

FOUR MYTHS ABOUT DARWIN'S THEORY

AND WHY THEY'RE WRONG

The sect was a minefield of personal feuds, theological battles, poverty and sexual tension. Soon Brewster and his group were sucked in. At the center of the storm was what religious fundamentalists, most particularly the men, fear most: female sexuality. Like the Mormons, Brewster and his group wore underwear designed to prevent sexual arousal. Like most Muslims, they frowned on sexually suggestive clothing for women.

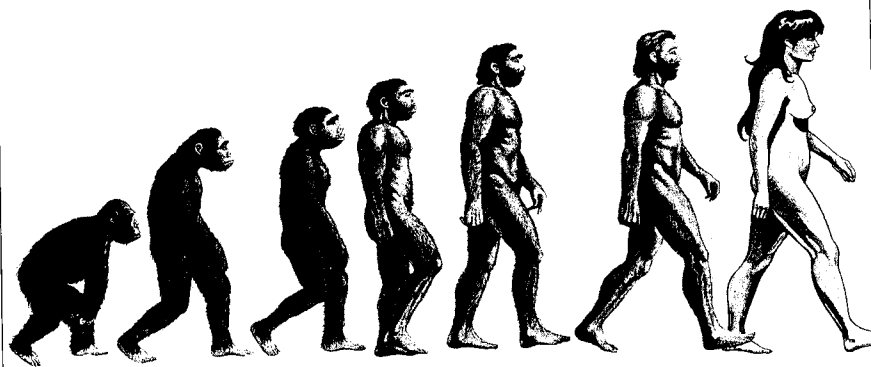
Enter Thomasine Boyes, the widow of a successful London haberdasher. She had remarried to one of the most radical Puritan theologians of the day and relocated to Amsterdam with the Brethren. Her sin was a taste for fine clothes and jewelry, which flew in the face of the sect's dress code; the Puritan version of the burka was a formless black garment that left no skin exposed.

As a result of her "scandalous" behavior Boyes became the focus of a war of words. Her brother-in-law George wrote a vitriolic 290-page tract denouncing her as a whore and servant of the devil. Faced with an increasingly chaotic scene in Amsterdam, the Scrooby congregation and a number of Ancient Brethren members decamped to Leiden, where they settled in Stincksteeg ("Stink Alley"), the poorest part of the city.

Eventually the group managed to pool its resources and establish a base in Leiden, with a meeting house and a dozen buildings on Choir Alley, which survives today as Vicus Choralis. The band also set up a clandestine printing press to produce pamphlets critical of England that were deemed seditious by England's ambassador in Holland. With the help of the Dutch authorities, the Pilgrim press was shut down and Brewster was forced into hiding with the rest of the Leiden group.

Two years later they made their way across the Atlantic. Their attitudes toward sex, God and the Bible would become the cultural DNA of the United States. Today—at a time when fanatics are seeking to turn back the clock of history, when twice as many Americans are said to believe in the devil as in Darwin's theory of evolution and when the most powerful nation on earth has a president described by an evangelical preacher as a "messianic American Calvinist"—it is worth looking over our shoulder at the fanatics who fled for the American coast in 1620.

Worral is the author of Pilgrims: The True Story of the Englishmen Who Founded America.



STEVE GRANITZ/FORMAL PICTURE

By Cameron McPherson Smith and Charles Sullivan

1. IT'S ONLY A THEORY

To many people the word *theory* means a hunch or guess. The Cobb County School District near Atlanta had this in mind when it tried to put stickers that read, *EVOLUTION IS A THEORY, NOT A FACT*, on biology textbooks. But a hunch or guess that needs investigation is known as a *hypothesis*. A hypothesis becomes a theory only when overwhelming evidence supports it. The theory becomes stronger as it accounts for more facts and observations. The theory of gravity works well to explain why objects fall to earth and why planets orbit the sun. Similarly the theory of evolution does a fine job of explaining both the fossil record and the genetic similarities and differences between species. Evolutionary theory is supported in great measure by three observable processes: replication, that is, reproduction; variation, which refers to the genetic changes that make offspring different from their parents; and selection, which describes how better-adapted offspring tend to survive and pass on their genes.

