

Creation science, or initially scientific creationism, is a pseudoscience that emerged in the 1960s with proponents aiming to have young Earth creationist beliefs taught in school science classes as a counter to teaching of evolution.

This position says that evolution occurred suddenly, driven by extreme, planet-wide catastrophes. However, the creation accounts in the Koran are more vague and are spread among several surahs chapters 2: Edis Vedic Creationism Hinduism speaks of a very ancient earth. One book influenced by Hindu belief argues that anatomically modern humans have existed for billions of years. Deloria has put together a version of creationism which takes from many Native American cultures. It says that originally there was no essential difference between people and animals, that giant people and megafauna once coexisted, and that people and animals shrunk in stature after the golden age came to an end with the earth being ravaged by fire from volcanism. Kennewick Man is a year-old Caucasian fossil man found in Washington state. The fossil is of great interest to anthropologists because of its great age and its anatomical differences from indigenous North Americans. According to the creation beliefs of the Umatilla Indians, though, their ancestors have always been there, so Kennewick Man must be an Indian ancestor. A court decision in favor of the Umatilla could be the only Federal legal decision in decades to support one particular view of creationism over another. Many Christians object to having their beliefs called myths, but a myth is simply a story which is or has been considered true and sacred by a group of people. Other cultures believe their creation myths for exactly the same sorts of reasons that Christians believe theirs. There are far too many different creation myths to give more than a sampling here. Only a few myths exemplifying some common themes will be given. Unless otherwise noted, all examples come from Sproul

Finnish A teal flew over the primeval waters but could find no place to land. The Mother of the Water raised her knee above the water, and the teal made a nest on it. It laid six golden eggs and one iron egg, and then it sat warming them. The heat became so intense that the Mother of the Water twitched her knee. The eggs dislodged and broke. The earth formed from one half of a shell, and the sky from the other half. The sun formed from the top half of one yolk, and the moon from the top half of the white. Stars and clouds also formed from parts of the egg. Separation of Earth and Sky

example: New Hebrides Naareau the Elder created the earth, but the sky and the earth clove together with darkness between them. Naareau the Younger, with a spell, created a slight cleft between earth and sky. He created a bat and told it to look around. Naareau crawled in the cleft and, with the Bat as his guide, went to the people. Naareau told them to push up, and the sky was lifted a little, but they could lift it only so high. Naareau summoned Riiki, the conger eel, and told it to push up on the sky against the land. The sky was pushed high and the land sank. The Company of Fools and Deaf Mutes were left swimming in the sea; they became the sea creatures. Patterns of Creativity Mirrored in Creation Myths. Norse The heat from Muspell, the firey area to the south, met with the cold from icy Ginnungagap in the north and created the frost giant Ymir. A man and woman were born from his armpits, and one of his legs mated with the other to make a son; these began a race of frost ogres. Some melting ice became the cow Audhumla, whose teats gave rivers of milk. The man Buri appeared from a block of ice which Audhumla licked. His descendents included the gods Odin, Vili, and Ve. They slew Ymir, and his blood flooded and killed all people except the giant Bergelmir and his family. His bones and teeth became mountains and rocks, his skull became the sky, his brains became clouds, etc. They made the sun, moon, and stars out of sparks from Muspell. The three gods made a man and woman Ask and Embla from two fallen trees. Odin gave them life, Vili gave them intelligence, and Ve gave them speech, sight, and hearing. Huron In the beginning, there was only a wide sea. A divine woman fell from the upper world. Two loons saw her falling and together caught her to keep her from drowning. They called for help from other animals. One of the animals to come was tortoise, and he accepted the woman onto his back. The animals decided the woman should have earth to live on, and tortoise directed them all to dive to the bottom of the sea to bring up some earth. Many tried but failed. Finally toad dived; he came back exhausted and almost dead, but he had some mud in his mouth. It extended on all sides, forming a vast country. The woman was pregnant with twins, Tijuskeha and Tawiskarong. Her body was buried, and from it came many

forms of vegetation. Tijuskeha created useful and innocent animals, and Tawiskarong created fierce and monstrous ones. Tijuskeha reduced these in size when he discovered them. Lipan Apache In the beginning, all people lived in darkness in the lower world. They held a council and decided to send someone above to find whether there was another world. First they sent wind. Water had covered the earth originally, but the wind rolled it back, and land appeared. Next they sent Badger, who reported back that there was dry land up there. The people next sent four men to prepare the world above, which was flat and empty. These four men chose one named Mirage from whom to make things as we know them now. They formed Mirage into the shape of a ball, and of that ball made all things of this earth. Those people went around making hills and mountains, lightning and springs, etc. Then the people of the lower world ascended. First the animal and plant people came out. They moved around the edge of the earth clockwise, and different tribes stopped at different places. The real humans came out after them and likewise migrated to different places. Sun and Moon were originally with the people, but they later went ahead and separated. Creation by Spoken Word; Repeated Creation example: Quiche Maya At first there was only sky above and water below. The gods Sovereign Plumed Serpent and Heart of Sky spoke together, joined their thoughts, and conceived of creation. Simply by their word, they brought it forth. First they created and formed earth and vegetation; then they created animals and gave them homes. So the animals were appointed to serve by their flesh being eaten. The gods tried making a human body out of earth and mud, but it could not turn its head, and it crumbled in water, so they gave up on it. Next they created manikins out of carved wood. These people talked like men, and they multiplied and populated the earth, but there was nothing in their hearts, and they did not remember their creators. Heart of Sky devised a flood for them. A rain of resin came from the sky; animals attacked them, and even their cooking pots and grinding stones turned on them. Finally, just before the first dawn, before the sun and stars appeared, four men were made from corn meal and water. These people saw everywhere and understood everything, and they gave thanks for being made. Four women were made next, and these eight people became the parents of the Quiche people. Viewpoints on Evolution, Creation, and Origins. Leeming, David and Margaret Leeming, A Dictionary of Creation Myths. See also Sproul in the References. Annual Review of Anthropology The variety of creationists is also discussed in chapter 1 of Robert T. Christianity and the Age of the Earth. Acknowledgements The following people provided helpful suggestions and corrections to earlier drafts: Kennewick Man fact sheet. Islamic creationism in Turkey.

Despite many people's tendency to think of all creationists in one group and all evolutionists in another, "creationism" refers to a wide range of beliefs. This article gives a brief introduction to creationist positions. It tries to cover the breadth of creationist beliefs (and a little of the.

History[edit] Biblical dates for creation[edit] The first major comprehensive draft of Genesis was composed by the Yahwist in the late 7th or the 6th century BC, during the Babylonian captivity , with later additions made by the priestly source in the post-exilic period. The poor world is almost 6, years old. James Hutton , now regarded as the father of modern geology, went further and opened up the concept of deep time for scientific inquiry. Rather than accepting that the Earth was deteriorating from a primal state, he maintained that the Earth was infinitely old. As these processes were very gradual, the Earth needed to be ancient, in order to allow time for the changes to occur. While his ideas of Plutonism were hotly contested, scientific inquiries on competing ideas of catastrophism pushed back the age of the Earth into the millions of years – still much younger than commonly accepted by modern scientists, but a great change from the literalist view of an Earth that was only a few thousand years old. The energetic advocacy and rhetoric of Lyell led to the public and scientific communities largely accepting an ancient Earth. By this time, the Reverends William Buckland , Adam Sedgwick and other early geologists had abandoned their earlier ideas of catastrophism related to a biblical flood and confined their explanations to local floods. By the s, mainstream science had abandoned a young Earth as a serious hypothesis. White described the impact of the Great Flood on the shape of the Earth. The book attracted a small following, with its advocates almost all being Lutheran pastors and Seventh-day Adventists in America. Laurence Kulp , a geologist and in fellowship with the Plymouth Brethren , and other scientists, [46] Ramm influenced Christian organizations such as the American Scientific Affiliation ASA in not supporting flood geology. Morris and John C. Morris and Whitcomb argued that the Earth was geologically recent and that the Great Flood had laid down most of the geological strata in the space of a single year, reviving pre-uniformitarian arguments. Given this history, they argued, "the last refuge of the case for evolution immediately vanishes away, and the record of the rocks becomes a tremendous witness Sister organizations such as the Creation Research Society have sought to re-interpret geological formations within a Young Earth Creationist viewpoint. It is, therefore, no surprise that in their theological works, as opposed to their creation science writings, creationists regard evolution and all other theories associated with it, as the intellectual source for and intellectual justification of everything that is to them evil and destructive in modern society. For them all that is spiritually healthy and creative has been for a century or more under attack by "that most complex of godless movements spawned by the pervasive and powerful system of evolutionary uniformitarianism", "If the system of flood geology can be established on a sound scientific basis This in turn would mean that every anti-Christian system and movement communism, racism, humanism , libertarianism , behaviorism , and all the rest would be deprived of their pseudo-intellectual foundation", "It [evolution] has served effectively as the pseudo-scientific basis of atheism , agnosticism, socialism, fascism, and numerous faulty and dangerous philosophies over the past century. A joint statement of InterAcademy Panel on International Issues IAP by 68 national and international science academies enumerated the scientific facts that young Earth creationism contradicts, in particular that the universe, the Earth, and life are billions of years old, that each has undergone continual change over those billions of years, and that life on Earth has evolved from a common primordial origin into the diverse forms observed in the fossil record and present today. One estimate found that " scientists Arkansas Board of Education as no witness was able to produce any articles that had been refused publication and the judge could not conceive how "a loose knit group of independent thinkers in all the varied fields of science could, or would, so effectively censor new scientific thought". Armed with the backing of conservative organizations and individuals, his brand of "creation science" was widely promoted throughout the United States and overseas, with his books being translated into at least ten different languages. The inauguration of so-called "Young Earth Creationism" as a religious position has, on occasion, impacted science education in the United States , where periodic controversies have raged over the

