

# Evolution, Belief, Gods and Ghosts

Rui Diogo, Howard University

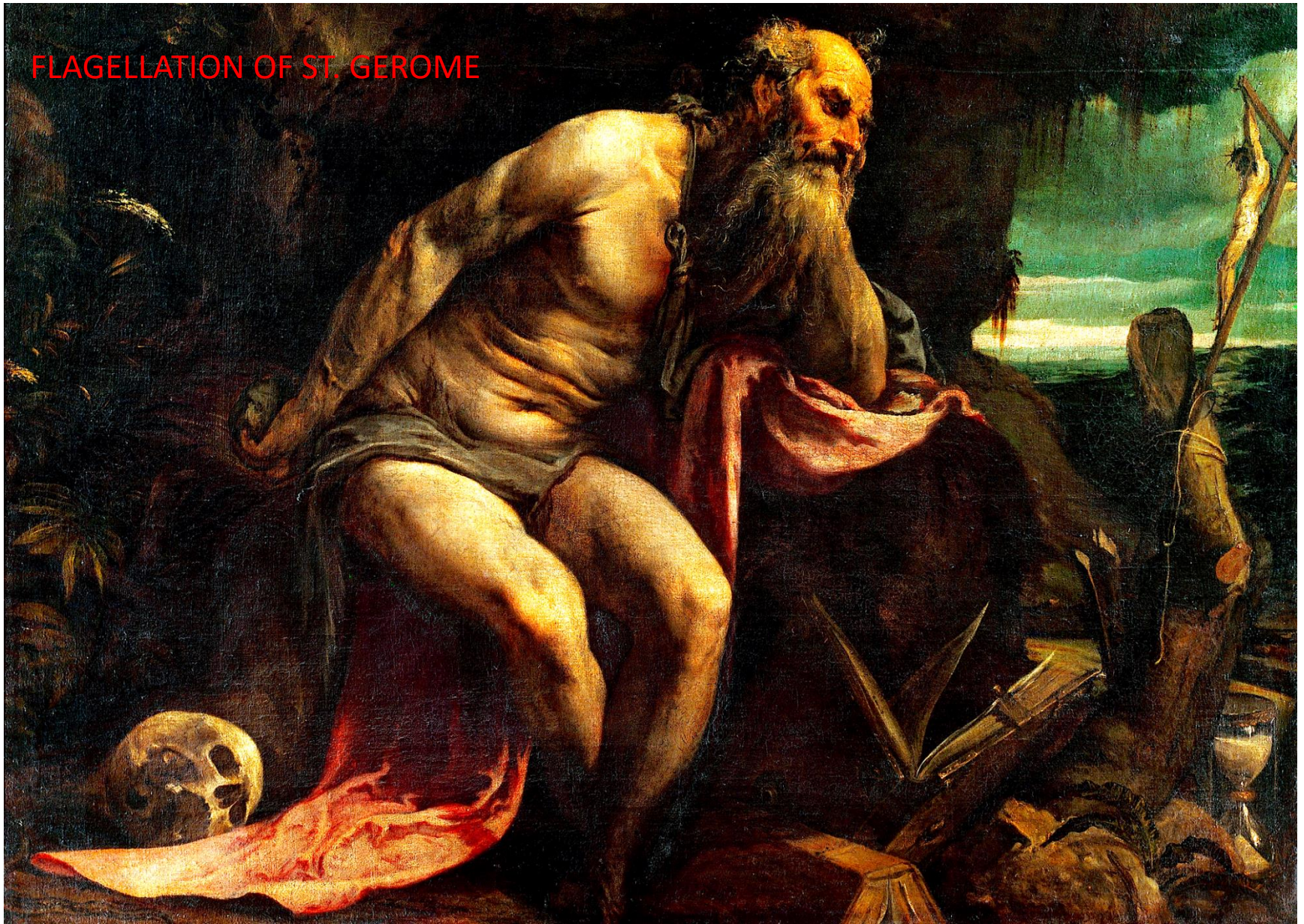




# ***There is no cosmic purpose of life***

***Misleading why-questions, science, love, religion and societal and animal abuses***

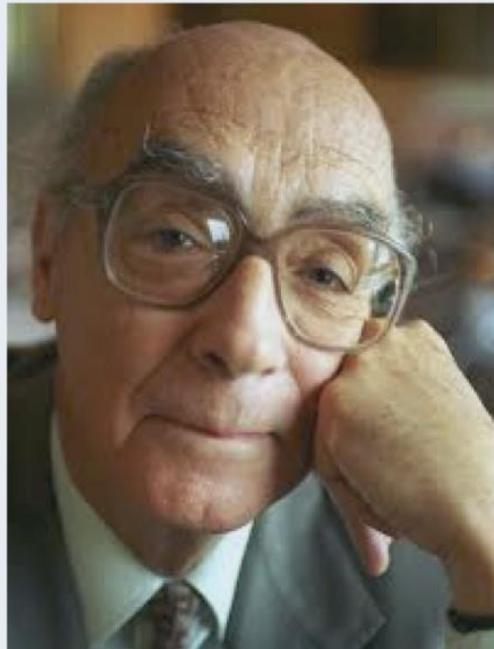
**FLAGELLATION OF ST. GEROME**



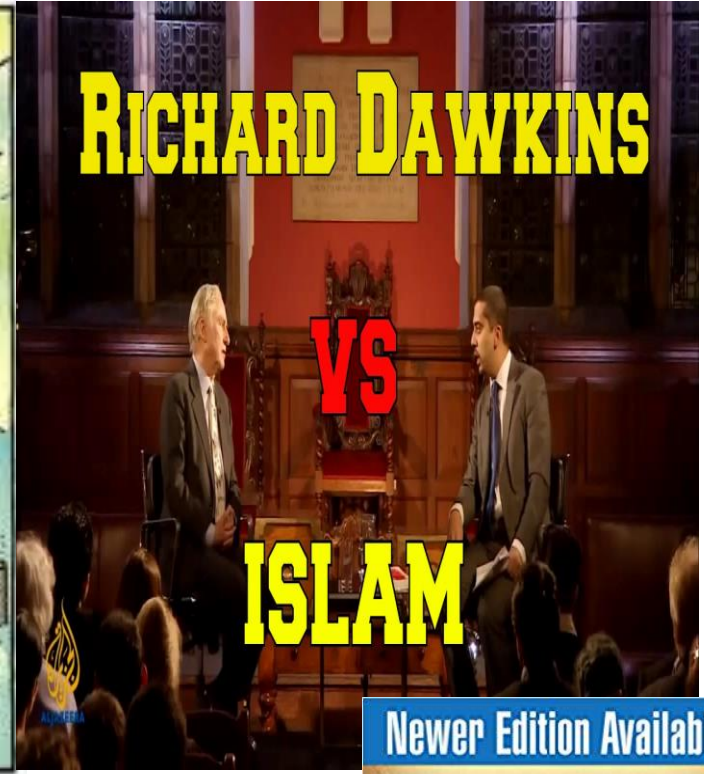
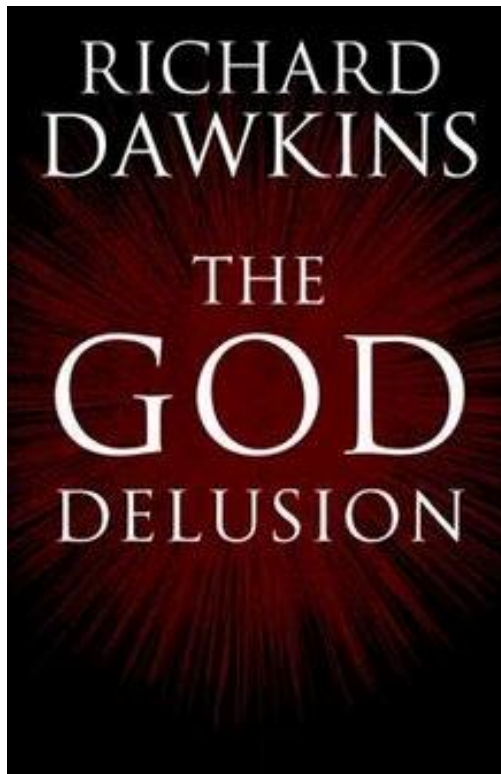


***"Before the creation of the universe, God did nothing, it seems.. one day he decided to create the Universe. It is also not known why or for what. According to the Bible, he made the Universe in six days, six days only, six days. Then he rested on the seventh day, until today. He did nothing, ever again. Does this make any sense?!"***

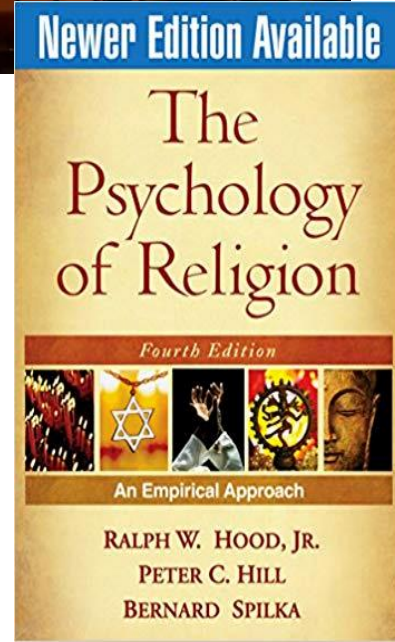
***(Jose Saramago)***



THIS TALK IS **NOT** AN “ATHEIST ATTACK ON BELIEF & RELIGION”



- This talk is about naturalistic evolution of **belief** & how **all humans became 'wired' to believe** (religion, humanism, conspiracy theories, superstitions, etc..)
- So, **no criticism**, if not it would need to be criticism of **EVERYBODY**
- **Regarding religion per se**, yes, it **lead/ at least justified huge number of atrocities**, but also saved millions of lives as a **crisis management system**
- Religion today is associated with **< use of illegal substances, tobacco, alcohol, anxiety, stress, depression & > health, optimism, self-esteem..**

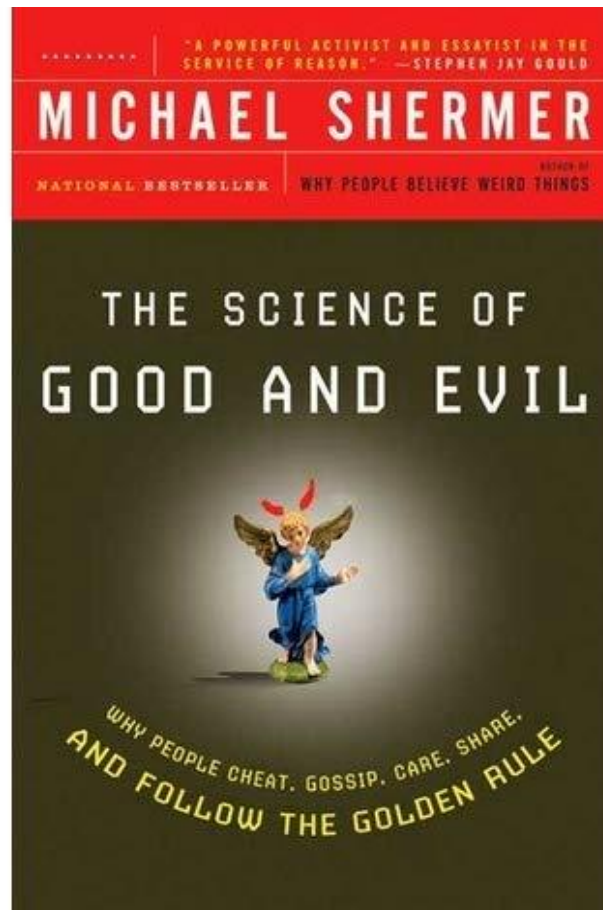




Most people today still think that, apart from such extreme cases such as these, most religious people are usually more moral, because they assume organized religions increased morality, cooperation and altruism

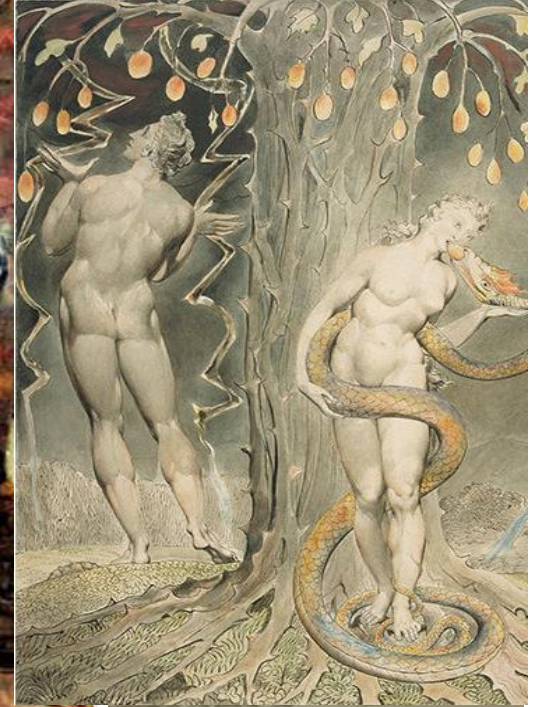
For instance, Shermer wrote:

“When bands/tribes gave way to chiefdoms/states, religion developed as the principal social institution to facilitate **cooperation** and **goodwill** by encouraging **altruism** and **selflessness**, **discouraging excessive greed and selfishness**”





**So, what does empirical data from biological/anthropological studies tell us about morality and the evolution of belief and religion?**





1) Study of evolution shows **that there is no 'morality', 'good', 'evil' in nature: things just occur..**  
**'good'/'evil' are just human constructs**

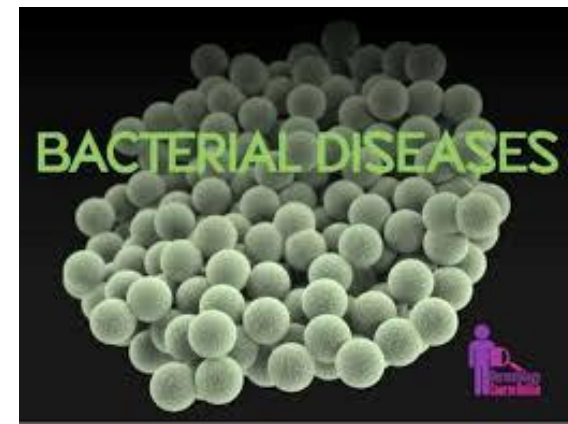
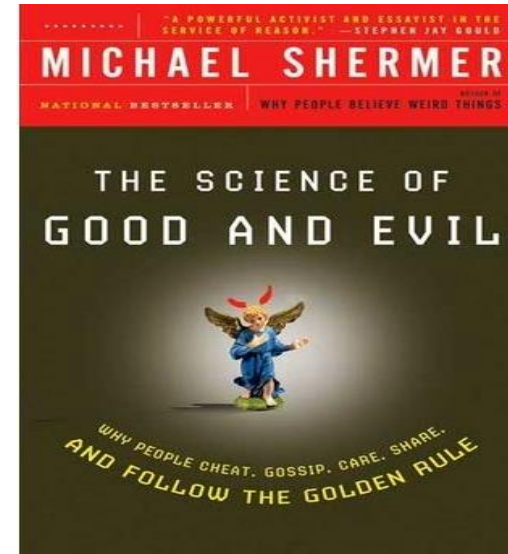
→ “If there were no humans there would be no evil”



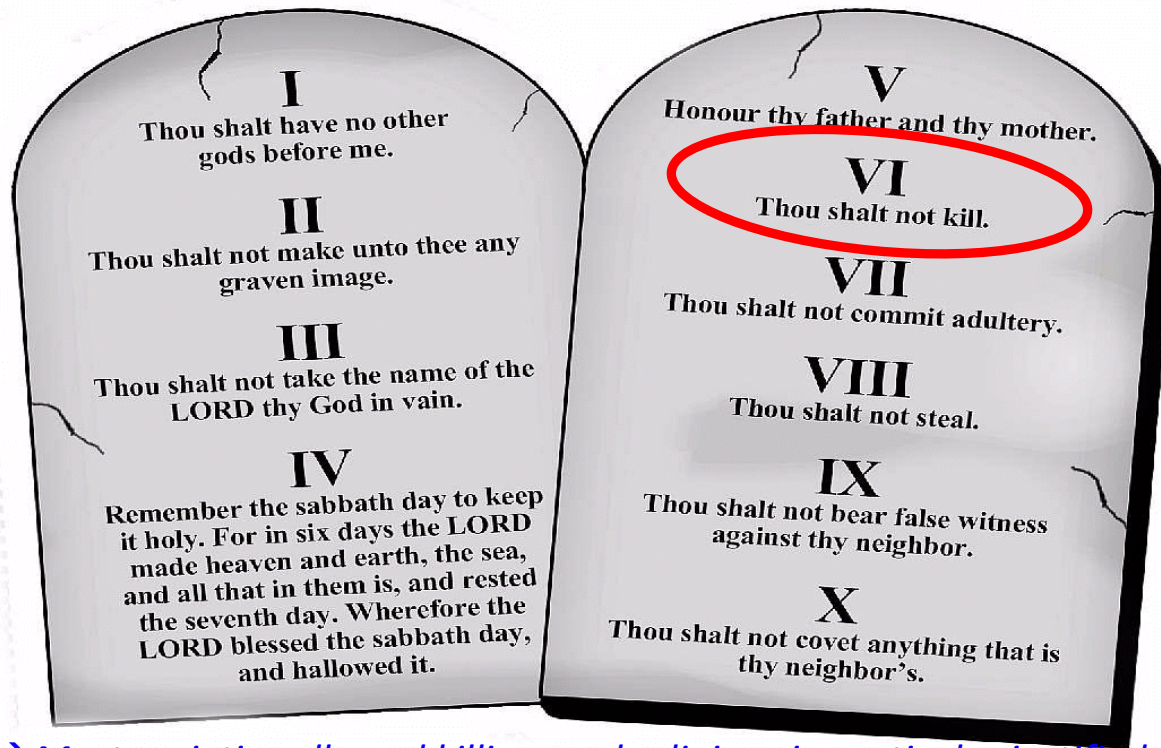
→ “Earthquakes that kill people are not, in and of themselves, evil, they are just a natural event, **without purpose or intention**”