Some people confuse evolutionary theory with Lamarckism, named for Jean-Baptiste de Monet de Lamarck (1744–1829), who argued that characteristics acquired during an individual's lifespan could be passed on to the next generation. As an example,

he suggested that giraffes developed their long necks over a few generations as they stretched to reach higher foliage. But such characteristics are not passed on. A bodybuilder does not have children with greater muscle mass. Modern evolutionary theory says that some ancestors of giraffes acquired slightly longer necks through mutation. Because these animals could reach more food, they tended to be healthier, to live longer and to have a better chance at mating and passing on their long-neck genes.

2. THE LADDER OF PROGRESS

Evolution is commonly imagined as a ladder that over time climbs toward higher and higher stages of life, culminating in modern humans. Evolution does involve long-term changes, but these changes are unpredictable. Beneficial genetic changes tend to be passed on to offspring, and new species appear when many such changes have accumulated. However, complex species aren't "more evolved" than simpler species, especially since complexity doesn't necessarily guarantee survival. If an environment changes drastically, such as after a large meteorite impact, we can't assume that a more complex species (e.g., humans) would survive while a simpler species (e.g., cockroaches) would die off. What matters is whether species are



Who's your daddy?

sufficiently adapted to their environment to survive. That's why a bush depicts the evolutionary process better than a ladder. The branches can grow in any direction, and new limbs that sprout from existing branches aren't considered more advanced, just as a younger species that branches off an older one isn't more evolved.

3. ONLY THE STRONG SURVIVE

Television producers often present the natural world as the ultimate reality show—a vast, bloody battlefield where the strong vanquish the weak. But the strongest aren't the ones who survive. The fittest are. Each organism's environment includes an array of pressures, such as food scarcity, any of which may be as lethal as a predator. In fact, in the animal world we see more bluffing than actual fighting among members of the same species. Bluffing can be just as effective as physical prowess, and it's safer. Since fitness can be measured in many ways, and because selective pressures change unpredictably, adaptability and versatility can be more useful than size or strength.

4. PEOPLE DESCEND FROM APES

One of Darwin's fiercest critics, Bishop Samuel Wilberforce, once asked whether Darwin descended from monkeys through his grandfather's or grandmother's family. But evolution has never claimed that

humans come from monkeys or apes: It's not possible, since they're still here with us. But we are related. Among the animals, we're mammals, and among the mammals, we're primates. We share characteristics—such as relatively large brains, reliance on vision and highly dexterous hands—with about 200 other primate species. No rational person would dispute this.

Evolution holds that we have a common ancestor with monkeys, specifically with chimpanzees. Multiple lines of anatomical, fossil and DNA evidence make this relationship equally indisputable. The evidence indicates that about 6 million years ago, a chimpanzee-like group lived in the forested regions of central Africa. When its habitat began to dry and fragment, some members remained largely tree dwellers; these were the ancestors of modern chimps. But others adapted to life on the mostly treeless savannah. These were the hominids, distinguished by bipedalism—walking habitually on two legs—and they were our ancestors. This also explains why the idea of a missing link is a fallacy. Life is not arranged as a series of links but as a continuum. Because species are not fixed, it can be difficult to know where one ends and another begins.

McPherson Smith, an anthropologist at Portland State University, and Sullivan, a writer, are co-authors of The Top Ten Myths About Evolution.

MARGINALIA



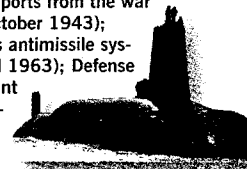
FROM AN ACKNOWLEDGMENT issued this past fall by military spokesperson Kim Waldron of the U.S. Army Forces Command at Fort McPherson, Georgia on sending openly gay service members into combat: "The bottom line is some people are using sexual orientation to avoid deployment. So in this case, with the Reserve and Guard forces, if a soldier 'tells,' they still have to go to war, and the homosexual issue is postponed until they return to the U.S. and the unit is demobilized."

FROM AN ADDRESS to the Connecticut Evening Dinner Club by Mark Twain in 1881: "If you don't want to work, become a reporter. That awful power, the public opinion of the nation, was created by a horde of self-complacent simpletons who failed at ditch digging and shoemaking and fetched up journalism on their way to the poorhouse."



FROM A SERMON by Sheik Ibrahim Mudeiris broadcast on the Palestinian Authority's TV station: "The day will come when we will rule America. The day will come when we rule Britain and the entire world—except for the Jews. The Jews will not enjoy a life of tranquility under our rule, because they are treacherous by nature, as they have been throughout history. The day will come when everything will be relieved of the Jews—even the stones and trees, which were harmed by them. Listen to the Prophet Muhammad, who tells you about the evil end that awaits the Jews. The stones and trees will want the Muslims to finish off every Jew."