appropriateness of teaching YEC doctrine and creation science in public schools see Teach the Controversy alongside or in replacement of the theory of evolution. Young Earth creationism has not had as large an impact in the less literalist circles of Christianity. Fifty-four per cent of those who attended church weekly and 46 per cent of those with a high school education or less took the Bible literally. However, there are different approaches to how this is possible given the geological evidence for much longer timescales. Major American YEC organizations such as the Institute for Creation Research and Answers in Genesis support this approach with detailed argumentation and references to scientific evidence, though often framed with pseudoscientific misconceptions. According to Ronald Numbers this belief, which does not necessarily try to explain scientific evidence through appeal to a global flood, has not been promoted as much as the former example given. Biblical literalism and Biblical literalist chronology Young Earth creationists regard the Bible as a historically accurate, factually inerrant record of natural history. As Henry Morris, a leading Young Earth Creationist, explained it, "Christians who flirt with less-than-literal readings of biblical texts are also flirting with theological disaster. Interpretations of Genesis[edit] See also: Genesis creation narrative Young Earth creationists interpret the text of Genesis as strictly literal. The genealogies of Genesis record the line of descent from Adam through Noah to Abraham. Young Earth Creationists interpret these genealogies literally, including the old ages of the men. For example, Methuselah lived years according to the genealogy. In contrast, Old Earth Creationists tend to interpret the genealogies as incomplete, and usually interpret the days of Genesis 1 figuratively as long periods of time. Young Earth creationists believe that the flood described in Genesis 6â€”9 did occur, was global in extent, and submerged all dry land on Earth. Some Young Earth Creationists go further and advocate a kind of flood geology which relies on the appropriation of late eighteenth and early nineteenth century arguments in favor of catastrophism made by such scientists as Georges Cuvier and Richard Kirwan. This approach which was replaced by the mid-nineteenth century almost entirely by uniformitarianism was adopted most famously by George McCready Price and this legacy is reflected in the most prominent YEC organizations today. YEC ideas to accommodate the massive amount of water necessary for a flood that was global in scale included inventing such constructs as an orbiting vapor canopy which would have collapsed and generated the necessary extreme rainfall or a rapid movement of tectonic plates causing underground aquifers [71] or tsunamis from underwater volcanic steam [72] to inundate the planet. Age of the Earth[edit] See also: Age of the Earth , Dating creation , Flood geology , and RATE project The young Earth creationist belief that the age of the Earth is 6, to 10, years old conflicts with the age of 4. They therefore proposed that nuclear decay rates were accelerated by a factor of one billion during the Creation week and at the time of the Flood. However, when subjected to independent scrutiny by non-affiliated experts, their analyses were shown to be flawed. Early human migrations Young Earth creationists reject almost all of the results of physical anthropology and human evolution and instead insist that Adam and Eve were the universal ancestors of every human to have ever lived. Paleontology and Dinosaur Young Earth creationists reject the geologic evidence that the stratigraphic sequence of fossils proves the Earth is billions of years old. In his *Illogical Geology*, expanded in as *The Fundamentals of Geology*, George McCready Price argued that the occasionally out-of-order sequence of fossils that are shown to be due to thrust faults made it impossible to prove any one fossil was older than any other. His "law" that fossils could be found in any order implied that strata could not be dated sequentially. He instead proposed that essentially all fossils were buried during the flood and thus inaugurated flood geology. He added that humans and dinosaurs had lived together, quoting Clifford L. Burdick for the report that dinosaur tracks had supposedly been found overlapping a human track in the Paluxy River bed Glen Rose Formation. He was subsequently advised that he might have been misled, and Burdick wrote to Morris in September that "you kind of stuck your neck out in publishing those Glen Rose tracks. A number of creationist organizations further propose that Noah took the dinosaurs with him in the ark, [87] and that they only began to disappear as a result of a different post-flood environment. The Creation Museum in Kentucky portrays humans and dinosaurs coexisting before the Flood while the California roadside attraction Cabazon Dinosaurs describes dinosaurs as being created the same day as Adam and Eve. The proprietor Carl Baugh says that these conditions made creatures grow larger and live longer, so that humans of that time were giants. Additionally,

in the Book of Job , a " behemoth " Job Biblical scholars have alternatively identified the behemoth as either an elephant, a hippopotamus , or a bull, [91] [92] [93] but some creationists have identified the behemoth with sauropod dinosaurs, often specifically the Brachiosaurus according to their interpretation of the verse "He is the chief of the ways of God" implying that the behemoth is the largest animal God created. Alternatively, more mainstream scholars have identified the Leviathan Job 41 with the Nile crocodile or, because Ugarit texts describe it as having seven heads, a purely mythical beast similar to the Lernaean Hydra. Science writer Sharon A. Hill observes that the Young Earth creationist segment of cryptozoology is "well-funded and able to conduct expeditions with a goal of finding a living dinosaur that they think would invalidate evolution. Card says that "Creationists have embraced cryptozoology and some cryptozoological expeditions are funded by and conducted by creationists hoping to disprove evolution. However, Megalania was a gigantic monitor lizard , and not a dinosaur, as its discoverer, Richard Owen , realized that the skeletal remains were that of a lizard , and not an archosaur. Attitude towards science[edit] Main article: Creation science Young Earth creationism is most famous for an opposition to the theory of evolution , but believers also are on record opposing many measurements, facts, and principles in the fields of physics and chemistry , dating methods including radiometric dating , geology , [98] astronomy , [99] cosmology , [99] and paleontology. This has led some young Earth creationists to criticize other creationist proposals such as intelligent design , for not taking a strong stand on the age of the Earth, special creation, or even the identity of the designer. Instead, they assert the actions of God as described in the Bible occurred as written and therefore only scientific evidence that points to the Bible being correct can be accepted. See Creation-evolution controversy for a more complete discussion. Compared to other forms of creationism[edit] Main article: Although Young Earth Creationism is one of the most stridently literalist positions taken among professed creationists, there are also examples of biblical literalist adherents to both geocentrism [] and a flat Earth. Old Earth Creationism , Gap creationism , and the Omphalos hypothesis. Old Earth creationism[edit] See also: Old Earth creationism Young Earth creationists reject old Earth creationism and day-age creationism on textual and theological grounds. In addition, they claim that the scientific data in geology and astronomy point to a young Earth, against the consensus of the general scientific community. Young Earth creationists generally hold that, when Genesis describes the creation of the Earth occurring over a period of days, this indicates normal-length 24 hour days, and cannot reasonably be interpreted otherwise. In the specific context of Genesis 1, since the days are both numbered and are referred to as "evening and morning", this can mean only normal-length days. Further, they argue that the hour day is the only interpretation that makes sense of the Sabbath command in Exodus YECs argue that it is a glaring exegetical fallacy to take a meaning from one context yom referring to a long period of time in Genesis 1 and apply it to a completely different one yom referring to normal-length days in Exodus Gap creationism The "gap theory" acknowledges a vast age for the universe, including the Earth and solar system, while asserting that life was created recently in six hour days by divine fiat. Genesis 1 is thus interpreted literally, with an indefinite "gap" of time inserted between the first two verses. Young Earth Creationist organizations argue that the gap theory is unscriptural, unscientific, and not necessary, in its various forms. Omphalos hypothesis Many young Earth creationists distinguish their own hypotheses from the "Omphalos hypothesis", today more commonly referred to as the apparent age concept, put forth by the naturalist and science writer Philip Henry Gosse. Omphalos was an unsuccessful midth century attempt to reconcile creationism with geology. Gosse proposed that just as Adam had a navel omphalos is Greek for navel , evidence of a gestation he never experienced, so also the Earth was created ex nihilo complete with evidence of a prehistoric past that never actually occurred. The Omphalos hypothesis allows for a young Earth without giving rise to any predictions that would contradict scientific findings of an old Earth. Although both logically unassailable and consistent with a literal reading of scripture, Omphalos was rejected at the time by scientists on the grounds that it was completely unfalsifiable and by theologians because it implied to them a deceitful God, which they found theologically unacceptable. Today, in contrast to Gosse, young Earth creationists posit that not only is the Earth young but that the scientific data supports that view. However, the apparent age concept is still used in young Earth creationist literature. Critics reject this claim by pointing out that many supporters of evolutionary theory are religious believers, and that major religious groups, such as

