of seagulls than those of other primates.
• All over the world, men claim more sexual partners than women (Frenchmen almost twice as many; Americans rather fewer), but given that it takes two to tango, that's mathematically impossible. Who's telling the truth?
• Average penis lengths: human, about six inches; blue whale, ten feet. And when it comes
to ejaculates, a certain zebra comes up with almost a gallon.
• Beards grow faster than usual on the day before an anticipated sexual encounter.
• Men produce fewer sperm in summer than in winter, and taxi drivers produce fewer than
men who do not drive.
• In the animal world, sperm may look like worms, spirals, spheres, and stars — and some
travel in gangs until just before they reach the egg.
• Eggs have a filtering mechanism that chooses the sperm with which they connect.
• All fetuses start out female; only after a month or so does the embryo go down one road
or the other.
• Nearly all twenty-year-old men have an erection (usually in their sleep) for three out of
every twenty-four hours.
• Men's sperm undergo far more mutations than the eggs of women the same age do.
• The hormone important in milk production appears to rise in human fathers when they
bond with their infants.
• Boys are less tolerant of the pain of a vaccination shot if they have been circumcised than
if they have not.
• Boys approaching puberty who lack estrogen (usually seen as a female hormone) fail to
mature; and men over fifty have more estrogen than most postmenopausal women.
• After extreme starvation followed by full eating, men have been known to grow breasts
and lactate.
• The idea that bald men have more testosterone is a myth.
• Testosterone makes males aggressive but also suppresses their immune system.
• Providing extra testosterone to men is medically risky, but postmenopausal women who
receive a little have greater sexual fulfillment.
• Most men lose half their hair by age sixty.
• Genetic tests show that the ancestors of most African Americans received many more
genes from white men than from white women.
• Men survive the death of a partner far less well than women do.
• Over the past ten thousand years, genes show, most of the time men have stayed at
home and women have moved.

Praise for Steve Jones's Y: The Descent of Men

"Y is outrageous! A seminal book in every sense." — Richard Wrangham, author of Demonic
Males and professor of anthropology at Harvard University

"[Jones is] one of our star science popularisers . . . His forte is genetics and he has an
unrivalled ability to bring that important but often unintelligible science to life. He leaves out
the technicalities and has a wonderful way with anecdotes. He is an expert, but somehow
makes his reader feel like an equal. I like his understated humour. His previous books have
been publishing hits, and this one deserves to be, too." — Mark Ridley, Sunday Times

"Jones argues in this delightful, witty, insightful analysis of the state of maleness that being
a man can be an uncomfortable, unpredictable business. Once we were viewed as the
'natural sex,' the true human prototype . . . But not any more. Man's comfortable self-
elected status has been demolished by science, which has shown that men only retain their
maleness through constant chemical interference, a desperate bid to avoid femaleness, the natural state of our species." — Robin McKie, Observer

"The shocking news is that long before the earth topples into the sun, the SRY gene will be gone and with it mankind as we know it. The Y chromosome itself is failing: doomed to entropy . . . Also find within this book a wealth of fascinating detail. We have a chapter on the vulnerable hydraulics of erection, another on mankind’s remarkable tendency to castrate itself and mutilate its own genitals, on the role of female hormones in males and vice versa . . . Steve Jones is ruthless in his determination that we should know what is to be known. And since it is now accepted that science's only duty is to find out, and society's duty to deal with its findings, society had better pull itself together and take an interest . . . We need all the Joneses we can get." — Fay Weldon, Daily Telegraph

"Y: The Descent of Men is an irreverent but scholarly primer on the male anatomy and, by extension, on the male mind . . . Using Charles Darwin's other great work, The Descent of Man, as his template, the geneticist celebrates the 100th anniversary of the discovery of the Y chromosome in thought-provoking style . . . [It] enlightens and explains masculinity in a way that the therapists and theorists who have tried to define the subject could never do." — Mark Henderson, Times

"In Darwin's day, the superiority of males and men was taken for granted. Today at least in biological if not social terms, the roles are reversed. In almost every biological sense, males are the weaker sex; we suffer from more developmental diseases, die younger — especially if we live alone — and are increasingly genetically expendable, the more so in these days of genetic engineering and potential cloning . . . Y should be required reading for anyone possessing the relevant chromosome — and XX partners, actual or potential, may well find it rather helpful too." — Steven Rose, Guardian