→ “Bacteria are not evil because they make us sick.. they are highly successful organisms, spreading themselves far & wide”

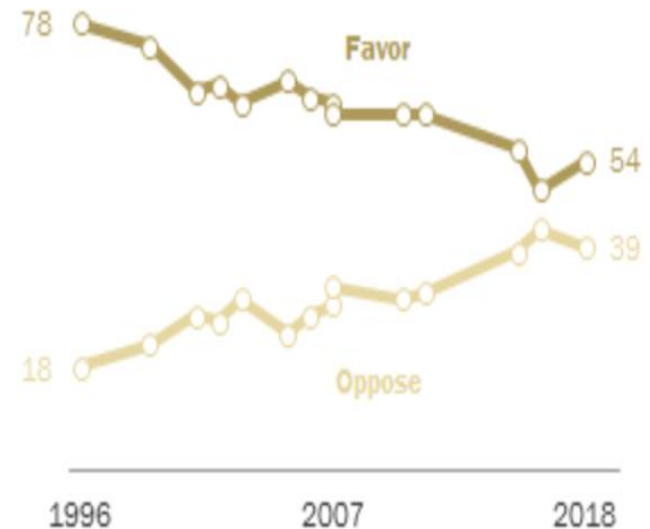






## Death penalty support ticks up after years of decline

% who \_\_\_\_ the death penalty for persons convicted of murder

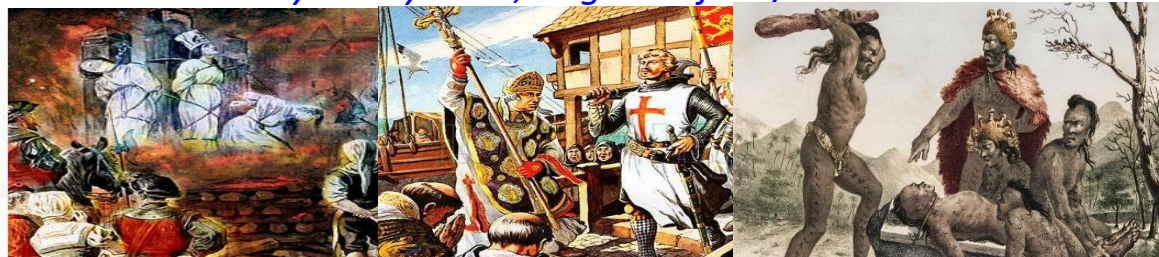


Note: Don't know responses not shown.  
Source: Survey of U.S. adults conducted April 25-May 1, 2018.

PEW RESEARCH CENTER

→ Most societies allowed killing, and religions in particular justified that.. sacrifices, burning witches, religious wars..

→ Even now, within "rule of law", for most (54%) Americans, killing is not necessarily always bad, might be justified..



**Steven Weinberg, 2001: "With or without religion, some people would tend to behave well & other people would do evil things, but the peculiar contribution of religion throughout history has been to allow 'good people' do 'evil things' "**



In fact, in terms of empirical data, “a number of studies actually support that + religiosity is often associated with - moral behavior:

- **Negative correlation** with various measures of honesty & willingness to aid poor
- **Hypocrisy:** religion often imposes ‘anti-natural’ goals that are very difficult to be achieved, so **public & private stances tend to be different:** e.g. 70% of a sample of Seventh-Day Adventist young people endorsed their church's prohibition of premarital sex, but 54% of them reported engaging in premarital sex.
- **Positive correlation** with “ethnocentrism, authoritarianism, dogmatism, social distance, intolerance, prejudice (especially against Jews/blacks)”

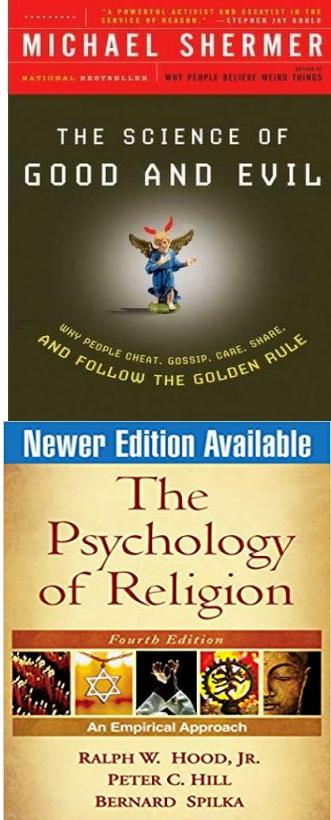


Shermer: “Absolute morality leads to absolute intolerance - why be tolerant of those who refuse to accept the Truth, not do what our ‘true’ God commands?”

In the name of God, religious people have sanctioned slavery, anti-Semitism, racism, homophobia, torture, genocide, ethnic cleansing, have burned ‘witches’, 11 September, etc.



*"Dear God, save us from the people who believe in you" (written on a wall, DC, after 9/11)*





# Empirical data: religion/morality not necessarily related

3) Even within the 'morality' constructed by humans, its development in children has usually nothing to do with religion

## Kohlberg's Theory

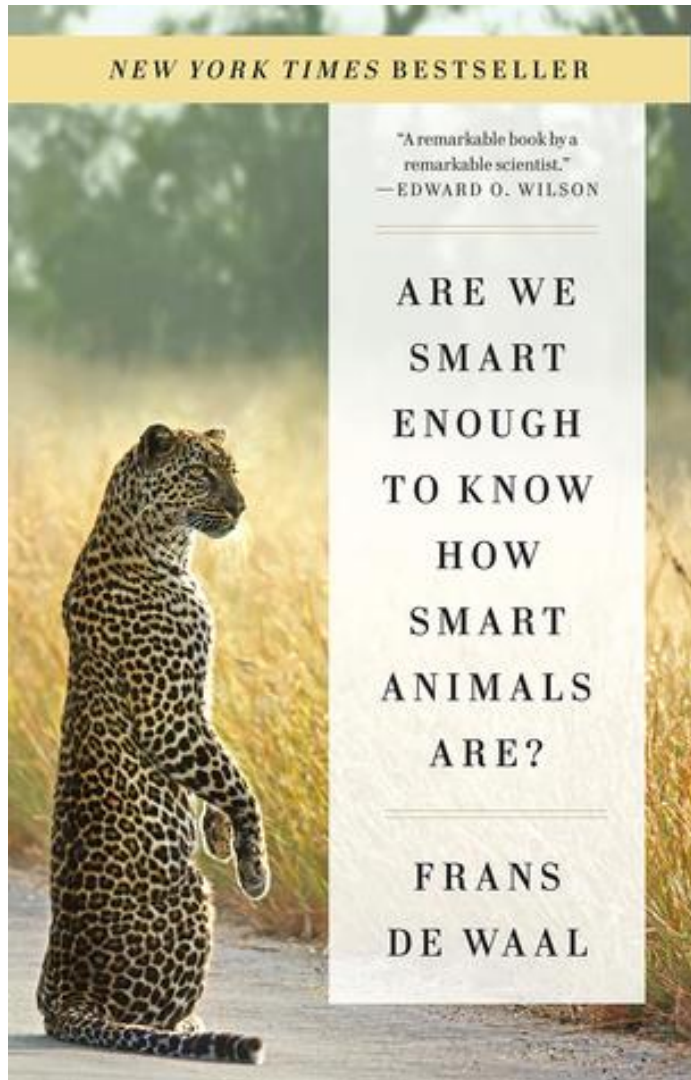
Level/Stage	Age Range	Description
I: Obedience/Punishment	Infancy	No difference between doing the right thing and avoiding punishment
I: Self-Interest	Pre-school	Interest shifts to rewards rather than punishment – effort is made to secure greatest benefit for oneself
II: Conformity and Interpersonal Accord	School-age	The “good boy/girl” level. Effort is made to secure approval and maintain friendly relations with others
II: Authority and Social Order	School-age	Orientation toward fixed rules. The purpose of morality is maintaining the social order. Interpersonal accord is expanded to include the entire society
III: Social Contract	Teens	Mutual benefit, reciprocity. Morally right and legally right are not always the same. Utilitarian rules that make life better for





# Empirical data: religion/morality not necessarily related

4) This makes sense, because even the type of 'morality' defined by humans is actually also found in other animals, being thus present much before the rise of religions, and particularly of organized religions



Studies: chimps play ultimatum game to test for 'moral values'- **reciprocity, sense of justice/fairness** -, quickly start offering equitable splits of bananas.. Like 3-5-year-old human children..

**Again, not "noble" savage, just minimum requirement to live in relatively large social groups!**





# A NATURALISTIC HISTORY OF BELIEF & RELIGION

Some of the main components of **BELIEF - AGENCY, TELEOLOGY, SEARCH FOR CONTROL, ETC.** - appeared **MUCH BEFORE THE APPEARANCE OF HUMANS**

**AGENCY** (search of a **Purposeful Agent**) often related to **TELEOLOGY** (explanation of phenomena by the **purpose they serve** rather than the **cause by which they arise**)



Zebra hears/sees tall grass moving..

OR



Just wind: no agency – no purposeful being involved  
99% of the cases right



A lion: purposeful being involved – purpose is to eat you: only 1% of the cases right..  
.. BUT WHEN IT HAPPENS..



**SO AFTER MILLIONS OF YEARS, WHICH ONES ARE THE ONES THAT SURVIVED THE MOST AND WERE THUS MORE NATURALLY SELECTED?**



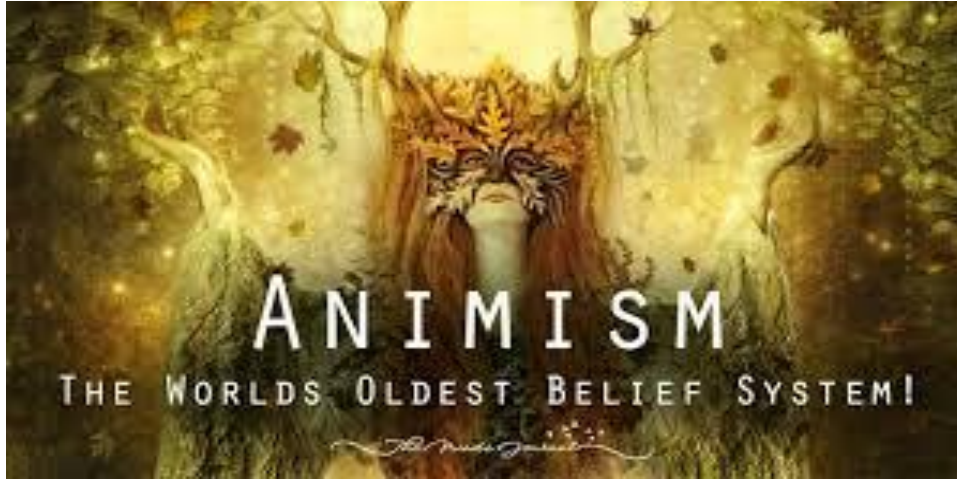
**THE SUPER SCARED, FREEKY “AGENCY” ONES!**



**BELIEVING IN AGENCY, EVEN WHEN IS 99% UNREAL, ALMOST ALWAYS  
WILL BE MORE SELECTED IN EVOLUTION**



# A NATURALISTIC HISTORY OF BELIEF & RELIGION



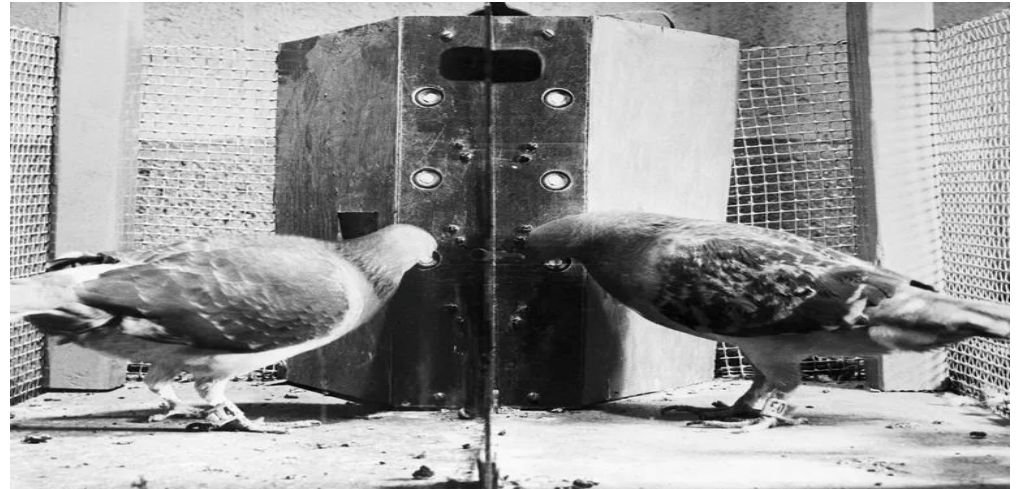
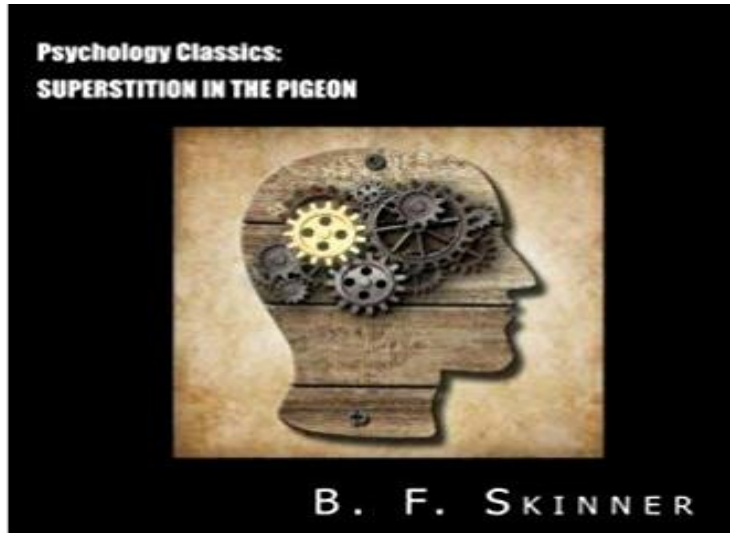
In fact, **animism** – often viewed as ‘precursor of religion’ or as a ‘basal religion’ – is the **belief** that inanimate things possess a ‘spirit’, often with **intention/motive (Agency)**





# A NATURALISTIC HISTORY OF BELIEF & RELIGION

**OBSESSION FOR CONTROL/PATTERNICITY/SUPERSTITION appeared also a long time in evolution, much before humans**



-Food comes directly or at FIXED time intervals VS. only after a RANDOM time intervals:

-RANDOM: pigeons started to exhibit odd behaviors, e.g. side-to-side hopping, etc.. an avian rain dance of sorts.. whatever the pigeons happened to be doing when food came out was scored in their little brains as a 'pattern'

**PATTERNICITY: tendency to find meaningful patterns in meaningless noise**

**.. IT IS A WAY FOR THEM TO FEEL THEY HAVE CONTROL OVER SOMETHING THEY ACTUALLY DON'T CONTROL AT ALL.. EXACTLY AS WE OBCESSIVELY TRY TO DO IN OUR LIVES & EVEN CONCERNING OUR DEATH..**



**NOT *Homo sapiens* at all.. We are TRULY a HOMO IRRACIONALIS, a very irrational animal..**

- Inspired by pigeon experiments, Ono did similar experiment with humans

.. after just some minutes, various subjects had their own strange rituals..

.. At ten-minute mark one of them got a point just as she happened to jump on the floor, whereby she promptly **started jumping over and over**.. leading her to end the session early from ceiling touching exhaustion.



**Nadal is a winner..** He mostly wins games, so **each of his many victories is a reinforcement** for his odd rituals..



Even when ‘patterns’ are clearly shown to be wrong (e.g. **someone does not get better, racist stereotypes “Mexicans are all criminals”**), the many **contrary signals are coded as ‘exceptions’**, while few other ones are more remembered/act as reinforcement..



# BEHAVE

THE BIOLOGY of HUMANS  
at OUR BEST and WORST



ROBERT M.  
SAPOLSKY



We are TRULY a **HOMO IRRACIONALIS**:

*.. we follow highly irrational narratives*

*.. we look for, and believe in, patterns and agents that don't exist at all*

*.. we normally act based on 'gut feelings' & then try to rationalize them A POSTERIORI*

**Shermer: "Even smart people believe weird things because they are skilled at defending beliefs they arrived at for nonsmart reasons".**



2009 Harris Poll, 2303 adults, USA, most powerful country, militarily/economically:

God: 82%

Miracles: 76%

Heaven: 75%

Angels: 72%

Hell: 61%

The virgin birth of Jesus: 61%

The devil: 60%

Darwin' theory of evolution: 45%

Ghosts: 42%.