the Roman Catholic Church , Eastern Orthodox Church , and Church of England , believe that concepts such as physical cosmology, chemical origins of life, biological evolution, and geological fossil records do not imply a rejection of the scriptures. Critics also point out that workers in fields related to biology, chemistry, physics, or geosciences are not required to sign statements of belief in contemporary science comparable to the biblical inerrancy pledges required by creationist organizations, contrary to the creationist claim that scientists operate on an a priori disbelief in biblical principles. Theologians and philosophers have also criticized this " God of the gaps " viewpoint. Even many Christian evangelicals who reject the notion of purely naturalistic Darwinian evolution, often treat the story as a nonliteral saga, as poetry, or as liturgical literature. Creationists responding to this point attribute the view to misunderstanding having arisen from poor translation of the tenses in Genesis 2 in contemporary translations of the Bible e. This position is held by a number of major denominations. For instance, in a publication entitled *The Gift of Scripture*, the Roman Catholic Church in England and Wales comments that, "We should not expect to find in Scripture full scientific accuracy or complete historical precision". The Bible is held to be true in passages relating to human salvation, but, "We should not expect total accuracy from the Bible in other, secular matters". Many of these make claims regarding the origin of the Universe and humanity that are completely incompatible with those of Christian creationists and with one another. Scientific refutation[edit] The vast majority of scientists refute young Earth creationism. Around the start of the 19th century mainstream science abandoned the concept that Earth was younger than millions of years.

Chapter 3 : Creationist Beliefs Linked To Personality Type In New Survey Of Churchgoers | HuffPost

Creationism in this more restricted sense entails a number of beliefs. These include, first, that a short time has elapsed since the beginning of everything. 'Young Earth Creationists' think that Archbishop Ussher's sixteenth-century calculation of about years is a good estimate.

See the main article on this topic: Deistic evolution Deistic evolution asserts a range of ideas: Natural history is true and God is the non-intervening and disinterested creator of the Universe. Natural history is true and God is the non-intervening but interested creator of the Universe. Natural history is true and God is the non-intervening creator who nevertheless set up the Universe to work towards a certain end. Theistic evolution[edit] See the main article on this topic: Theistic evolution Theistic evolution or evolutionary creationism holds that evolution happened, but God guided it somehow. Many theistic evolutionists hold that God somehow made humans "special", via addition of a soul, morality, consciousness, etc. The most extreme forms of theistic evolution are indistinguishable from intelligent design. Intelligent design[edit] See the main article on this topic: Such arguments are almost always based on personal incredulity. Interestingly, all "arguments" for ID currently consist of picking holes in evolution, rather than positive evidence for design. However, principles of emergence or complexity theory are fundamentally incompatible with ID, as they explain complex structures under naturalism, without a designer. Rapid speciation[edit] See the main article on this topic: Hey, at least they accept evolution happened. Microevolution only[edit] See the main article on this topic: Instead, either a only mutations happen, which allows microevolution, meaning in-species evolution happens and stuff like different-colored fur is possible, or b mutations can only reduce "information content" of the genome, and so all evolution is merely the breaking-down of lifeforms. No evolution[edit] Lastly, some assert that no mutation or genetic change occurs whatsoever. This type of creationism is mostly dead, but had some followers until the discovery of genetics and DNA. History[edit] Creationism as a distinct, important belief did not originate until the development of modern science from the late s on. Before then, the assumption of a young Earth was almost universal in Europe, North Africa, and the Middle East, because of religiosity whether Christian or Muslim or Jewish and because of a lack of counterevidence. As such, many believers believed in a young Earth solely on subjective faith, not on objective scientific grounds. Church fathers[edit] Not every church father embraced the young earth view, though. Some questioned, even rejected the young earth dogma altogether, including St. Augustine, [1] who became one of the first Church leaders to question the literal view of the Genesis account of creation and the Flood. In fact, no one knew for sure how old the Earth was back then. In recent years however, during the 18th and 19th centuries, scientists, Christian and non-Christian alike, began to uncover evidence that points to the planet being much, much older than thousands of years. This scientific evidence, they discovered, points to the age of the planet being billions of years old. Thus, giving the people the true age of the earth that is far, far older than anyone could have ever imagined. Even historically, there have been many writers within the Christian tradition historically at least as important as the actual text of the Bible who do not hold the Genesis account as literal. The oldest commentary, by Philo, which was written even before the birth of Christ , holds to an allegorical view of the text. There is only one Church father who is known to have held to a view which is even somewhat literal, St. Basel, and there are a plethora who are known to have held to an allegorical interpretation St. Ignatius of Antioch, Origen, etc. Also, in Galatians 4: Paul presents the relationship between Abraham, Sarah, and Hagar allegorically for the purpose of instructing the church at Galatia, which means it is possible that he applied this allegorical interpretation to the entire story of Abraham , though the text of Galatians does not state or imply that. Plutonism and Neptunism[edit] At around the year , a division was taking form on the view of which forces had shaped the Earth. The two camps became known as Plutonism and Neptunism. Plutonists believed that the movement of the earth was the primary shaper of the world, while Neptunists believed that water - and in particular, the Great Flood - was the primary force shaping of the world. As you have no doubt guessed, they both got their names from two Roman deities: Pluto, who ruled the underworld, and Neptune, who ruled the seas. Interestingly, even the Neptunists were saying the Earth was older placing it at about 75, years than

the years that had been calculated from the Bible and even today, the most liberal number YEC Bible scholars can get is 15, years. Uniformitarianism and Catastrophism[edit] In both of these groups, there were people who felt that the Earth had changed in the past, as it did in the present, while others held that a series of catastrophes - both small and large - had shaped the Earth a model that would allow for shorter timespans. By the year , this division solidified into what would later be known as Uniformitarianism and Catastrophism. Based on Uniformitarianism, the Earth was turning out to be far older than even the Neptunists had figured - in the order of millions of years older. Uniformitarianism on its own was creating a host of problems with Young Earth Creationism: By the time Darwin and Alfred Russel Wallace came up with the idea of Evolution through natural selection in the late s Young Earth Creationism was already in trouble. Seventh-day Adventism[edit] However, according to Ronald L. While most Christians observe the Sabbath Day as a day of worship on Sunday, this religious sect observes their Sabbath from Friday sunset to Saturday sunset in honor of the Creation Week which occurred as told in Genesis 1 of the Bible in a six-day, hour somewhat time period according to their interpretations of it. This new teaching did not fit into their religious preconceptions. But then, their mistress and founder of Seventh-day Adventism , Ellen G. White , a self-proclaimed prophetess and a cult leader, claimed, in one of her writings from , that she allegedly had seen a vision from God who showed her how He created the universe and Earth in a six-day period, and that the fossils were all the result of plants and animals that had perished during the Great Flood of Noah. To her disciples, this alleged vision solved the whole problem and they began to take her visions and her teachings to heart. Then in , Price published a book called *The New Geology* which related his ideas about Earth being 6, years old, created in six literal hour day periods, and which was later covered with the great flood of Noah , which destroyed everything and turned all of the plants and animals into fossils. Current[edit] Most people disregarded creationism, but Christian fundamentalists took it to heart. The book created a sensation among many fundamentalist Christian groups and started the modern creationism movement that continues to this very day. Over the years, many organizations sprang up to advocate this questionable dogma. The rise of Christian creationist organizations helped spur the rise of Islamic creationist and Hindu creationist movements in their respective religions in the 80ss to the present. Demographics[edit] Young Earth creationism exists primarily among Christian and Jewish fundamentalists, and is most popular in the USA. Although some Muslim cultures reject the theory of evolution and almost all reject common descent, most accept that the universe was created billions of years ago and do not insist on a six-day creation as young Earth creationists do, and the schools in many Muslim countries include evolution in their biology curricula. Not all theists are YECs[edit] Young Earth creationism and intelligent design are largely limited to more conservative or "fundamentalist" branches of religion. The vast majority of theists worldwide - including Hindus, Jews, Buddhists, some Muslims, deists, and many mainstream Christian churches including the Anglican Communion, the United Methodist Church, and surprisingly the Roman Catholic Church - will accept the facts of evolution and even the Big Bang though they still maintain some belief that God created everything. They were creationists because of a lack of an alternative, rather than on its merits. Intelligent design Science is flawed[edit] See the main article on this topic: Antiscience Creationists often reject scientific theories and discoveries that go against their ideas - but rather than presenting evidence, they resort to attacking modern science. This is based on not only a misunderstanding of how science develops but also on the false dichotomy that if science is wrong in any way , creationism and Biblical literalism must be true. Since creationist ideas are based on faith rather than evidence, they are not falsifiable and are not classed as science. This is the practice of isolating quotes from their original context in order to support a particular view. This often is used in conjunction with the argument from authority â€”i. The ellipsisâ€”the omission of intervening textâ€”is one way of quote mining and is often of staggering magnitude the sections on either side of the ellipsis might be pulled from opposite sides of a book, for instance [6].

Chapter 4 : Creationism - RationalWiki

Creationism, the belief that the universe and the various forms of life were created by God out of nothing (ex nihilo). It is a response to modern evolutionary theory, which explains the emergence and diversity of life without recourse to the doctrine of God or any other divine power.