FROM A CONGRESSIONAL Research Service report that lists the subjects of 38 secret sessions held by the U.S. Senate since 1929: impeachment trial deliberations for Judge Halsted Ritter (April 1936); naval policies on building battleships and aircraft carriers (June 1942); reports from the war fronts (October 1943); Nike-Zeus antimissile system (April 1963); Defense Department appropriations (December 1969); U.S. involvement in Laos (June 1971); Trident submarine program (September 1973); report from the Select Committee to Study Governmental Operations With Respect to Intelligence Activities on alleged assassination plots involving foreign leaders (November 1975); funding for neutron bombs (July 1977); proposed airplane sales to Egypt, Israel and Saudi Arabia (May 1978); nominations for assistant secretary of state (February 1983); Nicaragua (April 1983); most favored nation status for China (February 1992); chemical-weapons convention (April 1997); impeachment trial



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THE 2 MINUTE DRILL

ORIGINS OF LIFE

QUESTIONS FOR HUGH ROSS

Hugh Ross is the director of research and president of Reasons to Believe and co-author of Who Was Adam? You're an evangelical minister with degrees in physics and astronomy. What is your take on Darwin's theory? While natural processes may account for small changes in certain life-forms, I believe that only supernatural intervention accounts for the larger changes and the origin of life. The timescale and sequence of the fossil record are in perfect accord with the book of Genesis. The only interpretation of the days of creation that is consistent with all 20 accounts in the Bible is that God created over six epochs and then stopped after creating Adam and Eve. A literal Adam and Eve? Yes, and recent mitochondrial DNA and Y-chromosome anal-

ysis supports the conclusion that humanity is descended from one man and one woman who lived about 50,000 years ago. Can you run down the various schools of creationist thought? Our position is known as day-age creationism. Young-earth creationists believe the universe is less than 10,000 years old. Theistic evolutionists believe God has intervened only once or twice and only through the laws of physics, which he set up. Intelligent-design theorists say there is no need to identify the designer or the timescale. What should students be told about the origins of life? We should teach the most scientifically credible models. I don't want certain Christian models such as young-earth creationism to be taught, because they are probably false, both biblically and scientifically.



STEVE BRONKHORST/STOCK PHOTO

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PLAYBOY

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Sex.com was perhaps the most valuable address on the web. See how the site became a gold mine during the dot-com boom, then watch as the party implodes in a swirl of swinging, speed, spending and, ultimately, rancorous litigation between two men fighting to control it. **BY MICHAEL GROSS**
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After her sister's tragic death, a dexterous woman becomes a health professional specializing in hand jobs, now said to cure many ailments. Soon she finds there's more to healing than lube and Kleenex. **BY MICHELLE RICHMOND**

the playboy forum

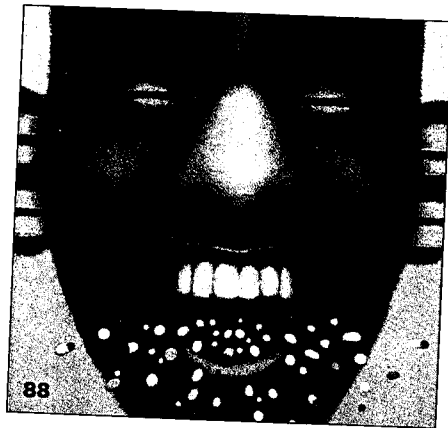
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Attitudes about sex, women and the Bible that were held by the religious fundamentalists who founded our country echo across the centuries as zealots seek to turn back history's clock. **BY SIMON WORRALL**

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The man who invented Stuart Smalley has turned into one of the country's strongest liberal voices, becoming the public face of Air America Radio en route. We ask the *Saturday Night Live* veteran about how his self-proclaimed Al Franken Millennium is going, what motivated him to write *Rush Limbaugh Is a Big Fat Idiot* and who pisses him off the most. **BY WARREN KALBACKER**



COVER STORY

After becoming the first winner on *America's Next Top Model*, the uninhibited Adrienne Curry up and stole Christopher Knight's heart on *The Surreal Life*. Now she gets loose-lipped about her reality show *My Fair Brady* and her spinout with supermodel Tyra Banks. Senior Contributing Photographer Stephen Wayda serves Curry extra spicy. Our Rabbit goes for the gold.