Angels: human-like beings with wings that were never discovered/documentated

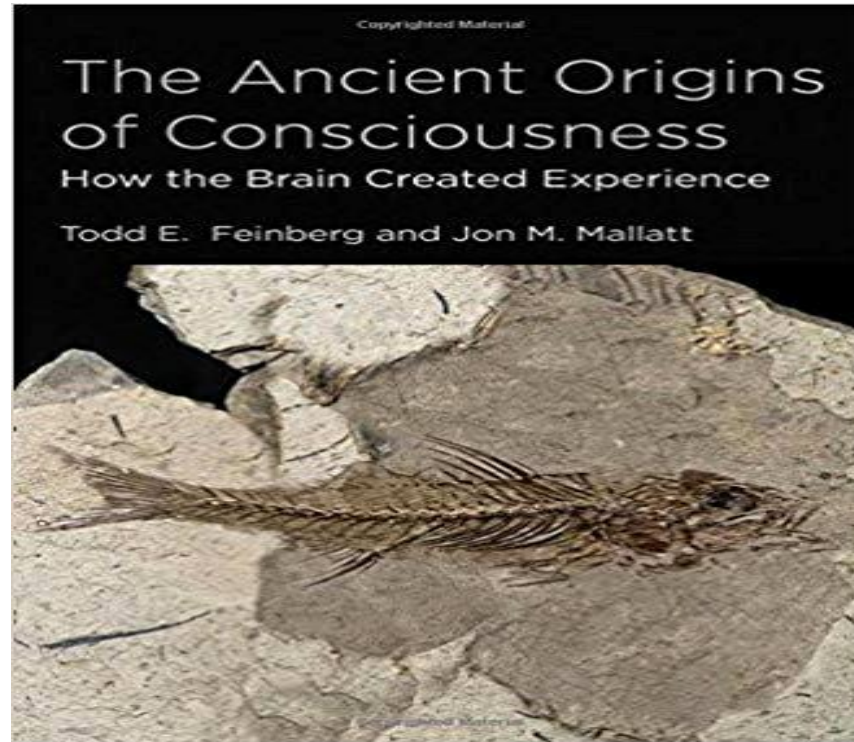


Biological/human evolution: documented in endless scientific works, fossils, etc.



## A NATURALISTIC HISTORY OF BELIEF & RELIGION

Consciousness appeared also a long time in evolution, much before humans

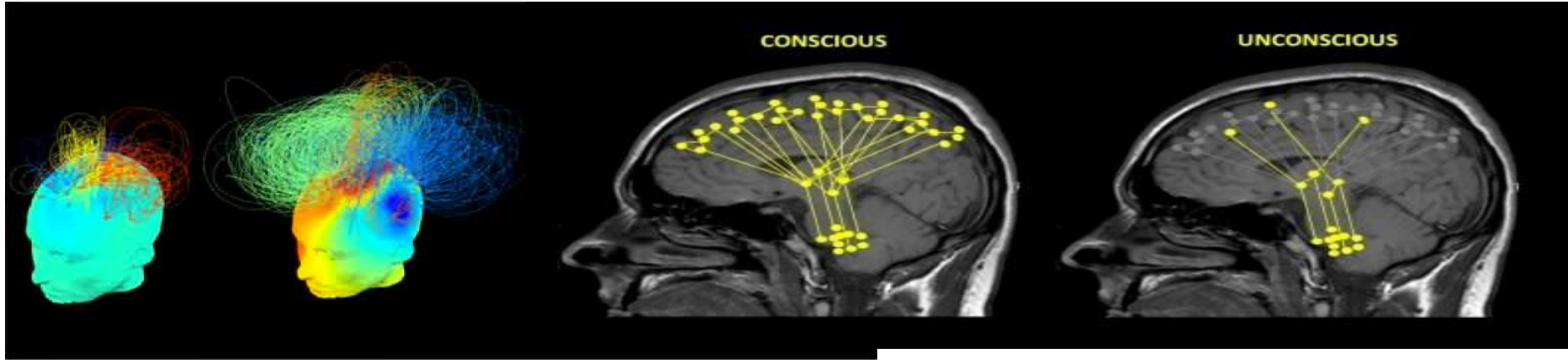


Related with issues about 'soul'

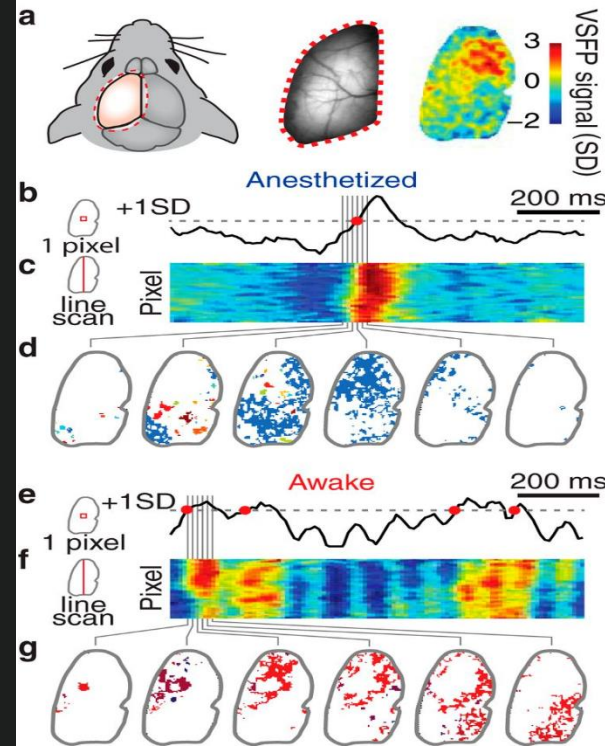
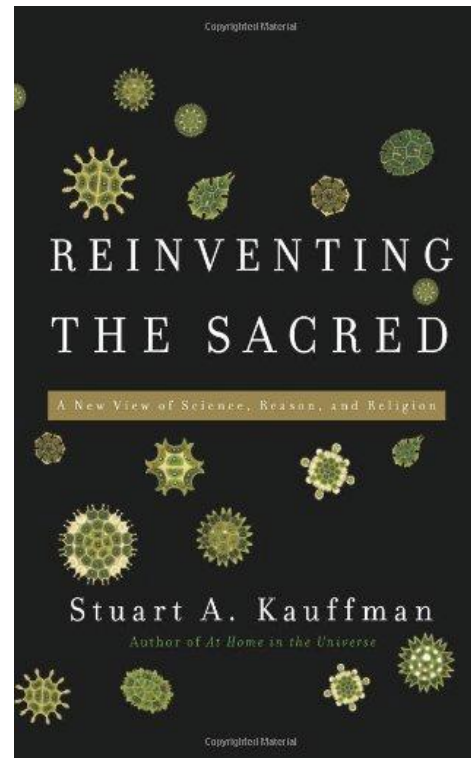
René Descartes: Mind-Body dualism: nature of the mind completely different from that of body → RELATED TO OLD SPECULATIONS ON **SUPERNATURAL ORIGINS OF 'SOUL'.. IF ATOMS, CELLS, ETC, CANNOT BE CONSCIOUS, HOW CAN BRAIN FORMED BY THEM BE SO?**



## EMPIRICAL DATA: 'mind'/'consciousness'/'soul' are just related to our nervous system



**Systems biology**, particularly notion of **emergence**, allows us to explain naturalistically the origin of the 'mind'/'soul': strikingly high number of complex factors, intrinsic and extrinsic, including **complex network connections** made by the parts (e.g., neuronal networks) are combined in a way in which the **overall outcome is *more* than just the sum of the parts**: the capacity to take behavioral choices, having the drive to undertake them, to be conscious, and so on..





## EMPIRICAL STUDIES OF 'SOUL' /NEAR DEATH EXPERIENCES – CLEAR WAYS TO TEST IT EMPIRICALLY: IF ONE REALLY GOES TO THE SAME PLACE ('OTHER SIDE'), THEN ALL EXPERIENCES SHOULD BE SIMILAR

-Study in 1985, experiences of 16 Asian Indians vs Americans: former often encountered Hindu king of the dead, Americans had not.

- Largest cross-cultural study, 1977 by Osis and Haraldsson, 440 terminally ill American and Indian patients: always described according to the person's religious beliefs, no Hindu reported seeing Jesus, and no Christian a Hindu deity.



MIND

# Peace of Mind: Near-Death Experiences Now Found to Have Scientific Explanations

Seeing your life pass before you and the light at the end of the tunnel, can be explained by new research on abnormal functioning of dopamine and oxygen flow

# A NATURALISTIC HISTORY OF BELIEF & RELIGION

**Origin of some kind of 'belief'/spirituality?** Contrary to agency/patternicity as very old, probably present in numerous animals, which relate to a purposeful (BUT NATURAL!) agent (e.g. a lion), what about 'belief', including in a 'supernatural' being? This seems to be also **present in some - but much less – animals other than humans, e.g. chimps**

Nature | Did You Know

## Scientists Find Evidence That Chimps Might Have Their Own Religion

By **Meagan** | Aug 04, 2017





## "Chimp temples"



© Kuhl et al/Scientific Reports

## Chimps dance in the face of fire

by Lin Edwards , Phys.org



(PhysOrg.com) -- Unusual behaviors have been observed in wild chimpanzees in West Africa in the face of grass fires. The

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## Chimpanzees Dance in the Rain

By SYLVIA AMSLER • JUL 9, 2015

PROGRAM  
Being Human

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Chimpanzees live in rainforest habitats where the rainy season brings regular thunderstorms. But these African apes make little attempt to stay dry in the rain. They often huddle miserably and simply get wet. Sometimes though, chimpanzees perform what researchers call "rain dances": vigorous yet deliberate physical and



# A NATURALISTIC HISTORY OF BELIEF & RELIGION

But then yes, there is **something that seems to be uniquely human:**  
**creating complex teleological stories & believing in them, to make a cosmic purpose of life..**

Other animals clearly know about death (elephants crying when faced with relatives'), or that they need sometimes to 'run for their lives'..

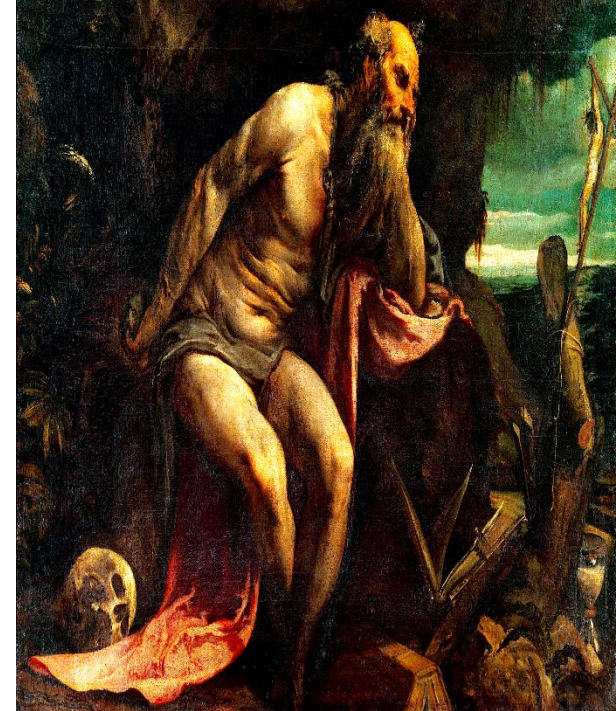
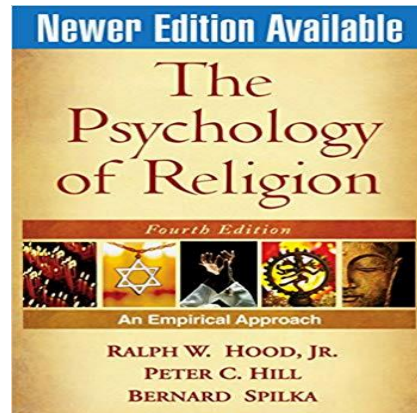


However, we seem to be unique in having a peculiar blessing & course:  
**even in our prime time, we know that we will surely die**, even if we escape all predators,  
don't follow from cliffs, etc..



So, humans used what they are particularly good at: narratives

- “We will still ‘exist’ after ‘physical/animal’ death” → After life
- “Even in this life, we are SPECIAL, we have a cosmic purpose



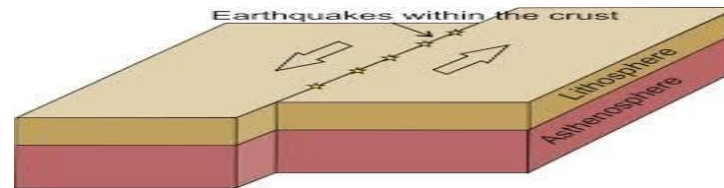
“The greatest uncertainty, death, often regarded as a major stimulus for the origin of religion..  
meaning helps meet an even greater underlying need for control..

**“Since we cannot change reality, let us change the eyes which see reality”  
(Nikos Kazantzakis)**

## THIS LEADS US TO THE “WHY” QUESTIONS: AGENCY & SEARCH FOR PURPOSE/MEANING

“Why” questions are teleological, trying to find for a A PURPOSEFUL AGENT

It should be “HOW”! How is earthquake formed? Natural movement of masses, etc.



### Traditional Christian Treatment of the Sick

*“Whatsoever your sickness is, know you certainly, that it is God's visitation”*  
(Book of Common Prayer, Order for the Visitation of the Sick)

**DOUBLE STRUGGLE,  
PARTICULARLY FOR  
PEOPLE WITH  
‘ABNORMALITIES’ AND FOR  
THEIR MOTHERS..**



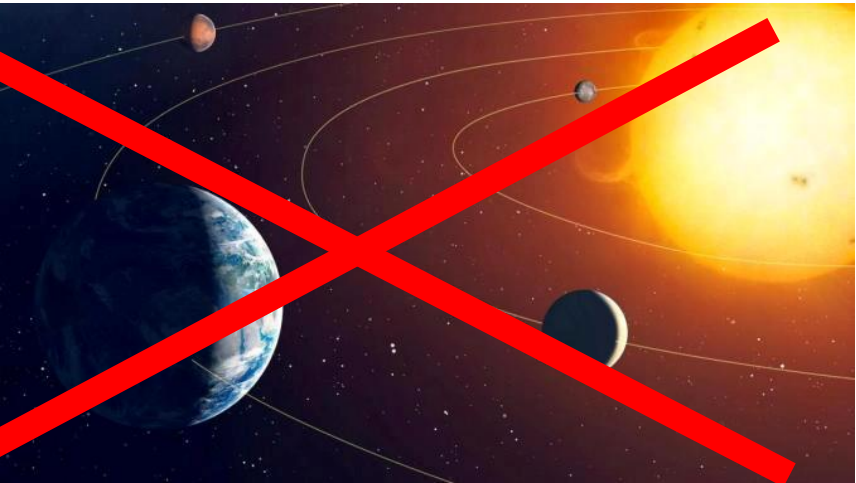
**BECAUSE THEY DIDN'T KNOW NATURAL REASONS THAT LEAD TO OCCURRENCE  
OF THESE ‘ABNORMALITIES’.. THEY CREATED AGENCY & A PURPOSE**



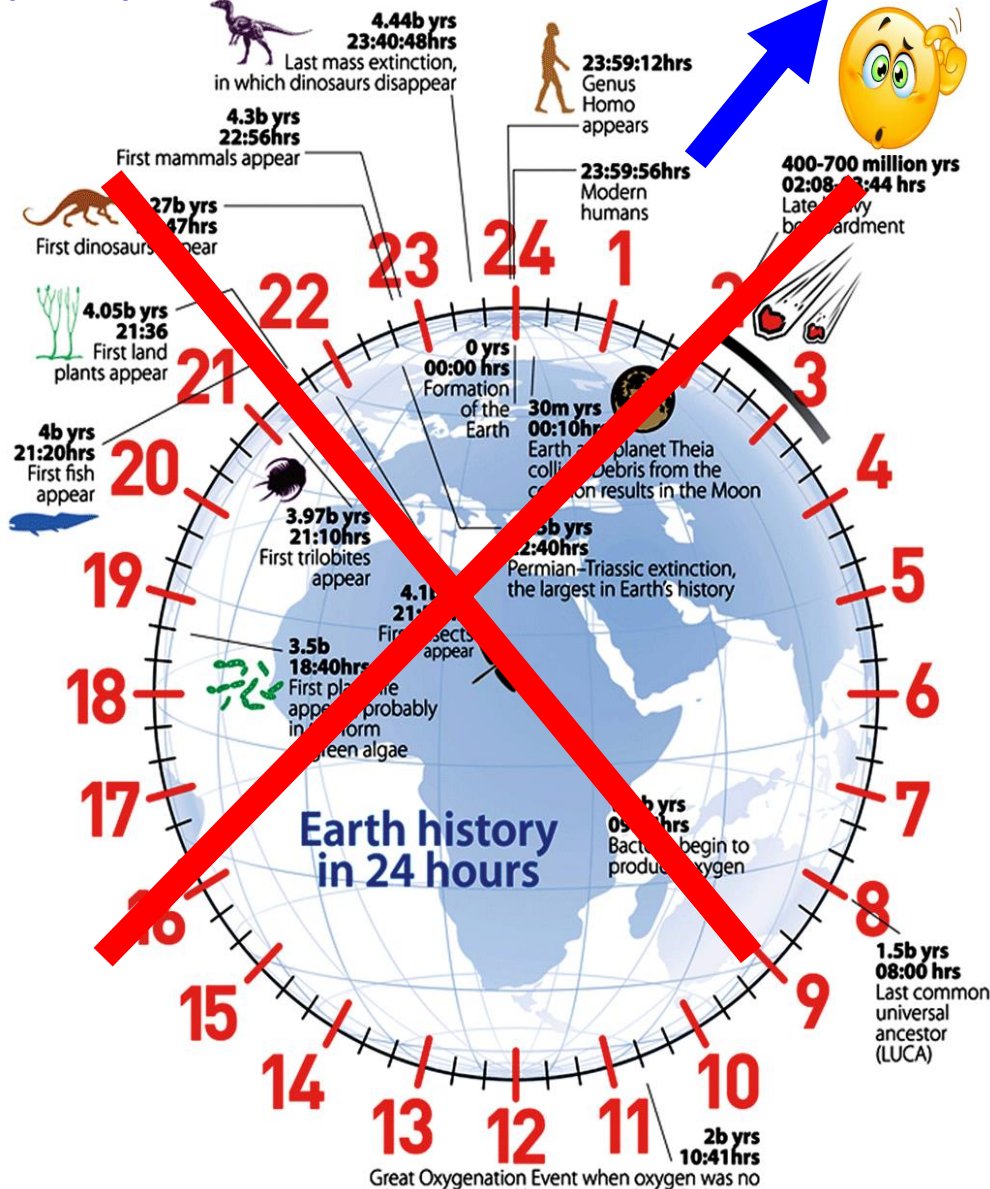
So, within such 'why' questions & the teleological narratives we created to answer them, we said the earth was center of universe, we were center of CREATION..