Young Earth creationists such as Ken Ham and Doug Phillips believe that God created the Earth within the last ten thousand years, literally as described in the Genesis creation narrative, within the approximate time-frame of biblical genealogies detailed for example in the Ussher chronology. Most young Earth creationists believe that the universe has a similar age as the Earth. A few assign a much older age to the universe than to Earth. Creationist cosmologies give the universe an age consistent with the Ussher chronology and other young Earth time frames. Other young Earth creationists believe that the Earth and the universe were created with the appearance of age, so that the world appears to be much older than it is, and that this appearance is what gives the geological findings and other methods of dating the Earth and the universe their much longer timelines. Old Earth creationism Main article: Old Earth creationism Old Earth creationism holds that the physical universe was created by God, but that the creation event described in the Book of Genesis is to be taken figuratively. This group generally believes that the age of the universe and the age of the Earth are as described by astronomers and geologists , but that details of modern evolutionary theory are questionable. Gap creationism Gap creationism, also called "restoration creationism," holds that life was recently created on a pre-existing old Earth. This version of creationism relies on a particular interpretation of Genesis 1: It is considered that the words formless and void in fact denote waste and ruin, taking into account the original Hebrew and other places these words are used in the Old Testament. And the Spirit of God moved upon the face of the waters. Gap theorists can therefore agree with the scientific consensus regarding the age of the Earth and universe, while maintaining a literal interpretation of the biblical text. This is thought to be "the world that then was" mentioned in 2 Peter 3: Day-age creationism Day-age creationism states that the "six days" of the Book of Genesis are not ordinary hour days, but rather much longer periods for instance, each "day" could be the equivalent of millions, or billions of years of human time. The physicist Gerald Schroeder is one such proponent of this view. Progressive creationism Progressive creationism holds that species have changed or evolved in a process continuously guided by God, with various ideas as to how the process operatedâ€”though it is generally taken that God directly intervened in the natural order at key moments in Earth history. This view accepts most of modern physical science including the age of the Earth, but rejects much of modern evolutionary biology or looks to it for evidence that evolution by natural selection alone is incorrect. Philosophic and scientific creationism Main article: Creation science Creation science, or initially scientific creationism, is a pseudoscience [25] [26] [27] [28] [29] that emerged in the s with proponents aiming to have young Earth creationist beliefs taught in school science classes as a counter to teaching of evolution. Common features of Creation science argument include: Neo-creationism Neo-creationism is a pseudoscientific movement which aims to restate creationism in terms more likely to be well received by the public, by policy makers, by educators and by the scientific community. It aims to re-frame the debate over the origins of life in non-religious terms and without appeals to scripture. Aguillard that creationism is an inherently religious concept and that advocating it as correct or accurate in public-school curricula violates the Establishment Clause of the First Amendment. This leads to an open and often hostile opposition to what neo-creationists term " Darwinism ", which they generally mean to refer to evolution , but which they may extend to include such concepts as abiogenesis , stellar evolution and the Big Bang theory. Unlike their philosophical forebears, neo-creationists largely do not believe in many of the traditional cornerstones of creationism such as a young Earth, or in a dogmatically literal interpretation of the Bible. Intelligent design Main article: Intelligent design Intelligent design ID is the pseudoscientific view [34] [35] that "certain features of the universe and of living things are best explained by an intelligent cause, not an undirected process such as natural selection. Dover , the court found that intelligent design is not science and "cannot uncouple itself from its creationist, and thus religious, antecedents," [48] and hence cannot be taught

as an alternative to evolution in public school science classrooms under the jurisdiction of that court. *Aguillard and Epperson v. Arkansas* , and by the application of the Lemon test , that creates a legal hurdle to teaching intelligent design in public school districts in other federal court jurisdictions. Geocentric model In astronomy , the geocentric model also known as geocentrism, or the Ptolemaic system , is a description of the Cosmos where Earth is at the orbital center of all celestial bodies. This model served as the predominant cosmological system in many ancient civilizations such as ancient Greece. As such, they assumed that the Sun, Moon, stars, and naked eye planets circled Earth, including the noteworthy systems of Aristotle see Aristotelian physics and Ptolemy. Articles arguing that geocentrism was the biblical perspective appeared in some early creation science newsletters associated with the Creation Research Society pointing to some passages in the Bible, which, when taken literally, indicate that the daily apparent motions of the Sun and the Moon are due to their actual motions around the Earth rather than due to the rotation of the Earth about its axis for example, Joshua The Church Was Right Most contemporary creationist organizations reject such perspectives. Omphalos hypothesis The Omphalos hypothesis argues that in order for the world to be functional, God must have created a mature Earth with mountains and canyons, rock strata, trees with growth rings, and so on; therefore no evidence that we can see of the presumed age of the Earth and age of the universe can be taken as reliable. The idea has been criticised as Last Thursdayism , and on the grounds that it requires a deliberately deceptive creator. Theistic evolution Main article: Theistic evolution Theistic evolution, or evolutionary creation, is a belief that "the personal God of the Bible created the universe and life through evolutionary processes. Following the publication of *Vestiges of the Natural History of Creation* , there was interest in ideas of Creation by divine law. Eventually it was realised that supernatural intervention could not be a scientific explanation, and naturalistic mechanisms such as neo-Lamarckism were favoured as being more compatible with purpose than natural selection. Theistic evolution can synthesize with the day-age creationist interpretation of the Genesis creation narrative; however most adherents consider that the first chapters of the Book of Genesis should not be interpreted as a "literal" description, but rather as a literary framework or allegory. From a theistic viewpoint, the underlying laws of nature were designed by God for a purpose, and are so self-sufficient that the complexity of the entire physical universe evolved from fundamental particles in processes such as stellar evolution , life forms developed in biological evolution, and in the same way the origin of life by natural causes has resulted from these laws. Evolution and the Roman Catholic Church are not in conflict. The Catechism of the Catholic Church comments positively on the theory of evolution, which is neither precluded nor required by the sources of faith, stating that scientific studies "have splendidly enriched our knowledge of the age and dimensions of the cosmos, the development of life-forms and the appearance of man. In the creationâ€”evolution controversy , its proponents generally take the "evolutionist" side. This sentiment was expressed by Fr. Judaic-Christian faith is radically creationist, but in a totally different sense. It is rooted in a belief that everything depends upon God, or better, all is a gift from God. In fact, many modern philosophers of science, [72] including atheists, [73] refer to the long-standing convention in the scientific method that observable events in nature should be explained by natural causes, with the distinction that it does not assume the actual existence or non-existence of the supernatural. Religious views Further information: Genesis creation narrative and creationâ€”evolution controversy As of [update] , most Christians around the world accepted evolution as the most likely explanation for the origins of species, and did not take a literal view of the Genesis creation myth. The United States is an exception where belief in religious fundamentalism is much more likely to affect attitudes towards evolution than it is for believers elsewhere. Political partisanship affecting religious belief may be a factor because political partisanship in the US is highly correlated with fundamentalist thinking, unlike in Europe. According to the former Archbishop of Canterbury , Rowan Williams , " Another example is that of Liberal theology , not providing any creation models, but instead focusing on the symbolism in beliefs of the time of authoring Genesis and the cultural environment. For example, Philo, whose works were taken up by early Church writers, wrote that it would be a mistake to think that creation happened in six days, or in any set amount of time. Opponents reject the claim that the literalistic biblical view meets the criteria required to be considered scientific. Many religious groups teach that God created the Cosmos. From the days of the early Christian Church Fathers there were allegorical