We prefer these NARRATIVES, more than the uncomfortable REALITIES!



Our species appears 4 seconds before midnight.. for a planet supposedly made FOR us, this seems a bit late!

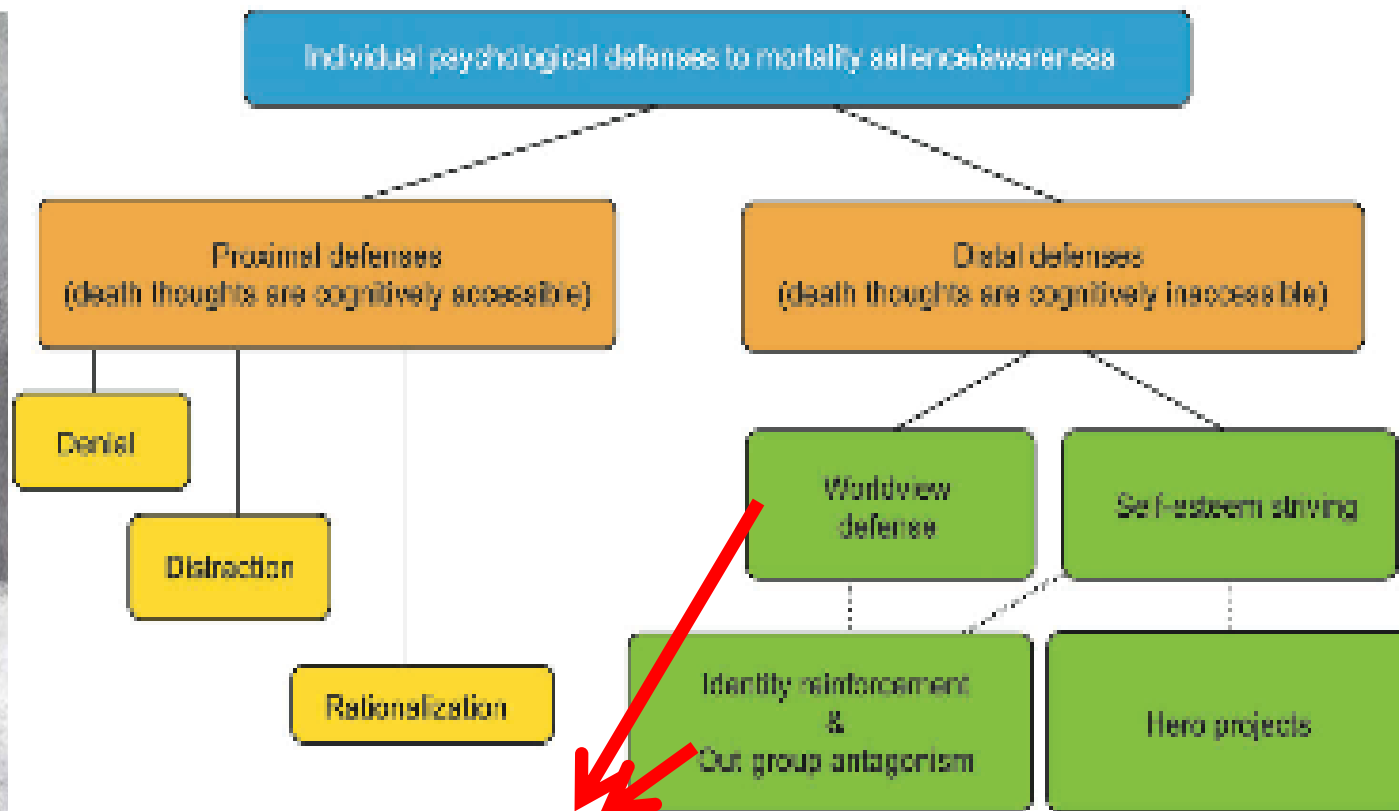
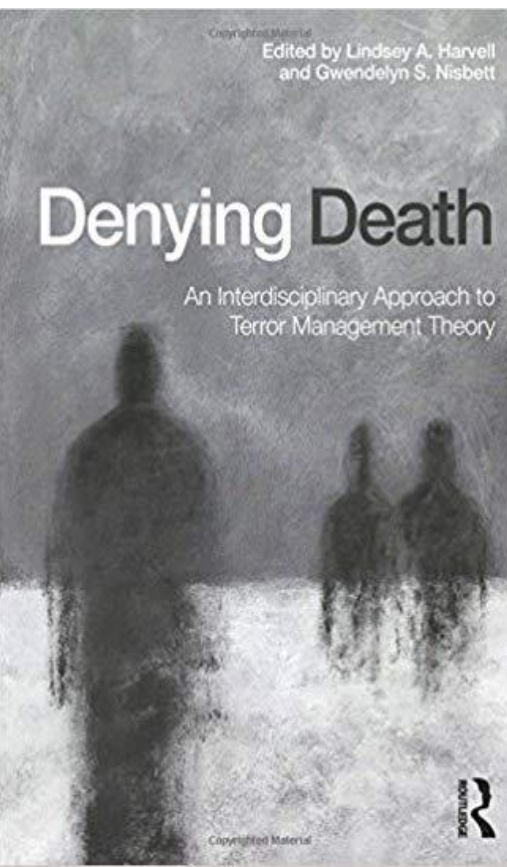


**In fact, there is a whole field of science, particularly within social psychology, about ‘denying death’, or better said, how to cope with idea of dying..**

“Human preoccupation with death stemmed from inherent paradox unique to our species.. cognitive developments of language, future-oriented thinking & self-awareness provided adaptive advantages.. but made us aware of the inevitability of death, while having a strong desire for life..

**.. society everywhere is a living myth of the significance of human life, a defiant creation of meaning, the shared illusion of permanence..**

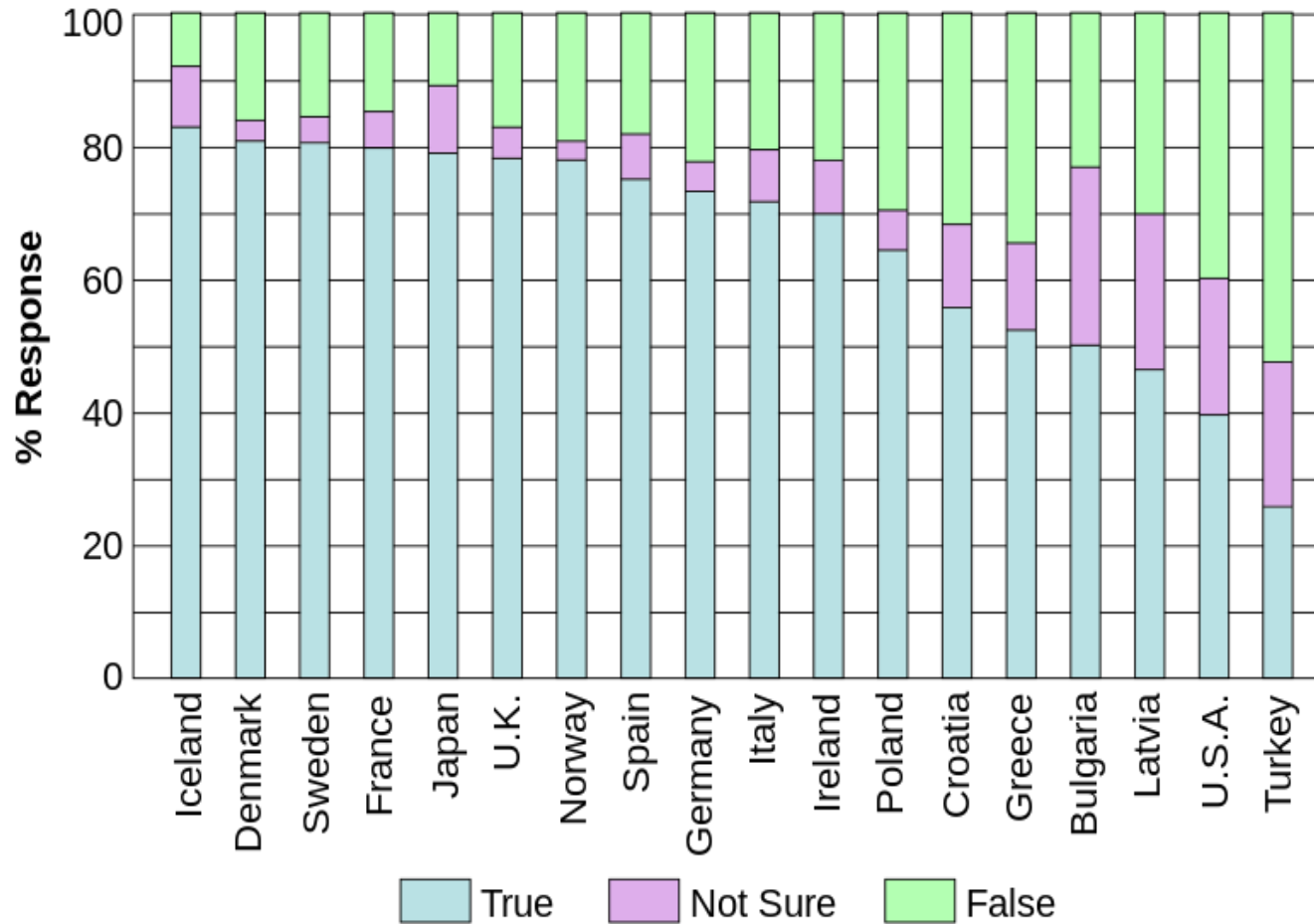
**.. Terror Management Theory: following societal norms > self esteem & emotional security, < stress → TESTED AND SUPPORTED EMPIRICALLY**



**Use of fear very effective in politics: “Mexican criminals coming to USA”**

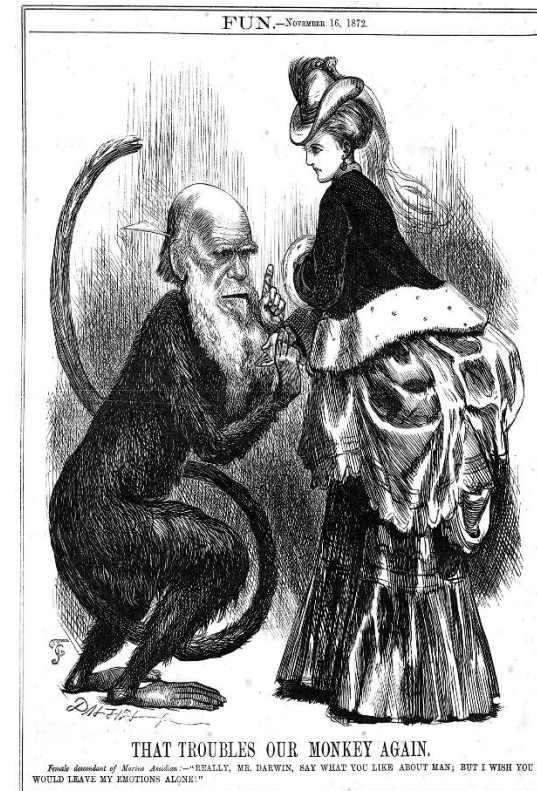


# Response to the Statement, "Human Beings, as We Know Them, Developed from Earlier Species of Animals"

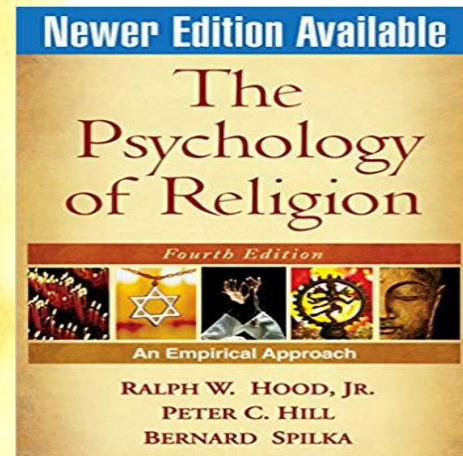


But the problem really concerns mainly human evolution, that is to accept we came from 'monkeys'..

.. Humans really think they are special, apart from nature, and that is actually a main problem for our health..



RELATED TO WHAT HUMANS CANNOT REALLY COPE WITH.. DEATH/LACK OF CONTROL



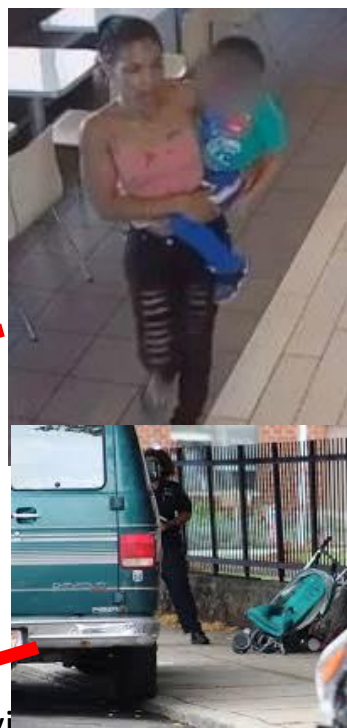


Faced with the absurdity of the death of a child, **naturalistic explanations are unsatisfactory** for most people, because they imply **no future, no hope – simply complete and total termination**

Teleological narratives of purpose/meaning, including religion, not only **offer a cause**, but even **a future, not only for the child, but for a reunion** between the child and the parents: **the after-life**

Moreover, religion has 3 **teleological ways to defend God’s goodness** despite the child’s death:

1) The **death of your child had a purpose** (God loves her so much, took her to heaven sooner)



I understand the part of about giving cause/hope/future to parents, but the part about God’s goodness..