interpretations of the Book of Genesis as well as literal aspects. It holds that the material world is an illusion, and consequently not created by God: Christian Scientists regard the story of the creation in the Book of Genesis as having symbolic rather than literal meaning. According to Christian Science, both creationism and evolution are false from an absolute or "spiritual" point of view, as they both proceed from a false belief in the reality of a material universe. However, Christian Scientists do not oppose the teaching of evolution in schools, nor do they demand that alternative accounts be taught: Hindu views on evolution According to Hindu creationism, all species on Earth including humans have "devolved" or come down from a high state of pure consciousness. These views are based on the Vedas , the creation myths of which depict an extreme antiquity of the universe and history of the Earth. Some Muslims believe in evolutionary creation, especially among liberal movements within Islam. Muslim creationists have little interest in proving that the age of the Earth is measured in the thousands rather than the billions of years, nor do they show much interest in the problem of the dinosaurs. And the idea that animals might evolve into other animals also tends to be less controversial, in part because there are passages of the Koran that seem to support it. But the issue of whether human beings are the product of evolution is just as fraught among Muslims. We made from water every living thing. Will they not then believe? He said to it and to the earth: Predestination in Islam Ahmadiyya The Ahmadiyya movement actively promotes evolutionary theory. Furthermore, unlike orthodox Muslims, Ahmadis believe that humans have gradually evolved from different species. It does not occur itself, according to the Ahmadiyya Muslim Community. Jewish views on evolution For Orthodox Jews who seek to reconcile discrepancies between science and the creation myths in the Bible, the notion that science and the Bible should even be reconciled through traditional scientific means is questioned. To these groups, science is as true as the Torah and if there seems to be a problem, epistemological limits are to blame for apparently irreconcilable points. They point to discrepancies between what is expected and what actually is to demonstrate that things are not always as they appear. Just as they know from the Torah that God created man and trees and the light on its way from the stars in their observed state, so too can they know that the world was created in its over the six days of Creation that reflects progression to its currently-observed state, with the understanding that physical ways to verify this may eventually be identified. Other parallels are derived, among other sources, from Nahmanides, who expounds that there was a Neanderthal -like species with which Adam mated he did this long before Neanderthals had even been discovered scientifically. Some contemporary writers such as Rabbi Gedalyah Nadel have sought to reconcile the discrepancy between the account in the Torah, and scientific findings by arguing that each day referred to in the Bible was not 24 hours, but billions of years long. The best known exponent of this approach being Rabbi Menachem Mendel Schneerson [] Others state that although the world was physically created in six 24 hour days, the Torah accounts can be interpreted to mean that there was a period of billions of years before the six days of creation. Level of support for evolution and Creationism by country Views on human evolution in various countries [] [] Most vocal literalist creationists are from the US, and strict creationist views are much less common in other developed countries. Most people accept that evolution is the most widely accepted scientific theory as taught in most schools. In countries with a Roman Catholic majority, papal acceptance of evolutionary creationism as worthy of study has essentially ended debate on the matter for many people. In the UK, a poll on the "origin and development of life", asked participants to choose between three different perspectives on the origin of life: His superior, Minister of Education Roman Giertych , has stated that the theory of evolution would continue to be taught in Polish schools, "as long as most scientists in our country say that it is the right theory.

Chapter 5 : VARIOUS EVOLUTION AND CREATION SCIENCE BELIEFS

Darwin's belief that naturally occurring differences among offspring lead to evolution of the species through natural selection is the main -- or perhaps the only -- driving principle behind evolution.

History of Creationism Creationists present themselves as the true bearers and present-day representatives of authentic, traditional Christianity, but historically speaking this is simply not true. The Bible has a major place in the life of any Christian, but it is not the case that the Bible taken literally has always had a major place in the lives or theology of Christians. For most, indeed, it has not. Although, one should remember that most literalists are better known as inerrantists, because they often differ on the meaning of a literal reading! Tradition, the teachings and authority of the church, has always had main status for Catholics, and natural religion "approaching God through reason and argument" has long had an honored place for both Catholics and Protestants. Catholics, especially dating back to Saint Augustine around AD, and even to earlier thinkers like Origen, have always recognized that at times the Bible needs to be taken metaphorically or allegorically. Augustine was particularly sensitive to this need, because for many years as a young man he was a Manichean and hence denied the authenticity and relevance of the Old Testament for salvation. When he became a Christian he knew full well the problems of Genesis and hence was eager to help his fellow believers from getting ensnared in the traps of literalism. It was not until the Protestant Reformation that the Bible started to take on its unique central position, as the great Reformers "especially Luther and Calvin" stressed the need to go by scripture alone and not by what they took to be the overly rich traditions of the Catholic Church. But even they were doubtful about totally literalistic readings. For Luther, justification by faith was the keystone of his theology, and yet the Epistle of Saint James seems to put greater stress on the need for good works. Calvin likewise spoke of the need for God to accommodate His writings to the untutored public "especially the ancient Jews" and hence of the dangers of taking the Bible too literally in an uncritical sense. It was after the religious revivals of the eighteenth and early nineteenth century in Britain and America "revivals that led to such sects as the Methodists" that a more full-blooded literalism became a major part of the religious scene. In America particularly literalism took hold, and especially after the Civil War, it took root in the evangelical sects "especially Baptists" of the South; Noll It became part of the defining culture of the South, having as we shall see below as much a role in opposing ideas and influences of the leaders and policy makers of the North as anything rooted in deeply thought-through theology. Many "especially working and lower-middle-class people" living in the large cities of the North felt deeply threatened by the moves to industrialism, the weakening of traditional beliefs, and the large influx of immigrants from Europe. They provided very fertile material for the literalist preachers. See the extended discussions of these happenings in Ruse. Thanks to a number of factors, Creationism started to grow dramatically in the early part of the twentieth century. First, there were the first systematic attempts to work out a position that would take account of modern science as well as just a literal reading of Genesis. Particularly important in this respect were the Seventh-day Adventists, especially the Canadian-born George McCready Price, who had theological reasons for wanting literalism, not the least being the belief that the Seventh Day "the day of rest" is literally twenty-four hours in length. Also important for the Adventists and for fellow travelers, that is people who think that Armageddon is on its way, is the balancing and complementary early phenomenon of a world-wide flood. This, as we shall see, was to become a major theme in twentieth-century Cold War times. Second, there was the released energy of evangelicals referring generically to Protestants whose faith was tied to the Bible, taken rather literally as they succeeded in their attempts to prohibit liquor in the United States. Flushed from one victory, they looked for other fields to conquer. Third there was the spread of public education, and more children being exposed to evolutionary ideas, bringing on a Creationist reaction. Fourth, there were new evangelical currents afloat, especially the tracts the Fundamentals "a series of evangelical publications, conceived in by California businessman Lyman Stewart, the founder of Union Oil and a devout Presbyterian" that gave the literalist movement its name. And fifth, there was the identification of evolution "Darwinism particularly" with the militaristic

aspects of Social Darwinism, especially the Social Darwinism supposed embraced by the Germans in the First World War Larson ; Ruse a. Matters descended to the farcical when, denied the opportunity to introduce his own science witnesses, Darrow put on the stand the prosecutor Bryan. This conviction was overturned on a technicality on appeal, but there were no more prosecutions, even though the Tennessee law remained on the books for another forty years. In the s, the Scopes trial became the basis of a famous play and then movie, *Inherit the Wind*. In fact, Bryan in respects was an odd figure to be defending the Tennessee law. He thought that the days of Creation are long periods of time, and he had little sympathy for eschatological speculations about Armageddon and so forth. It is quite possible that, humans apart, he accepted some form of evolution. His objections to Darwinism were more social than theological. The First World War, with many justifying violence in the name of evolutionary biology, confirmed his suspicions. It is generally agreed that *Inherit the Wind* is using history as a vehicle to explore and condemn McCarthy-like attacks on uncomfortably new or dissenting-type figures in American society. Creation Science After the Scopes Trial, general agreement is that the Creationism movement had peaked and declined quite dramatically and quickly. Yet, it and related anti-evolution activity did have its lasting effects. Text-book manufacturers increasingly took evolution “ Darwinism especially “ out of their books, so that schoolchildren got less and less exposure to the ideas anyway. Whatever battles the evolutionists may have thought they had won in the court of popular opinion, in the trenches of the classroom they were losing the war badly. Things started to move again in the late s. It was then that, thanks to Sputnik, the Russians so effectively demonstrated their superiority in rocketry with its implications for the arms race of the Cold War , and America realized with a shudder how ineffective was its science training of its young. Characteristically, the country did something immediate and effective about this, namely pouring money into the production of new science texts. In this way, with class adoption, the Federal Government could have a strong impact and yet get around the problem that education tends to be under the tight control of individual states. The new biology texts gave full scope to evolution “ to Darwinism “ and with this the Creationism controversy again flared right up. Children were learning these dreadful doctrines in schools, and something had to be done Ruse ed. Fortunately for the literalist, help was at hand. A biblical scholar, John C. Whitcomb, and a hydraulic engineer, Henry M. Morris, combined to write what was to be the new Bible of the movement, *Genesis Flood: The Biblical Record and its Scientific Implications* Following in the tradition of earlier writers, especially those from Seventh-day Adventism, they argued that every bit of the Biblical story of creation given in the early chapters of Genesis is supported fully by the best of modern science. Six days of twenty-four hours, organisms arriving miraculously, humans last, and sometime thereafter a massive world-wide flood that wiped most organisms off the face of the earth “ or rather, dumped their carcasses in the mud as the waters receded. At the same time, Whitcomb and Morris argued that the case for evolution fails dismally. They introduced or revived a number of arguments that have become standard parts of the Creationist repertoire against evolution. Let us look at a number of these arguments, together with the counter-arguments that evolutionists make in response. First, the Creationists argue that at best evolution is only a theory and not a fact, and that theories should never be taken as gospel if one might be permitted a metaphor. They claim that the very language of evolutionists themselves show that their ideas are on shaky grounds. There is nothing iffy about the Copernican heliocentric theory. It is a fact. Evolutionists argue that the same is the case with evolution. When talking about the theory of evolution, one is talking about a body of laws. In particular, if one is following the ideas of Charles Darwin, one is arguing that population pressures lead to a struggle for existence, this then entails a natural selection of favored forms, and evolution through shared descent is the end result. This is a body of general statements about life, since the s given in a formal version using mathematics with deductive inferences between steps. In other words, we have a body of laws, and hence a theory in the first sense just given. There is no implication here that the theory is iffy, that is in the second sense just given. We are not necessarily talking about something inherently unreliable. Of course, there are going to be additions and revisions, for instance the possibility of much greater hybridization than someone like Darwin realized, but that is another matter Quammen Hence, natural selection reduces to the tautology that those that survive are those that survive. Not a real claim of science at all. To which evolutionists respond that this is a sleight of hand, showing ignorance of what is genuinely at stake. Some of