1) You will meet your child again in after-life, anyway

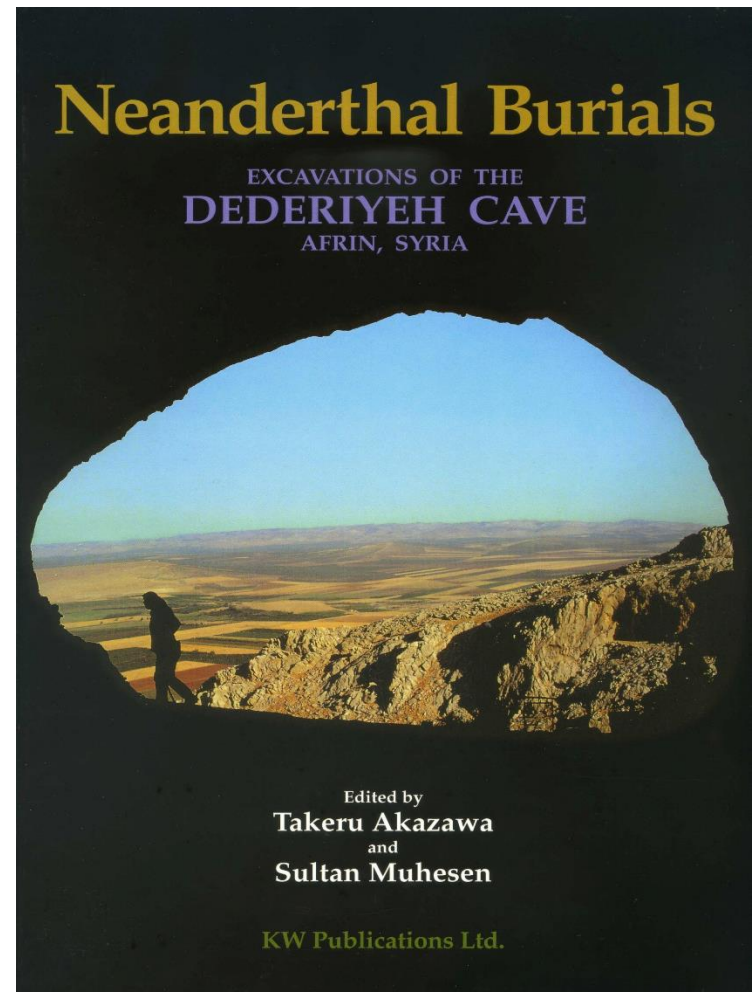
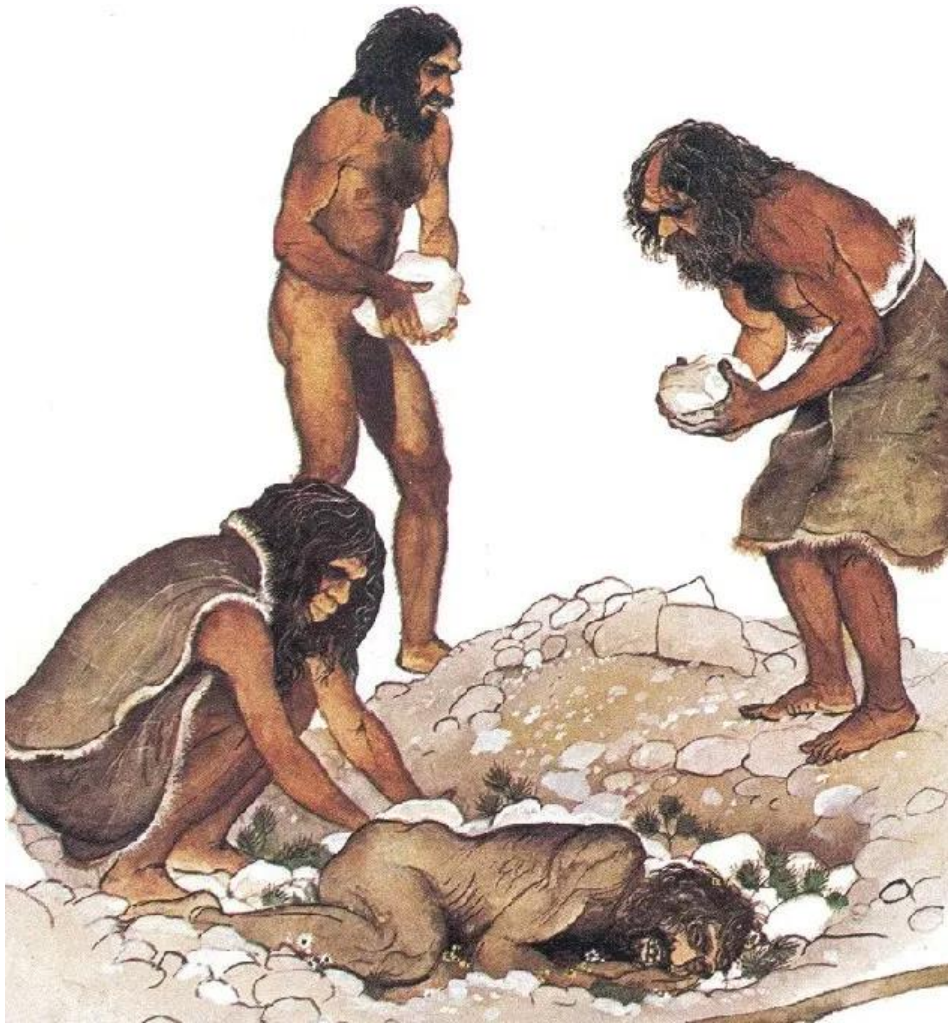
1) Or, He did it as a **punishment** for wrong-doing on the part of the survivors

AGAIN, **HOMO IRRACIONALIS: COGNITIVE CONSISTENCY**, WE CREATE & BELIEVE IN SUCH HIGHLY IRRATIONAL NARRATIVES TO KEEP OUR BELIEFS INTACT (E.G. VIRGIN WITH BABY JESUS) → **SNOWBALL EFFECT**



# A NATURALISTIC HISTORY OF BELIEF & RELIGION

This obsession to create & believe in complex teleological narratives for after-life & cosmic purpose of life is clearly universal for all living human groups, but also extinct ones as e.g. Neanderthals, so probably present at least about 0.5 million year ago



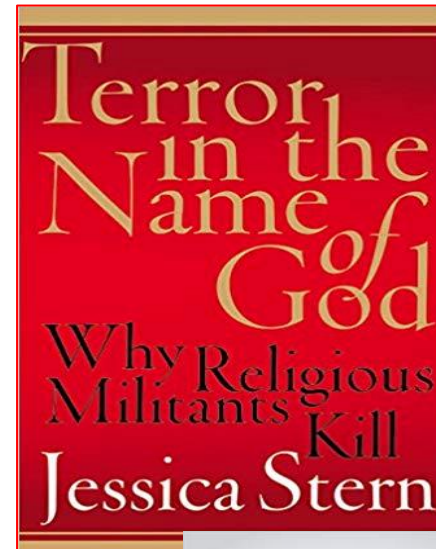


# A NATURALISTIC HISTORY OF BELIEF & RELIGION

Probably due to 2 reasons: + survival (fighting) and + progeny (reproducing)

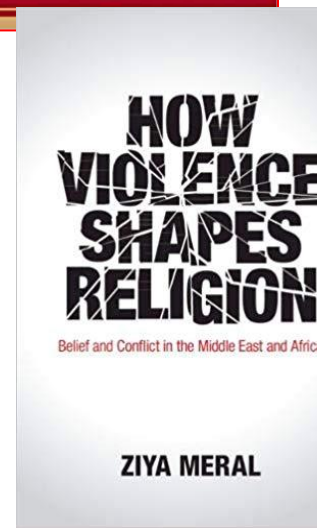
If two populations would compete, which one would be outcompeted? The non-believing one.. If you believe that you are part of a higher 'purpose of life' or masterplan, you have much **more motivation to fight, to kill, and to reproduce**.. I would surely not put bombs around my body to kill 'others', because I don't believe in any narrative to do so..

**FIGHTING - EMPIRICAL DATA:** Religious Wars & terrorism: religion important "reason to fight for"



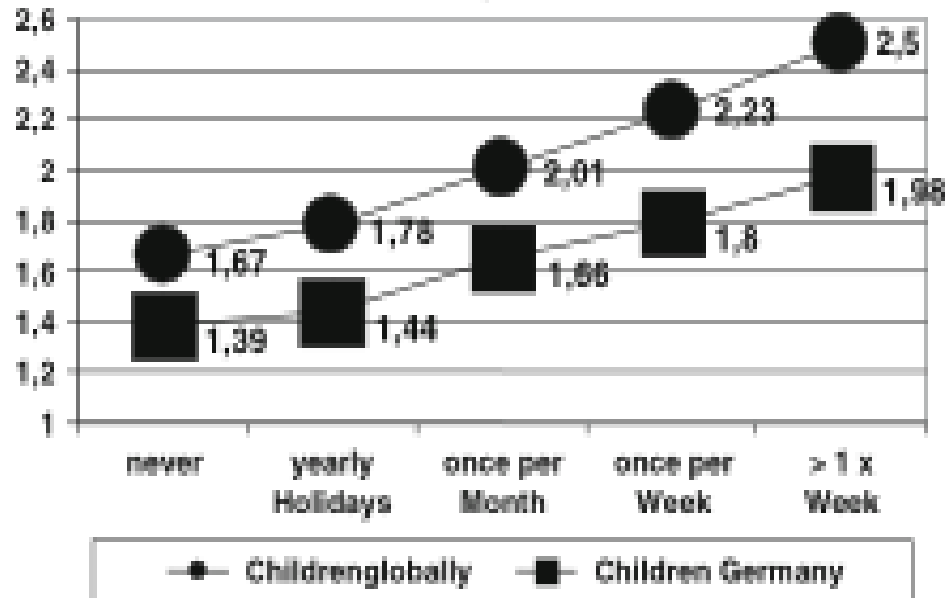
For years, Jessica Stern interviewed extremist members of three religions around the world: Christians, Jews, and Muslims.

So, wars made by believers are not an exception: violence is one of the main reasons why religion exists – violence is natural in humans, religion is A VERY GOOD WAY to justify it..



**MORE PROGENY - EMPIRICAL DATA:** Moreover, within various types of religions, people that are 'more religious' often have even more kids.

Frequency Adults attending divine service  
to their Number of Children  
82 Nations, including Germany  
World Value Survey 1981–2004, IW 2007



Data: Dominik Ernst, Institut der deutschen Wirtschaft Köln 2007



**Haredi ('ultra-orthodox') Jews in Israel:** current number of children per woman is 6.2:

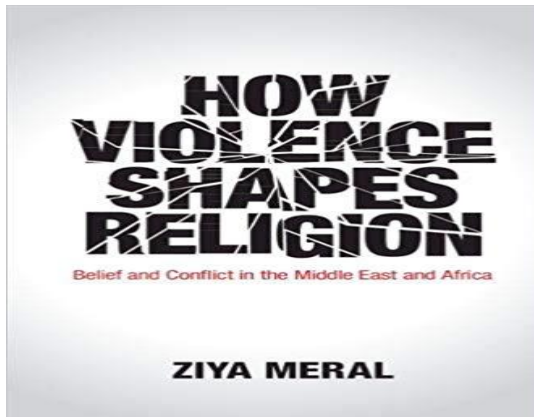
- 9.9% of Israeli population in 2009
- 11.1% by 2014
- 12% 2017
- 33% projected for 2065



## LESS RELIGIOUS TODAY? NO.. WRONG PREDICTION WAS BASED"

- 1) ERRONEOUS ASSUMPTION WE ARE A *HOMO SAPIENS*, NOT *HOMO IRRACIONALIS*
- 2) *EUROCENTRISM.. POPULATION IS*  $\uparrow$  *IN + RELIGIOUS &*  $\downarrow$  *IN – RELIGIOUS COUNTRY*

- Religious hostilities  $\uparrow$  every major region of planet, 20% in 2007 to 33% in 2012P
- Population living in countries with religious hostilities, 45% in 2007 to 74% in 2012
- Religious conflicts increased from 33% to 47% of all conflicts', from 1960 to 1996

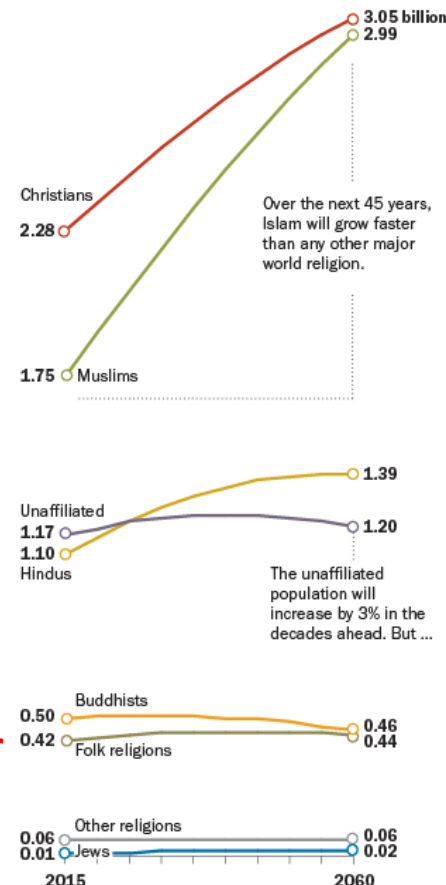


Berger predicted major collapse of religion in 1968.. in 1999 he wrote: **the world is furiously religious as it ever was, and in some places more so than ever. Thus, a whole body of literature by historians/social scientists on 'secularization theory' was essentially mistaken'**

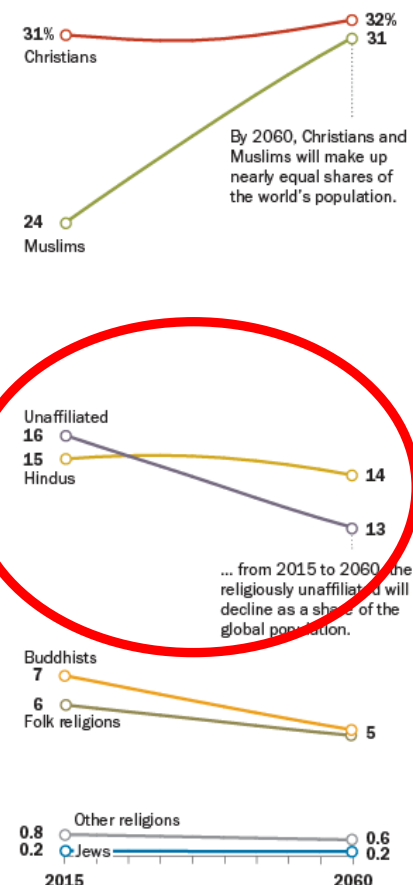
### Projected change in global population, 2015-2060

Most major religious groups are expected to increase in number by 2060. But some will not keep pace with global population growth, and, as a result, are expected to make up a smaller percentage of the world's population in 2060 than they did in 2015.

#### Number of people, 2015-2060, in billions



#### % of global population, 2015-2060

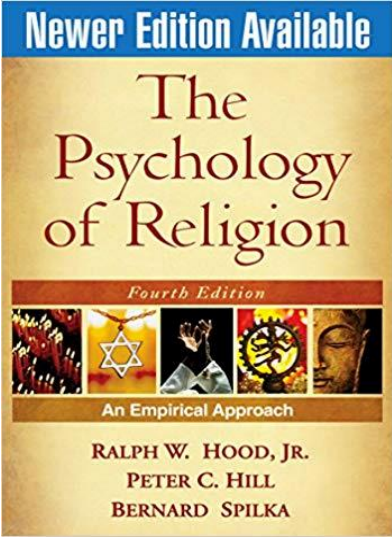


Sources: Pew Research Center demographic projections. See Methodology for details.  
"The Changing Global Religious Landscape"

PEW RESEARCH CENTER

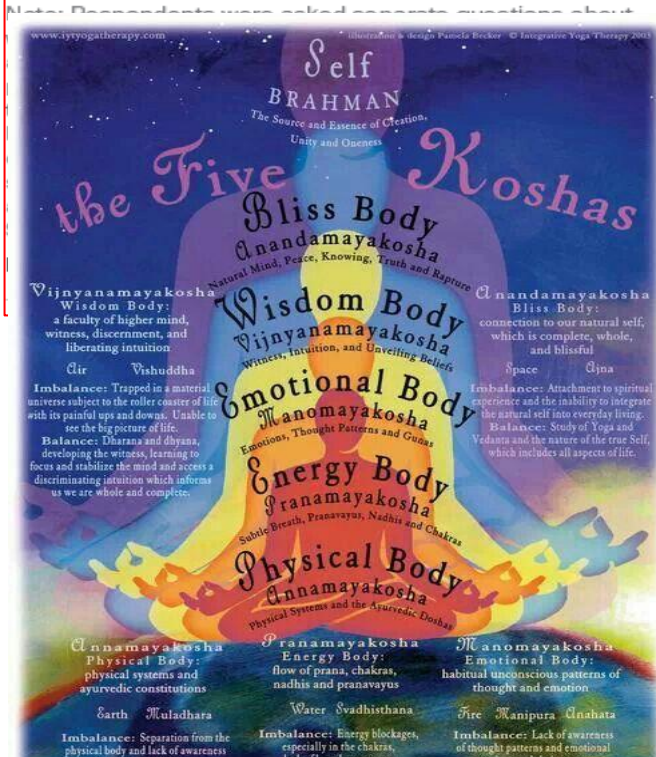
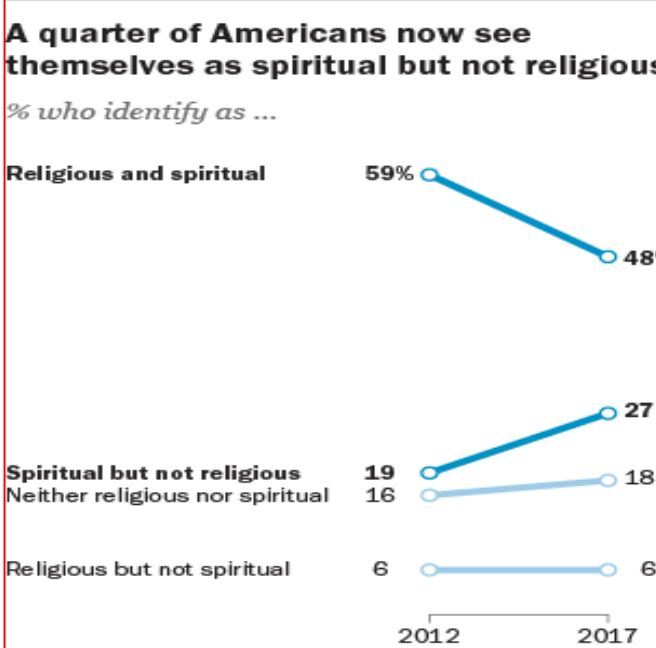
- Moreover, even many people that say they are non-believers, are they truly non-believers?
- Many ‘atheists’ are becoming ‘Spiritual’, New Age experiences from e.g. Eastern traditions such as Buddhism, Yoga practices, and so on..

“There is only one religion, though there are a hundred versions of it”..



→This religion is: BELIEF IN SOMETHING USE FOR LIFE & SOME KIND OF EXISTENCE AFTER IT, BE IT IN HEAVEN, HELL, NIRVANA, REINCARNATED AS A DOLPHIN, OR JUST AS ENERGY EATEN BY BUGS IN THE GLOBAL ‘GAYA’..

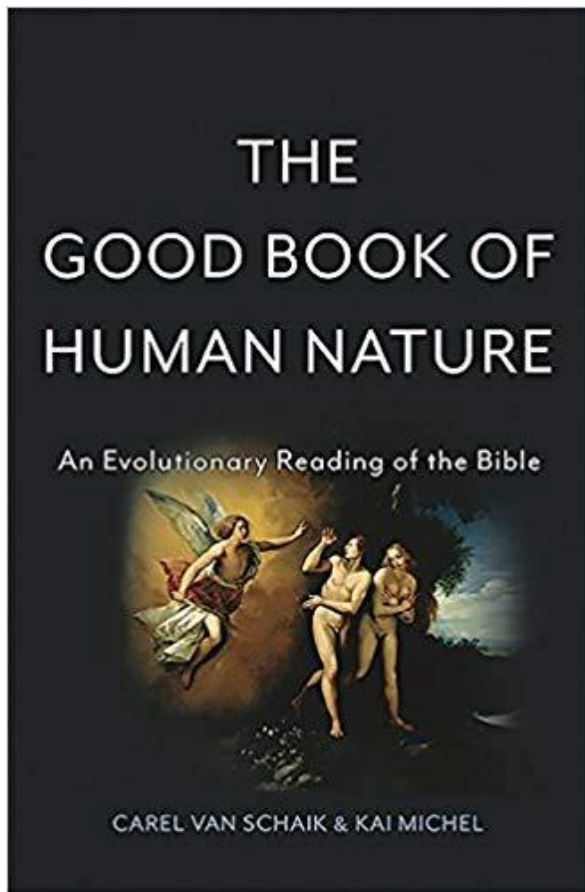
AND THIS RELIGION CAN BE VERY USEFUL FOR HEALTH, COPING, ETC. AS I WILL EXPLAIN!





## A NATURALISTIC HISTORY OF BELIEF & RELIGION

About more recent history of our species, interestingly in many parts of the globe, 'Venus figurines' in the Palaeolithic – e.g. 'Venus of Willendorf', about **25,000 BC, so well before agricultural revolution** – that clearly seem to represent **'Mother Goddesses'** are seen by many researchers as **indicative of higher status of women before this agriculture**, in clear contrast to **'male Gods'** of organized religions after agriculture



# A NATURALISTIC HISTORY OF BELIEF & RELIGION



10000 to  
8000  
years  
ago

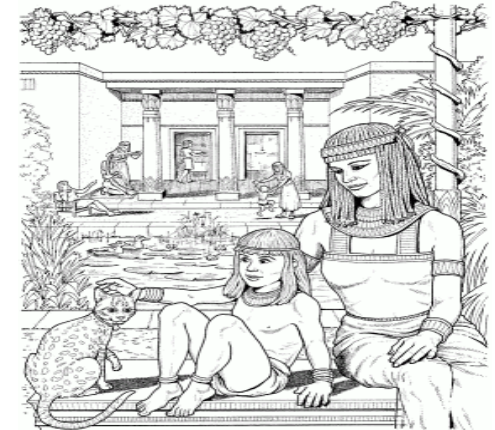


- 'permanent house' (sedentary life)
- **property** (crops, animals)
- **inheritance** (e.g. from father to son)

Highly-populated cities

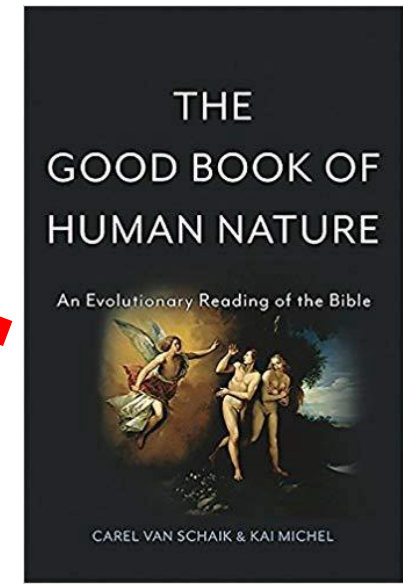


Organized religion



ADAM & EVE:

- 'ORIGINAL SIN'
- **AND PROPERTY.. YOU CAN NO LONGER EAT ANYTHING YOU LIKE, THINGS NOW BELONG TO SOMEONE.. INHERITANCE..**





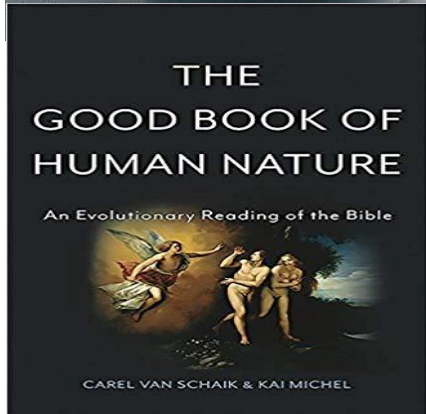
# A NATURALISTIC HISTORY OF BELIEF & RELIGION

SINCE THERE ARE WRITTEN TEXTS: **quest for cosmic purpose of life** a constant, e.g. among the oldest extant literature one can mention *The Epic of Gilgamesh*, earlier than c. 2150 BC: Gilgamesh's - great king of Uruk - **quest for the meaning of life**



Interestingly, The Epic of Gilgamesh is also important because it shows clearly how **God was developed by humans, not the other way round**

Many aspects of monotheistic 'Abrahamic religions' (Judaism, Christianity, Islam) are not new at all: they are mainly **repetitions/small changes of stories being developed by humans in Middle East at that time.**



-Gilgamesh's friend Enkidu **formed from clay**, first lived like **wild man together with animals**.. Met prostitute, and **when his intellect expanded**, the prostitute commented on his transformation as follows: “You are wise, Enkidu, and **now you have become like a god**”. **Very similar to Adam and Eve**, when the serpent promise them “**and you shall be as gods**”

- The **flood narrative** is also similarly found in The Epic of Gilgamesh and other stories of the ancient Middle East



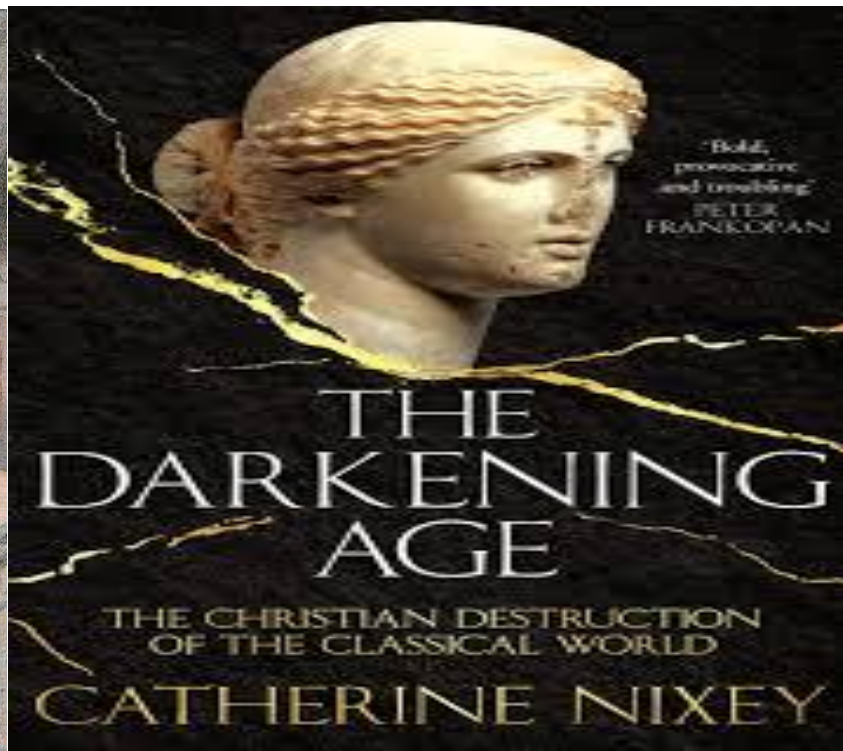
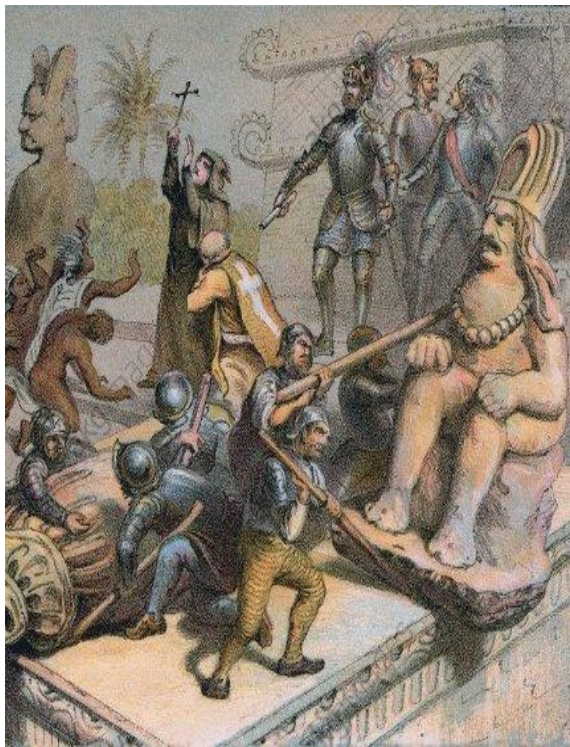
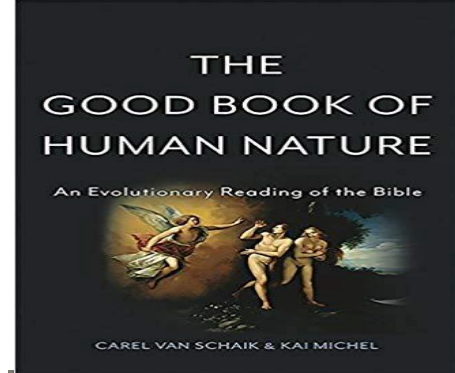
# A NATURALISTIC HISTORY OF BELIEF & RELIGION

Important, notion that 'superstition', belief in spirits, witches, etc, was 'naturally' replaced by 'religions of the book' → **notion of progress, as if believing in a virgin that has a child, or in angels, is 'more advanced' than believing in dead spirits or witches..**

In fact, the church itself believed in witches, etc, to the point of killing thousands of them..

Actually, as has now been shown in many books:

1) People that were 'converted' often were so by the power of sword..





## 2) The societies that were 'converting' actually continued to have their own beliefs

# Voodoo in Africa: Christian demonisation angers followers

**Benin's priests try to dispel misconceptions about ancient religion practised by half the country's population**

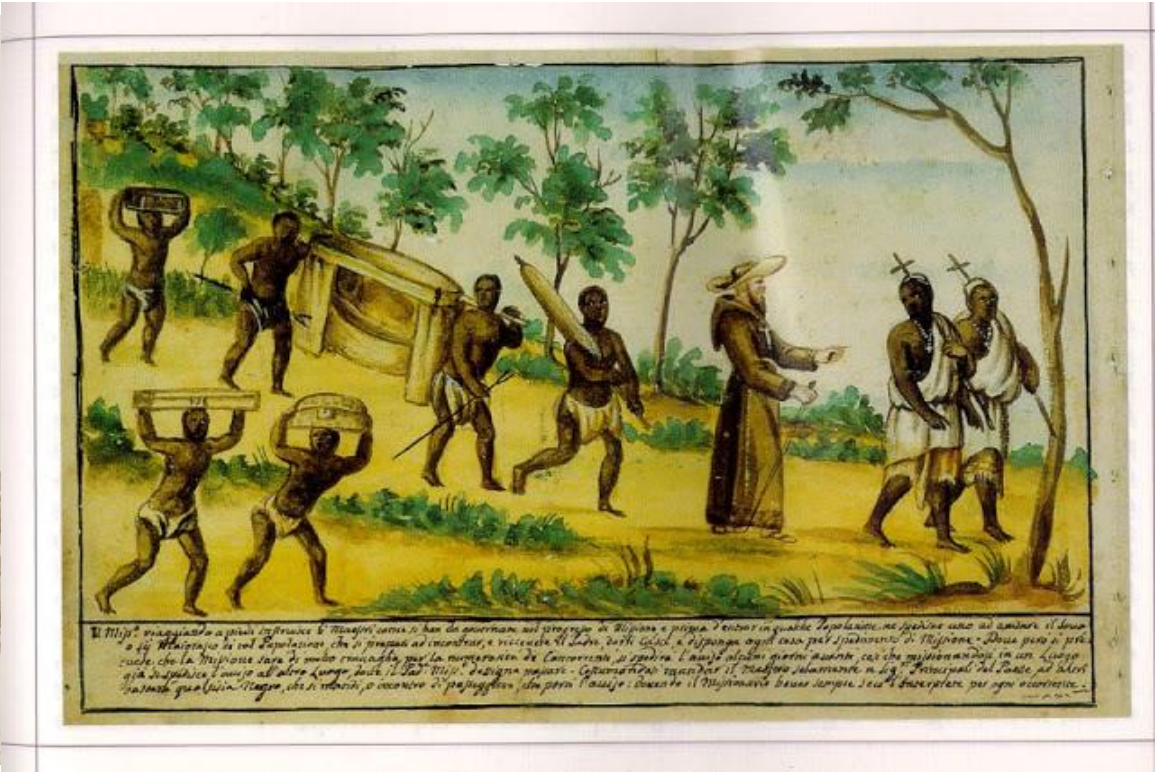
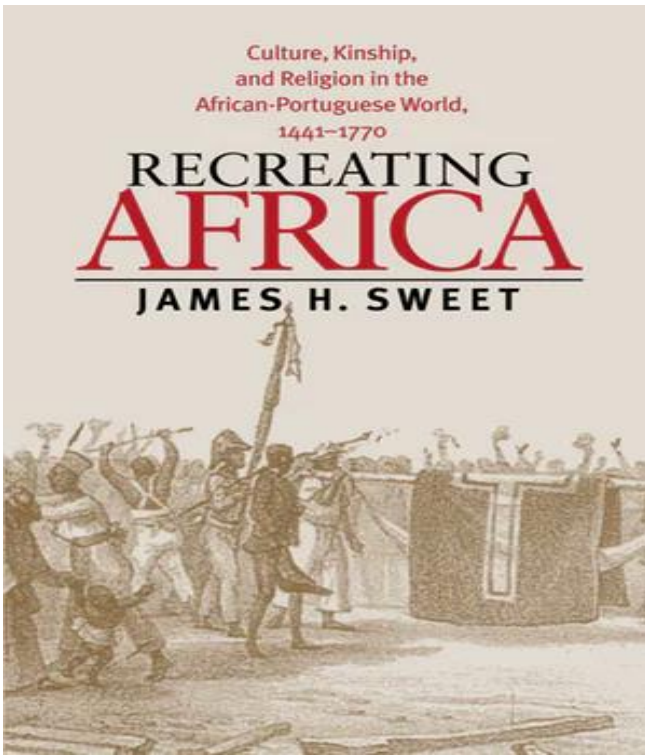


▲ A voodoo ceremony in Ouidah, Benin, the cradle of voodoo. The religion is often practised alongside Christianity and Islam. Photograph: Dan Kitwood/Getty Images

- About half of Benin's 9 million people practice mainstream voodoo
- "Colonialists demonized voodoo to the point where even the word makes you think of **backwardness**, something **derogatory**.. But it's as much a part of African heritage as Buddhism is to Asia, and much older than Buddhism."



3) Much less discussed/recognized, the beliefs of those people were not only mixed with Christianity etc for those people, but also for the people that were ‘converting’ them.. Huge influences of African beliefs in Church in Brazil, etc..