our would-be ancestors lived and had babies and others did not. There was a differential reproduction. This is certainly not a mere truism. It could be that everyone had the same number of children. It could also be that there is no difference overall between the successful and the unsuccessful. This too is denied by natural selection. To say that something is the fitter or fittest is to say that it has certain characteristics what biologists call adaptations that other organisms do not have, and that on average one expects the fitter to succeed. But there is no guarantee that this must be so or that it will always happen. An earthquake could wipe out everyone, fit and unfit. Before discussing the third argument Creationists level against evolution, it is worth pausing over this second one. Most if not all professional evolutionists agree argue that sometimes natural selection is not a significant causal factor. In this sense, it is false that selection is something that by definition is and always is the reason for lasting change. The fittest do not always win. It cannot be a tautology. Although, at first, this was embraced enthusiastically Dobzhansky , it soon became clear that at the gross physical phenotypic level it is at most minor Coyne, Barton, and Turelli However at the level of the gene genotype , it is still thought very important. Indeed, it is a powerful tool in discovering the exact dates of key evolutionary events, especially those involving speciation Ayala Moreover, as we shall see in a moment, somewhat paradoxically, as Creationism has evolved! Thus can one explain the diversity of life on earth “ it evolved since leaving the Ark, which contained only generic kinds. For all its supposed faults, there is a better discussion of natural selection at the Creationist museum in Kentucky than in the Field Museum in Chicago, miles north. The bar on macroevolution remains absolute. Third, Creationists point out that modern evolutionary theory asserts that the raw building blocks of evolution, the genetic mutations, are random. But this means that there are minimal chances of evolution producing something that works as well and efficiently as an organism, with all of the functioning parts in place. A monkey typing letters does so randomly. It could never in a million years in a billion, billion, billion! years type the works of Shakespeare. The Creationists say that same is true of evolution and organisms, given the randomness of mutation. To which evolutionists reply that this may all be well and true of the monkey, but in the case of evolution things are rather different.

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Creationist Beliefs Date: January 20, Forrest Mims III (The Scientist, Oct. 28, , page 12) responds to the three questions I posed in my letter in the July 22 issue of The Scientist [page 12].

Advertisement In Brief Despite definitive legal cases that have established the unconstitutionality of teaching intelligent design or creationist ideology in science class, the theory of evolution remains consistently under attack. Creationist arguments are notoriously errant or based on a misunderstanding of evolutionary science and evidence. Hundreds of studies verify the facts of evolution, at both the microevolutionary and macroevolutionary scale—from the origin of new traits and new species to the underpinnings of the complexity we see in life and the statistical probability of such complexity arising. Today that battle has been won everywhere—except in the public imagination. Embarrassingly, in the 21st century, in the most scientifically advanced nation the world has ever known, creationists can still persuade politicians, judges and ordinary citizens that evolution is a flawed, poorly supported fantasy. When this article first went to press in , the Ohio Board of Education was debating whether to mandate such a change. Prominent antievolutionists of the day, such as Philip E. The good news is that in the landmark legal case *Kitzmiller v. Dover* in Harrisburg, Pa. The bad news is that in response, creationists have reinvented their movement and pressed on. Consequently, besieged teachers and others are still likely to find themselves on the spot to defend evolution and refute creationism, by whatever name. Nevertheless, even if their objections are flimsy, the number and diversity of the objections can put even well-informed people at a disadvantage. It also directs readers to further sources for information and explains why creation science has no place in the classroom. These answers by themselves probably will not change the minds of those set against evolution. But they may help inform those who are genuinely open to argument, and they can aid anyone who wants to engage constructively in this important struggle for the scientific integrity of our civilization. Evolution is only a theory. It is not a fact or a scientific law. Many people learned in elementary school that a theory falls in the middle of a hierarchy of certainty—above a mere hypothesis but below a law. Scientists do not use the terms that way, however. So when scientists talk about the theory of evolution—or the atomic theory or the theory of relativity, for that matter—they are not expressing reservations about its truth. In addition to the theory of evolution, meaning the idea of descent with modification, one may also speak of the fact of evolution. Although no one observed those transformations, the indirect evidence is clear, unambiguous and compelling. All sciences frequently rely on indirect evidence. Physicists cannot see subatomic particles directly, for instance, so they verify their existence by watching for telltale tracks that the particles leave in cloud chambers. Natural selection is based on circular reasoning: That is, rather than labeling species as more or less fit, one can describe how many offspring they are likely to leave under given circumstances. Drop a fast-breeding pair of small-beaked finches and a slower-breeding pair of large-beaked finches onto an island full of food seeds. Within a few generations the fast breeders may control more of the food resources. Yet if large beaks more easily crush seeds, the advantage may tip to the slow breeders. In pioneering studies of finches on the Galpagos Islands, Peter Grant and Rosemary Grant of Princeton University observed these kinds of population shifts in the wild. The key is that adaptive fitness can be defined without reference to survival: Evolution is unscientific because it is not testable or falsifiable. It makes claims about events that were not observed and can never be re-created. This blanket dismissal of evolution ignores important distinctions that divide the field into at least two broad areas: Microevolution looks at changes within species over time—changes that may be preludes to speciation, the origin of new species. Macroevolution studies how taxonomic groups above the level of species change. Its evidence draws frequently from the fossil record and DNA comparisons to reconstruct how various organisms may be related. Natural selection and other mechanisms—such as chromosomal changes, symbiosis and hybridization—can drive profound changes in populations over time. The historical nature of macroevolutionary study involves inference from fossils and DNA rather than direct observation. Yet in the historical sciences which include astronomy, geology and archaeology, as well as evolutionary biology , hypotheses can still be tested by checking whether they accord

with physical evidence and whether they lead to verifiable predictions about future discoveries. For instance, evolution implies that between the earliest known ancestors of humans roughly five million years old and the appearance of anatomically modern humans about 200,000 years ago, one should find a succession of hominin creatures with features progressively less apelike and more modern, which is indeed what the fossil record shows. But one should not—and does not—find modern human fossils embedded in strata from the Jurassic period 65 million years ago. Evolutionary biology routinely makes predictions far more refined and precise than this, and researchers test them constantly. Evolution could be disproved in other ways, too. If we could document the spontaneous generation of just one complex life-form from inanimate matter, then at least a few creatures seen in the fossil record might have originated this way. If superintelligent aliens appeared and claimed credit for creating life on Earth or even particular species, the purely evolutionary explanation would be cast in doubt. But no one has yet produced such evidence. It should be noted that the idea of falsifiability as the defining characteristic of science originated with philosopher Karl Popper in the 1950s. More recent elaborations on his thinking have expanded the narrowest interpretation of his principle precisely because it would eliminate too many branches of clearly scientific endeavor. Increasingly, scientists doubt the truth of evolution. No evidence suggests that evolution is losing adherents. Pick up any issue of a peer-reviewed biological journal, and you will find articles that support and extend evolutionary studies or that embrace evolution as a fundamental concept. Conversely, serious scientific publications disputing evolution are all but nonexistent. In the mid-1980s George W. Gilchrist, then at the University of Washington, surveyed thousands of journals in the primary literature, seeking articles on intelligent design or creation science. Among those hundreds of thousands of scientific reports, he found none. Krauss, now at Arizona State University, were similarly fruitless. Creationists retort that a closed-minded scientific community rejects their evidence. Yet according to the editors of *Nature*, *Science* and other leading journals, few antievolution manuscripts are even submitted. Some antievolution authors have published papers in serious journals. Those papers, however, rarely attack evolution directly or advance creationist arguments; at best, they identify certain evolutionary problems as unsolved and difficult which no one disputes. In short, creationists are not giving the scientific world good reason to take them seriously. The disagreements among even evolutionary biologists show how little solid science supports evolution. Evolutionary biologists passionately debate diverse topics: These disputes are like those found in all other branches of science. Acceptance of evolution as a factual occurrence and a guiding principle is nonetheless universal in biology. Anyone acquainted with the works of paleontologist Stephen Jay Gould of Harvard University knows that in addition to co-authoring the punctuated-equilibrium model, Gould was one of the most eloquent defenders and articulators of evolution. Punctuated equilibrium explains patterns in the fossil record by suggesting that most evolutionary changes occur within geologically brief intervals—which may nonetheless amount to hundreds of generations. When confronted with a quotation from a scientific authority that seems to question evolution, insist on seeing the statement in context. Almost invariably, the attack on evolution will prove illusory. If humans descended from monkeys, why are there still monkeys? This surprisingly common argument reflects several levels of ignorance about evolution. The first mistake is that evolution does not teach that humans descended from monkeys; it states that both have a common ancestor. The parent species may survive indefinitely thereafter, or it may become extinct. Evolution cannot explain how life first appeared on Earth. The origin of life remains very much a mystery, but biochemists have learned about how primitive nucleic acids, amino acids and other building blocks of life could have formed and organized themselves into self-replicating, self-sustaining units, laying the foundation for cellular biochemistry. Astrochemical analyses hint that quantities of these compounds might have originated in space and fallen to Earth in comets, a scenario that may solve the problem of how those constituents arose under the conditions that prevailed when our planet was young. But even if life on Earth turned out to have a nonevolutionary origin for instance, if aliens introduced the first cells billions of years ago, evolution since then would be robustly confirmed by countless microevolutionary and macroevolutionary studies. Mathematically, it is inconceivable that anything as complex as a protein, let alone a living cell or a human, could spring up by chance. Chance plays a part in evolution for example, in the random mutations that can give rise to new traits, but evolution does not depend on chance to create

organisms, proteins or other entities. As long as the forces of selection stay constant, natural selection can push evolution in one direction and produce sophisticated structures in surprisingly short times. On average, the program re-created the phrase in just iterations, less than 90 seconds. The Second Law of Thermodynamics says that systems must become more disordered over time. Living cells therefore could not have evolved from inanimate chemicals, and multicellular life could not have evolved from protozoa. This argument derives from a misunderstanding of the Second Law. If it were valid, mineral crystals and snowflakes would also be impossible, because they, too, are complex structures that form spontaneously from disordered parts. The Second Law actually states that the total entropy of a closed system one that no energy or matter leaves or enters cannot decrease. Entropy is a physical concept often casually described as disorder, but it differs significantly from the conversational use of the word. More important, however, the Second Law permits parts of a system to decrease in entropy as long as other parts experience an offsetting increase. Simple organisms can fuel their rise toward complexity by consuming other forms of life and nonliving materials. Mutations are essential to evolution theory, but mutations can only eliminate traits. They cannot produce new features. Mutations that arise in the homeobox Hox family of development-regulating genes in animals can also have complex effects. Hox genes direct where legs, wings, antennae and body segments should grow. In fruit flies, for instance, the mutation called Antennapedia causes legs to sprout where antennae should grow. These abnormal limbs are not functional, but their existence demonstrates that genetic mistakes can produce complex structures, which natural selection can then test for possible uses. Moreover, molecular biology has discovered mechanisms for genetic change that go beyond point mutations, and these expand the ways in which new traits can appear. Functional modules within genes can be spliced together in novel ways. Comparisons of the DNA from a wide variety of organisms indicate that this is how the globin family of blood proteins evolved over millions of years.

Chapter 7 : What is Creationism?

Creationism is the belief that God created humans and animals in their current form, as described in Genesis. The most literal of these beliefs holds that God created the universe in six days.

Print this page Introduction Virtually all religions include an explanation for life on Earth in their scriptures. In March , Rowan Williams , the Archbishop of Canterbury, joined the evolution versus creationism debate when he said in an interview with the Guardian newspaper that he did not believe that creationism - the scriptural account of the origins of the world - should be taught in schools. I think creationism is, in a sense, a kind of category mistake, as if the Bible were a theory like other theories. And what is intelligent design and how does it differ from creationism? Creationism The main points of creationism are these: In order to see this content you need to have both Javascript enabled and Flash installed. We do not know how God created, what processes He used, for God used processes which are not now operating anywhere in the natural universe. This is why we refer to divine creation as Special Creation. We cannot discover by scientific investigation anything about the creative processes used by God. The Fossils Say No! But there are other forms of Creationism which include different combinations of the ideas mentioned: Young Earth creationism Young Earth creationism teaches that: The Book of Genesis is literally true the Earth and all forms of life were created by God in 6 days, around 10, years ago. Scientists are almost unanimous in saying that as the Earth is 4 billion years old, and that the Young Earth theory is false. Old Earth creationism Old Earth creationism teaches that: Gap creationism Gap creationism adds a new idea: There were two creations - one before Adam, and a second one, which included Adam and Eve, after a lengthy time gap This theory reconciles the age of the Earth with the story in Genesis Most scientists say that the geological evidence shows that this theory is false. Day-Age creationism Day-Age creationism adds an element that reconciles the long period of time shown by the fossil record with the story in Genesis. And God has created every animal from water. Of them there are some that creep on their bellies, some that walk on two legs and some that walk on four. God creates what he wills for verily God has power over all things. It differs from Creationism because it divorces Creationist ideas from their roots in Scripture. The argument in favour of Intelligent Design has two parts: Thomas Aquinas in the 13th century used the argument to try and prove the existence of God: The modern concept of intelligent design owes much to Phillip Johnson, an American professor of Law. Johnson published the book Darwin on Trial , and in established the Center for Science and Culture at the Discovery Institute. Johnson put ID forward not as a creationist theory, but as a theory that acknowledged that there was more to the development of life on Earth than could be explained by a totally naturalistic account.

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I think creationism is, in a sense, a kind of category mistake, as if the Bible were a theory like other theories. Whatever the biblical account of creation is, it's not a theory alongside theories.

Theodosius Dobzhansky We do not know how the Creator created, what processes He used, for He used processes which are not now operating anywhere in the natural universe. This is why we refer to creation as special creation. We cannot discover by scientific investigations anything about the creative processes used by the Creator. The Fossils Say No! Faith in a God of self-giving love Haught Creationism is a religious metaphysical belief which claims that a supernatural being created the universe. Creation Science is a pseudoscientific notion which claims that a the stories in Genesis are accurate accounts of the origin of the universe and life on Earth, and b Genesis is incompatible with the Big Bang theory and the theory of evolution. Creationism is not necessarily connected to any particular religion. Millions of Christians and non-Christians believe there is a Creator of the universe and that scientific theories such as the theory of evolution do not conflict with belief in a Creator. They also claim that Genesis contradicts the Big Bang theory and the theory of evolution. Thus, those theories are false and scientists who advocate such theories are ignorant of the truth about the origins of the universe and life on Earth. They also claim that creationism is a scientific theory and should be taught in our science curriculum as a competitor to the theory of evolution. Gish of the Institute for Creation Research , who put forth his views mainly in the form of attacks on evolution. Spring Arbor Distributors, For an answer to the question about gaps in the fossil record, see Missing Links: Despite the fact that The vast majority of scientists who disagree about evolution disagree as to how species evolved, not as to whether they evolved. After all, they note, the entire scientific community has been wrong before. For example, at one time the geologists were all wrong about the origin of continents. They thought the earth was a solid object. Now they believe that the earth consists of plates. The theory of plate tectonics has replaced the old theory, which is now known to be false. However, when the entire scientific community has been proved to be wrong in the past it has been proved to be wrong by other scientists, not pseudoscientists. They have been proved wrong by others doing empirical investigation, not by others who begin with faith in a religious dogma and who see no need to do any empirical investigation or prediction to support their beliefs. Erroneous scientific theories have been replaced by better theories, i. Plate tectonics not only explained how continents can move, it also opened the door for a greater understanding of how mountain ranges form, how earthquakes are produced, how volcanoes are related to earthquakes, etc. Creationism is not a scientific alternative to natural selection any more than the stork "theory" is an alternative to the sexual reproduction "theory" Hayes Creationism has not led and is unlikely ever to lead to a serious understanding of biological phenomena in the natural world. That theory is quite distinct from the fact of evolution. Other scientists have different theories of evolution, but only a negligible few deny the fact of evolution. In the Origin of Species Darwin provided vast amounts of data about the natural world that he and others had collected or observed. Only after providing the data did he demonstrate how his theory accounted for the data much better than the belief in special creation. Gish and other young earth creationists , on the other hand, assume that whatever data there is must be explained by special creation, because, they think, AG said so in the Bible. His approach, and that of many other creation scientists, depends on attacking at every opportunity what they take to be the theory of evolution. Rather than show the strengths of their own belief, they rely on trying to find and expose weaknesses in evolutionary theory. Creation scientists actually have no interest in scientific facts or theories. For example, creation scientists, mistaking the uncertain in science for the unscientific, see the debate among evolutionists regarding how best to explain evolution as a sign of weakness. Scientists, on the other hand, see uncertainty as an inevitable element of scientific knowledge. They regard debates on fundamental theoretical issues as healthy and stimulating. It is religious dogma masquerading as scientific theory. Creation science is put forth as being absolutely certain and unchangeable. It assumes that the world must conform to its understanding of the Bible. Where creation science differs from creationism in general is in its notion that once it has interpreted the Bible to mean something, no evidence can