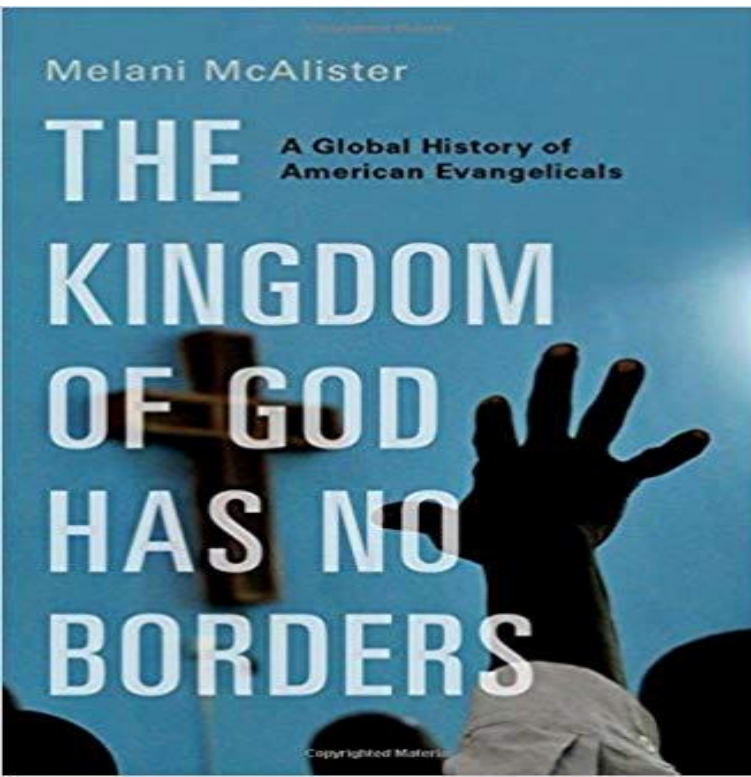
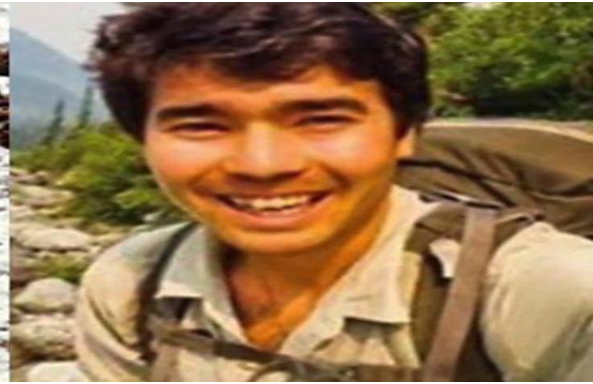


-Africans contributed the **most brilliant colors/lively sounds** to carnival in Americas.. in many places in Africa people **paraded around the villages**, wearing masks to bring good luck by scaring away the spirits of angry dead relatives, represented by **symbols of death**





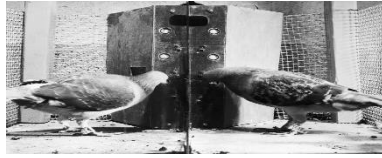
**Sentinels, Andaman Islands, India - Self-defense: germs/disease (occurred in other islands):** *Young evangelist, John Allen Chau, spent years preparing this.. understood the risks, including his own life, because he **believed** his purpose of earth was to bring Christ to the island he considered “Satan’s last stronghold”*



**Uganda:** US evangelicals successfully influenced policies to punish homosexual acts with life imprisonment or, in some cases, even death penalty

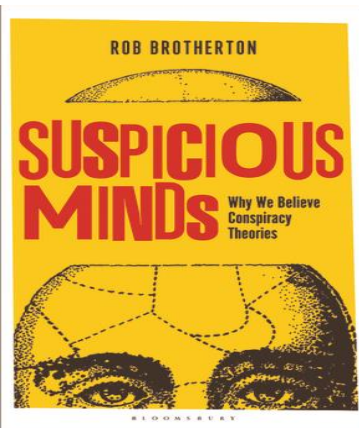
# A NATURALISTIC HISTORY OF BELIEF & RELIGION

## 1) Superstition



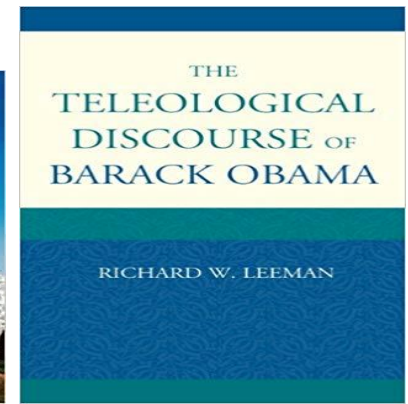
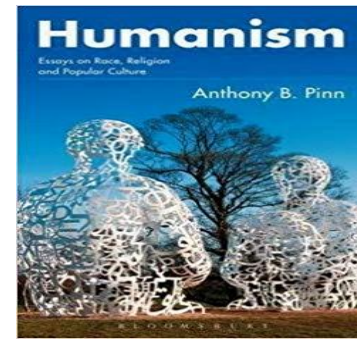
**WE ARE ALL 'BELIEVERS': AGENCY, PATTERNICITY, SENSE OF CONTROL..**

2) Conspiracy theories → against chaos/randomness, to provide control, so agency has to be ingroup, etc.. not Al Qaeda, but US government.. Not crazy guy, but US government.. > less random, you have control (vote against government to change it, etc.) → also similar to religion as you are **SPECIAL**, you are one of the few that 'knows the true'..



3) Ghosts → deny death & hope to meet in future with dead relatives, **USA 42% people believe in them** → **older than organized religions, hunter-gatherers believe their dead ancestors have spirits, etc.**

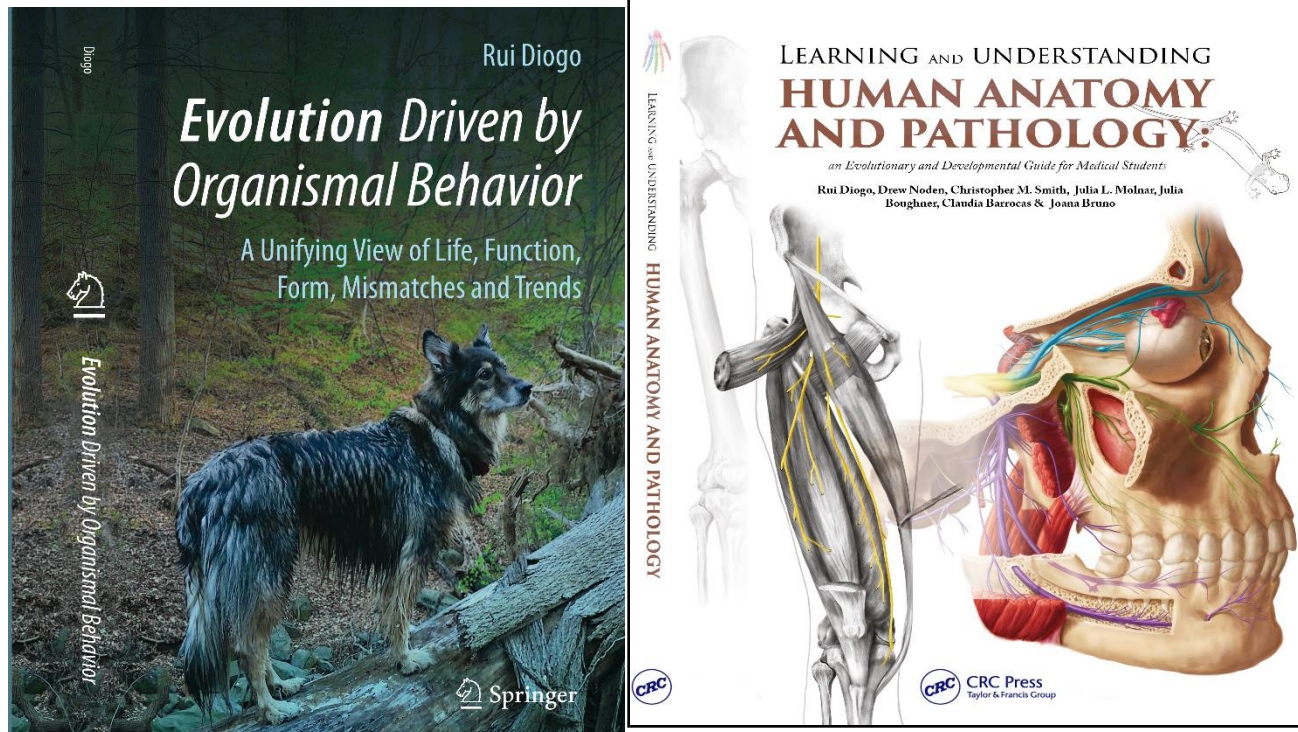
4) 'Atheist beliefs', e.g. 'humanism': also teleological - "our purpose as humans is to" -, only difference is that instead of "because God wants so", it is "because we are highly conscious animals", etc.





## “Function” of complex narratives/religions

**FIRST: AN IMPORTANT NOTE – THE IDEA THAT EVERYTHING IS NECESSARILY ‘FUNCTIONAL’/ADAPTIVE IS ITSELF TELEOLOGICAL.. A NARRATIVE, A BELIEF..**



CULTURE | PSYCHOLOGY

# Does Depression Have an Evolutionary Purpose?

**EVOLUTIONARY  
PSYCHOLOGY IS EXTREME**

**CASE:  
LIKE BELIEFS, MANY OF ITS  
IDEAS CAN'T BE FALSIFIED**

*Some psychologists believe suicide and depression can be strategic.*

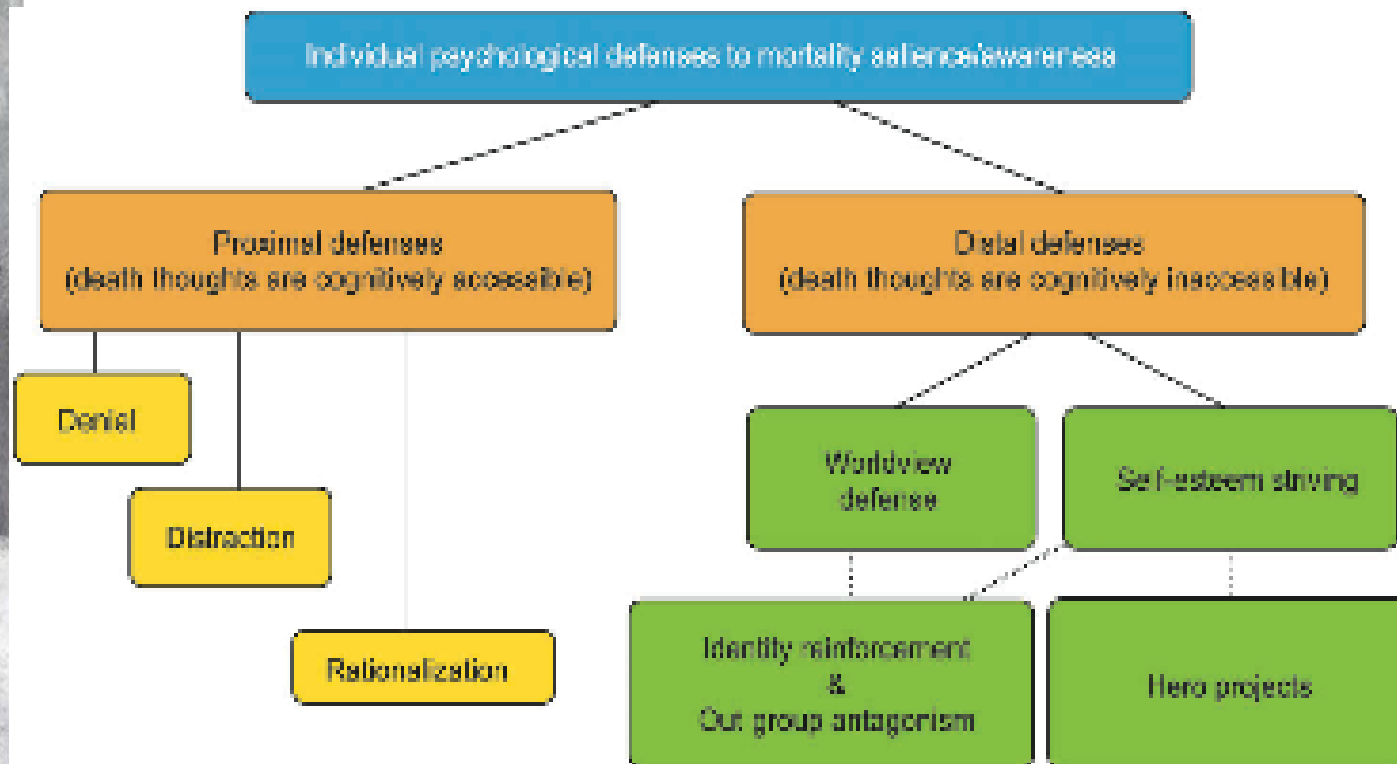
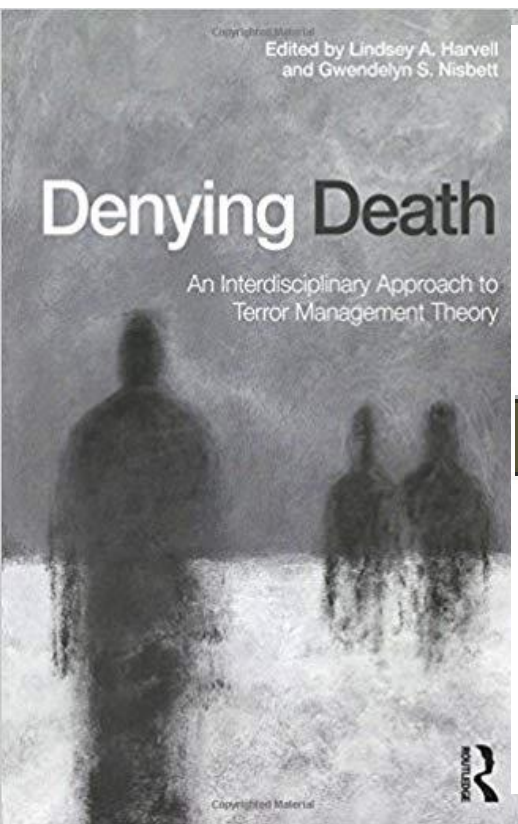
BY MATTHEW HUTSON  
ILLUSTRATION BY DANIEL ZENDER  
FEBRUARY 9, 2017

## **“Function” of complex narratives/religions**

Having this in mind, I will mainly refer to studies from other fields, e.g. social psychology, sociology, anthropology, etc..

1) Older, at least 500000 years ago, including Neanderthals - function of complex teleological narratives to **‘deny death’/ cope with dying – meaning/purpose of life**

As noted before, social psychology has a whole field about this, that strongly supports – based on empirical data – this idea



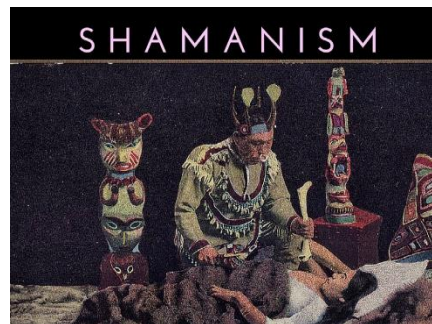
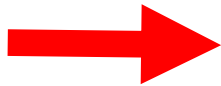


## "Function" of complex narratives/religions

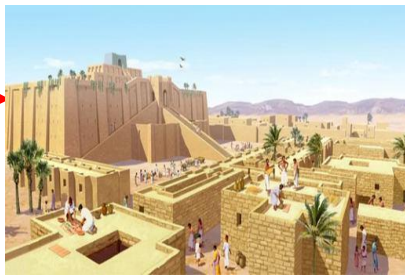
2) Another function, which is particularly crucial in ORGANIZED RELIGION: Group cohesion/community, outgroup vs ingroup.. We are highly social animals, but in big cities we can become isolated, or have conflicts with other people..



10000  
to 8000  
years  
ago



Highly-populated cities



Organized religion





Problem is: yes, perhaps one can create **cohesion in in-group**, e.g. in a city, or even a 'kingdom' by using organized religion.. but, **particularly with monotheism**, saying we are 'the chosen ones', that '**our God is the only God**', can lead to:

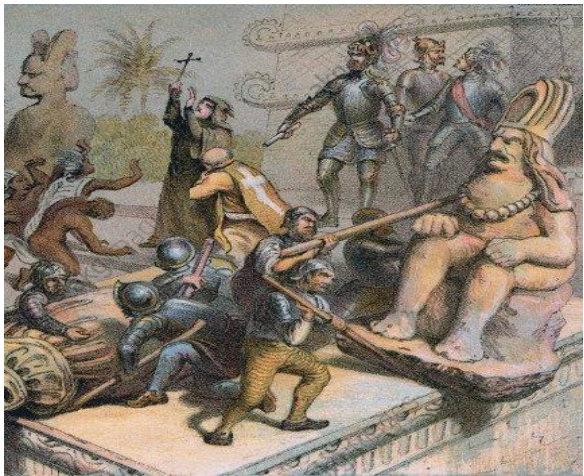
**Increase notion that we are superior to 'others', intolerance, no respect for other cultures, 'morally' justifying forceful conversions, colonialism and slavery**



**Wars & terrorism**



**Destruction of temples/whole civilizations**



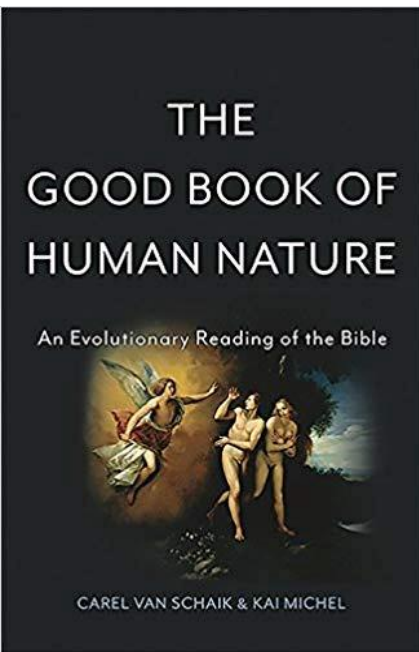
**Burning non-believers, witches, or just outcasts..**





## "Function" of complex narratives/religions

3) Another function, also particularly crucial in **ORGANIZED RELIGION**: formulate rules/social norms that developed into systems of crisis management, e.g. against famines, diseases, etc.