be allowed to change that interpretation. Instead, the evidence must be refuted. Compare this attitude to that of the leading European creationists of the 17th century who had to admit eventually that the Earth is not the center of the universe and that the sun does not revolve around our planet. They did not have to admit that the Bible was wrong, but they did have to admit that human interpretations of the Bible were in error. Creation scientists are not scientists because they assume that their interpretation of the Bible cannot be in error. They put forth their views as irrefutable. Hence, when the evidence contradicts their reading of the Bible, they assume that the evidence is false. The only scientific investigation they do is aimed at proving some evolutionary claim is false. Creation scientists see no need to test their belief, since AG has revealed it. Infallible certainty is not the hallmark of science. Scientific theories are fallible. Claims of infallibility and the demand for absolute certainty characterize not science but pseudoscience. For example, any evidence that seems to support the notion that dinosaurs and humans lived together is welcomed by the creationists. And the way creation scientists treat the second law of thermodynamics indicates either gross scientific incompetence or deliberate dishonesty. If the bucket is placed in bright sunlight, it will absorb heat from the sun, as black things do. Now the water becomes warmer than the air around it, and the available energy has increased. Has energy that was previously unavailable become available, in a closed system? No, this example is only an apparent violation of the second law. Because sunlight was admitted, the local system was not closed; the energy of sunlight was supplied from outside the local system. If we consider the larger system, including the sun, entropy has increased as required Klyce. Creation scientists treat the evolution of species as if it were like the bucket of water in the example above, which, they incorrectly claim, occurs in a closed system. If we consider the entire system of nature, there is no evidence that the second law of thermodynamics is violated by evolution. It also seems undeniable that one profound difference is that the metaphysical belief of creationism is consistent with every conceivable empirical state of affairs, while the scientific theory of evolution is not. Scientific theories allow definite predictions to be made from them; they can, in principle, be refuted. Theories such as the Big Bang theory, the steady state theory, and natural selection can be tested by experiment and observation. No scientific theory is ever airtight. What makes "scientific creationism" a pseudoscience is that it attempts to pass itself off as science even though it shares none of the essential characteristics of scientific theorizing. Creation science will remain forever unchanged as a belief. It will engender no debate among scientists about fundamental mechanisms of the universe. It generates no empirical predictions that can be used to test it. It is taken to be irrefutable. And it assumes a priori that there can be no evidence that will ever falsify it. For example, if it said that the world was created in B. Nothing could refute it; it is airtight. An Attempt to Untie the Geological Knot, published in The idea never caught on. If the age or scientific dating techniques of fossil evidence is disputed, but considered relevant to the truth of the religious hypothesis and is prejudged to be consistent with the hypothesis, then the hypothesis is a metaphysical one. A scientific theory cannot prejudge what its investigative outcomes must be. Otherwise, no reasonable person should consider such an unsupported claim that would require us to believe that the entire scientific community is in error. The fact that he was unable to convert even a small segment of the scientific community to his way of thinking is a strong indication that his arguments have little merit. This is not because the majority must be right. The entire scientific community could be deluded. However, since the opposition issues from a religious dogmatist who is not doing scientific investigation but theological apologetics, it seems more probable that it is the creation scientists who are deluded rather than the evolutionary scientists. They do not believe that the Bible is to be taken as a science text. To them, the Bible contains teachings pertinent to their spiritual lives. It expresses spiritual ideas about the nature of AG and the relationship of AG to humans and the rest of the universe. Such people do not believe the Bible should be taken literally when the issue is a matter for scientific discovery. The Bible, they say, should be read for its spiritual messages, not its lessons in biology, physics or chemistry. This used to be the common view of religious scholars. Allegorical interpretations of the Bible go back at least as far as Philo Judaeus b. Creation scientists have no taste for allegorical interpretations. One of their successes was in the state of Arkansas, which passed a law requiring the teaching of creationism in public schools. This accomplishment may seem significant but it must be remembered that until it was illegal to teach evolution in Arkansas! In , however, the law was ruled unconstitutional by a federal judge who declared

creationism to be religious in nature *McLean v.* This dishonest ruse was thrown out by the 5th Circuit Court of Appeals in . Another tactic was tried by creationist biology teacher John Peloza in . In the Seventh Circuit Court of Appeals ruled that school districts may forbid the teaching of creationism since it is a form of religious advocacy *Webster v.*

Chapter 9 : Creationism | Definition of Creationism by Merriam-Webster

Young-earth creationists believe that the creation days of Genesis 1 were six literal (hour) days, which occurred 6,, years ago.1 They believe that about 2,, years before Christ, the surface of the earth was radically rearranged by Noah's Flood.

Creationism Creationism is the belief that the universe and all species of living organisms were created individually and purposefully by God or another intelligent being, not through natural processes like evolution. The majority of creationists are Christians, but creationism includes a variety of religious, scientific, and political views. The one thing they share in common is their rejection of the theory of evolution. The theory of evolution, the idea that species develop and change over time, was first advanced by naturalists Lamarck, Darwin, and Wallace in the 19th century. Those ideas immediately met with a great deal of opposition, as they seemed clearly incompatible with long-held beliefs about the divine origins of biological life and especially humankind. But the theory of evolution soon became the established scientific consensus and, with many adjustments and expansions, remains so today. As such, evolution is taught in public schools and textbooks throughout the world. While some creationists are content with purely religious reasons for rejecting evolution, most believe their position can be supported by modern science as well. These creationists argue that there are many scientific problems with evolution, as well as evidence that points to an intelligent designer, so creationism is a valid scientific theory. Non-creationists object to this on the grounds that creationism is not supported by scientific consensus, "pseudo-scientific," and ultimately religious in nature, and therefore has no place in mainstream science. Creationists consider this reaction to be evidence of a secular bias and contrary to freedom. It is this issue of public policy that makes creationism more significant than most other minority religious doctrines. Especially in the United States - which combines an especially religious population with especially strong laws on religious freedom - the question of what should be taught in schools about science has brought creationism out of a purely religious context and into politics, the media, multimillion-dollar policy campaigns, and high-profile courtrooms. While there are advocates on both sides that are cordial, the debate can become emotionally charged as individuals and institutions locate this subject within a worldview they are passionate about and seek to defend. This section of ReligionFacts is intended to introduce the reader to the history, concepts, arguments, and varieties of creationism. As always, our goal is to cut through propaganda and unsupported claims to focus on the known facts as objectively as possible. So any human ideas that contradict the Bible, no matter how popular, cannot be accurate. After all, the all-knowing creator and ruler of the universe knows more about it than fallible humans with limited human minds and perspectives ever can. Some Christians interpret this story metaphorically, but creationists accept it as a literal historical account. Genesis states that God created the universe and the planets, followed by all living creatures, "each according to their kind," and finally the first man, Adam, and the first woman, Eve. In the case of Adam and Eve, God formed them directly from dust. Implied in this is that Adam and Eve did not evolve from lower life forms nor did they have any earthly ancestry. When Adam and Eve were created they were "mature," meaning they were adults. Bible verses used to support this idea include: Non-Christian Creationism Although creationism is often associated with Christianity, the doctrine exists in other religions as well. Hinduism and Creationism Hindu creationism can be called a form of Old Earth Creationism, which posits that the universe may be billions of years old, according to their sacred writings called the Vedas. Hinduism further teaches that humanity has not evolved but devolved, having been produced by state of pure consciousness. They further state that plants and animals are the by product of pure consciousness, which are contained in an endless cycle of births and rebirths. Islam and Creationism Many Muslims are creationists. There is not, however, the existence of various positions regarding the age of the Earth like there is in Christianity. Most Muslims accept the scientific consensus regarding the age of the Earth and a minority adopt Darwinian evolution. Judaism There are a variety of views in Judaism with regard to creationism. The other major branch of present-day Judaism, Reformed Judaism, does not subscribe to a literal interpretation of the Torah, including Genesis 1, so they welcome scientific consensus. Raelians A much smaller group, but

interesting for its entirely different religious perspective on creationism, is the Raelians. Raelians do not believe in God, but believe that all living species on Earth were created purposefully by scientists from another planet. Therefore they also reject the theory of evolution as an incorrect explanation. Arguments for Creationism Arguments for creationism aim to use science to show that the nature of the universe and complexities of life cannot be adequately explained by natural processes such as evolution. While different creationists, or schools of creationism, may emphasize different points for rejecting evolution, the following reasons are commonly cited among various adherents. Johnson, in his book *Darwin on Trial*, lists the following points: After a century of intentionally breeding animals and plants, the variation that has been produced is limited; for example, dogs that are selectively bred are still dogs. Furthermore, when allowed to return to a wild state, bred characteristics experience a reversion suggesting that natural forces are less progressive than Darwin posited. Certain items in the universe, like the eye, could not have operated in a lesser form. To accept that the eye evolved would mean believing that for thousands of generations the individual parts that make up the eye as its now known continued to evolve into greater degrees of complexity although it was without function. The absence of "intermediate types" of fossils pose a problem for evolution according to many creationists. Darwin himself acknowledge this absence and believed it was because not enough fossils had been discovered yet. Creationists also believe that "stasis" - the fact that fossils look essentially the same over long periods of time - argues against Darwinian evolution. Also, "sudden appearance" - the fact that species appear suddenly in certain areas, rather than gradual - is also believed to argue against Darwinian evolution. Creationists do not believe adequate explanations have been given for the differences in molecular structures of living organisms. While similarity suggests common ancestry to many Darwinian evolutionists, creationists argue that it could also mean the life forms have the same Creator. The greatest problem for evolution, according to many creationists, is that the theory does not explain how the universe began. Creationists often look to the metaphor offered by Fred Hoyle to articulate this argument: The chances that a living organism emerged by chance is the same as a tornado sweeping through a junk yard and assembling a Boeing