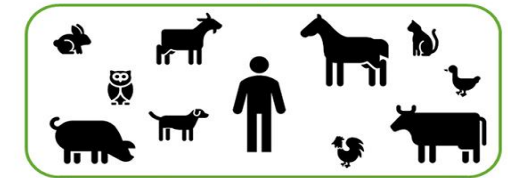
10000 to 8000  
years ago



Contaminated waste, food, water, soil, or others



- Foodborne
- Vector-borne
- Direct/Indirect contact

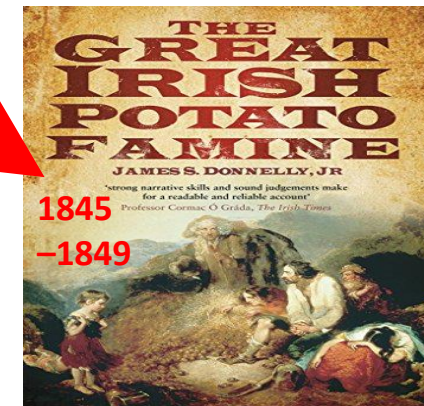


Bacterial Zoonoses

Highly-populated cities



Organized religion



**Menstruation.. similar to eating pork in Islam:**  
**most people don't give enough credit to this aspect, but at those times probably religion helped to save millions of lives..**

.. Problem is that most of those rules **make no sense anymore** but continue to be **followed as dogmas**, often to **discriminate**, e.g. against women (e.g. if menstruating barred from schools/sacraments etc), **against the 'other'**/for conflicts (e.g. they eat pork, they eat cow, etc.)

# The Psychology of Religion

Fourth Edition



An Empirical Approach

RALPH W. HOOD, JR.  
PETER C. HILL  
BERNARD SPILKA

4) **Current functions, including health/stress:** Meditation provides benefits for well-being/health, and religion is associated with < use of illegal substances, tobacco, alcohol, < anxiety, stress, depression & > health, life satisfaction, optimism, self-esteem. This is because:

- 1) religions sponsor a wide variety of **healthful practices** that are adopted by many believers, e.g. Islam condemns use of alcohol
- 2) also provide **social connection/support** for believers, including elders, particularly at risk of depression/suicide due to isolation.
- 3) **Religious belief per se**, via meaning/purpose as **placebo effect**: even religious patients with conditions that resist improvement & isolate them tend to adapt to situation & resolve depression faster than atheists.

ARE YOU THE  
PLACEBO?



AREN'T YOU?



4) Mix between a **kind of placebo effect** and how **OTHERS** act: Schacter-Singer experiment **(NEXT SLIDE)**



Injected with epinephrine - hormone that produces arousal including increased heartbeat - group of 184 male participants & included some actors as 'extra participants'

► The Schacter–Singer Experiment



Participants received an epinephrine injection.



Stooges acted very differently while the participants waited.



And the participants reacted very differently to the drug, depending on what the stooge was doing.

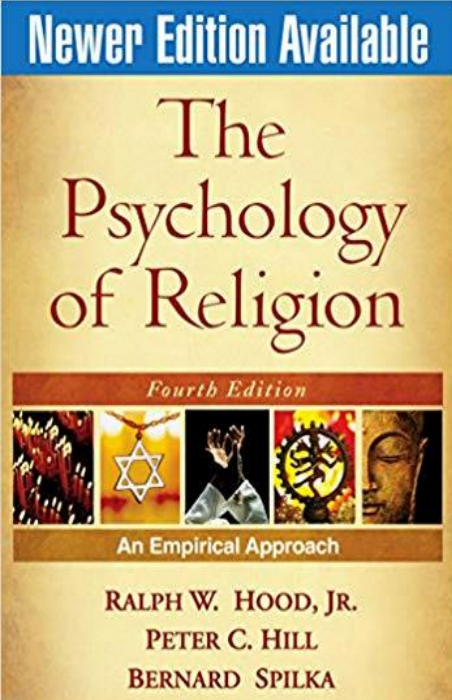
Copyright © by Allyn & Bacon

SCHACHTER & SINGER (1962)		
Situational Cues	Participants' Expectations	
	Informed (expected symptoms of arousal)	Misinformed (did <u>not</u> expect symptoms of arousal)
Actor is angry	Participants' emotions are generally unaffected	Participants tend to exhibit <b>anger</b>
Actor is happy	Participants' emotions are generally unaffected	Participants tend to exhibit <b>euphoria</b>

People who have no explanation more likely to use external cues to label what emotion is occurring: **specific emotions are socially constructed** - we are, again, truly both a **Homo irrationalis and a Homo socialis..**

That is, if people of your religion/cult seem to be 'happy', likely you will also 'feel happy'





However, religion related to some particular health problems, e.g. due to inbreeding: some Amish groups higher incidence of **hereditary dwarfism, muscular dystrophy**; Jews are + prone to a wide variety of inherited illnesses, including the development of **breast cancer** in women.

Also, data suggests **family abuse might be higher due to patriarchal structure of some conservative religions and clergy counseling women to remain with abusive husbands..** empirically supported in evangelical Christian women, Arab women, etc..

Moreover, there is **problem of self-reporting**: religious people - as married people - tend to **think they are doing 'what is right'**, within the narratives/social norms accepted by them, **so tend to report they are + happy** than other indicators, e.g. social psychology studies, actually indicate they are

Furthermore, either because this might be true in some cases, or they might 'believe' their own self-reports, or don't 'believe' them but do not want to assume it in public, they might be **"less inclined to report symptoms of illness and therefore may downplay their possible significance"**

Also **problem of causation/confounding factors**: e.g. frequent church attendees live longer, but 1) women tend to go + to church and live more, and 2) to go to church one has to have at least some physical health, e.g. a **meta-analysis considered 15 possible confounding factors and found that the correlation religious involvement-longevity was rather weak.**





This leads us to a last, philosophical, question:  
**are we better without beliefs, or do we need them?**

**Divagation about normality, pathology, and following the crowd..**



**Adults: imaginary friends** - hallucinations, mostly benign, not psychosis/schizophrenia, but some similarities, and anyway not seen as 'normal'



**But talking with imaginary Gods or imaginary deceased loved ones, seen as 'normal': defined by us, what would aliens think?**

Hoff's studies: **for children, imaginary friends** are encouraging, provide motivation, > increased self-esteem, morality → interestingly, very similar to what religion does to adults!





**Are we better without beliefs, or do we need them?**

**Many atrocities done in the name of, or at least justified by, religion..** But religion does seem to play some important functions, e.g. **copying with death, improving health/decreasing stress**

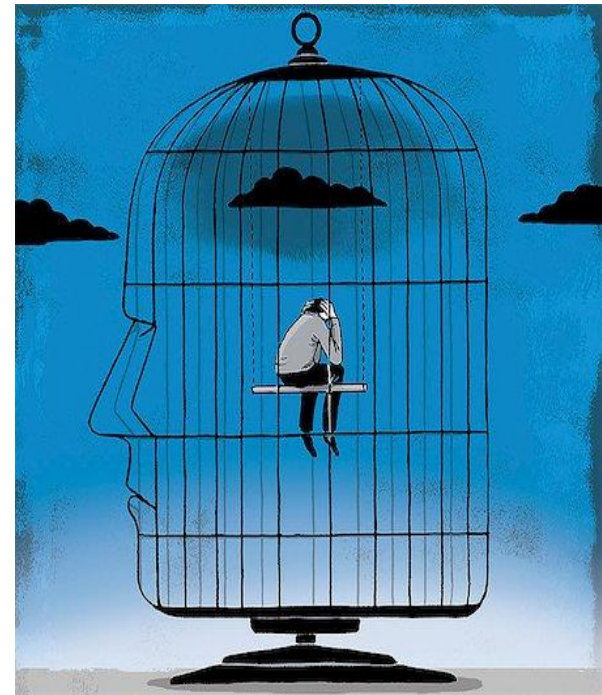
**History cannot be repeated, so we cannot know what humans would be without religions..** also, because of our evolution we are wired to believe, so this might be rhetorical question anyway..

I would, however, answer to the question **“at least now, if in general religious people have better health/less stress, take less drugs/alcohol, it is better to be religious, right?”**, by saying it that **it depends on what you define as most important thing for you, if to be ‘happy’, to live more time, to discover things..**

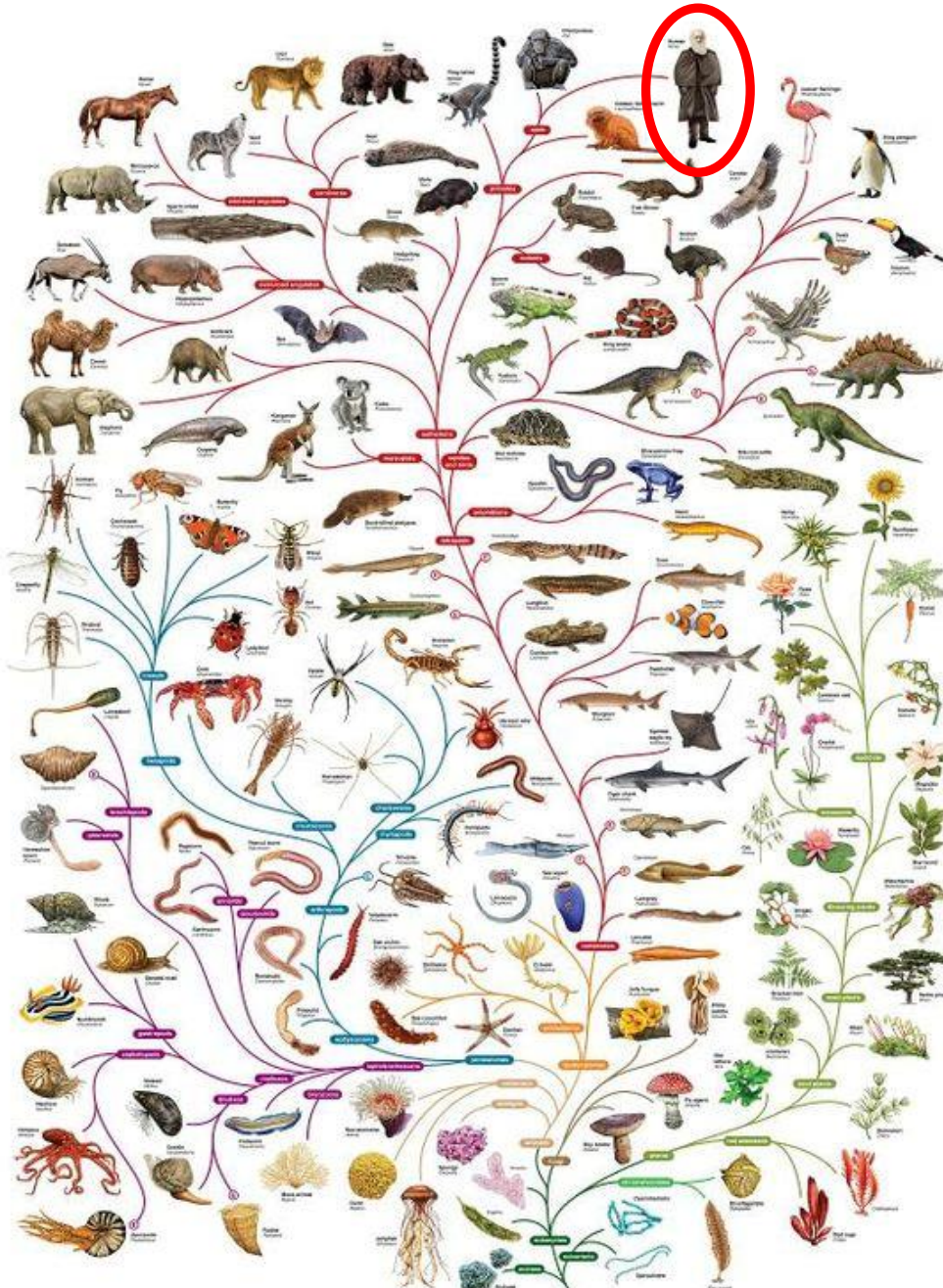
I prefer to know that **we are just the by-product of a combination of random, contingent & chaotic natural events** – e.g. meteorite that killed most dinosaurs, drying of forests leading to savannah where our ancestors thrived -, **not the design of a God..**

**“Even if this means eventually dying a few months earlier, e.g. by coping less well with a cancer”? Surely yes.**

It is as if I was asked: **do you prefer to live all your life in a cage, with someone giving you the 'perfect' type of food/drinks so you live longer but without taking any risks & going to and knowing about, the outside world? No, at least me, personally, I don't want such a life..**







Moreover, these issues also **depend on how you see things**, e.g. if you don't believe in anything, you can be a **pessimistic nihilist/existentialist**, or an optimistic one.. an **optimistic atheist** might have less stress, etc



To me, knowing I am **not just following a designed script** made by God & that *my own decisions* are influenced by **chaotic combination of previous events** & will lead to an array of mainly **unpredictable, chaotic events**, which are **anyway just a grain of sand in this strikingly diverse, huge universe**, makes life something amazingly **gorgeous, manifold & fascinating..**



**SO, QUESTION FOR YOU.. AND YOU, WHAT DO YOU THINK/HOW DO YOU FEEL?**







# "The Appointment in Samarra" (modified from ancient Mesopotamian tale)





"SHE LOOKED AT ME AND MADE A THREATENING GESTURE."



"NOW PLEASE, LEND ME YOUR HORSE AND I WILL RIDE AWAY FROM THIS CITY AND AVOID MY FATE. I WILL GO TO SAMARRA AND THERE DEATH WILL NOT FIND ME."



THE MERCHANT LENT HIM HIS HORSE, AND THE SERVANT MOUNTED IT, AND AS FAST AS THE HORSE COULD GALLOP, OFF HE WENT.



THEN THE MERCHANT WENT DOWN TO THE MARKET-PLACE AND HE SAW DEATH STANDING IN THE CROWD...



HE CAME TO HER, AND SAID, "WHY DID YOU MAKE A THREATENING GESTURE TO MY SERVANT WHEN YOU SAW HIM THIS MORNING?"



"THAT WAS NOT A THREATENING GESTURE," DEATH REPLIED. "IT WAS ONLY A START OF SURPRISE."



I WAS ASTONISHED TO SEE HIM IN BAGHDAD, FOR I HAD AN APPOINTMENT WITH HIM TONIGHT IN SAMARRA.



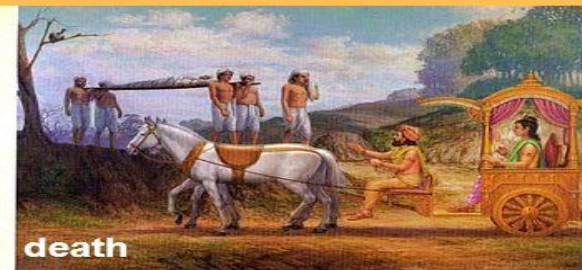
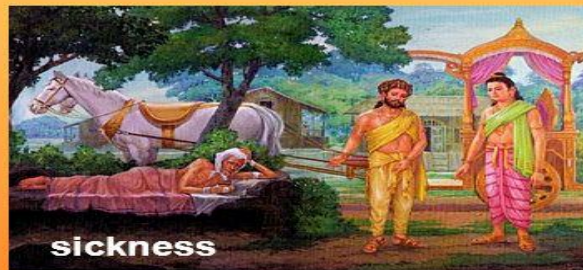


In fact, many authors argue that it is precisely because of our fear of death and belief in a 'soul' after-life that most religions normally try to emphasize **we are not, and should not be, just animals, we should go against our 'animal/material nature', sex, nudity, etc.**

Because these things remind us **we are just part of nature: born, reproduce, decay, die**, nothing else.. Also obsession of Buddhism: we need to escape from this material existence by meditating, going against our 'nature', reaching nirvana, etc.

## The Four Sights

- Siddhartha began to question life.
- He convinced his charioteer Channa to take him outside 4 times.



## Nature

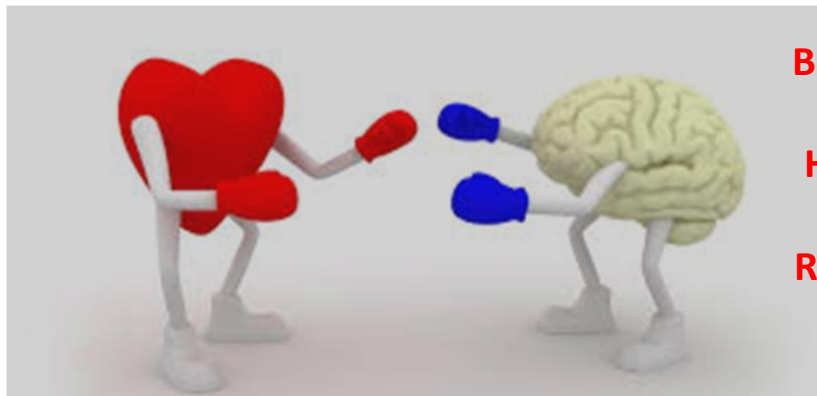
Genes and Hereditary Factors  
physical appearance  
personality characteristics



verywell

## Nurture

Environmental Variables  
childhood experiences  
how we were raised  
social relationships  
surrounding culture



**WE ARE PROBABLY IN  
BETWEEN, AS WE ARE HIGHLY  
SOCIAL ANIMALS.. IS A  
HUMAN BORN ALONE IN AN  
ISLAND TRULY  
REPRESENTATIVE OF 'HUMAN  
NATURE'?**

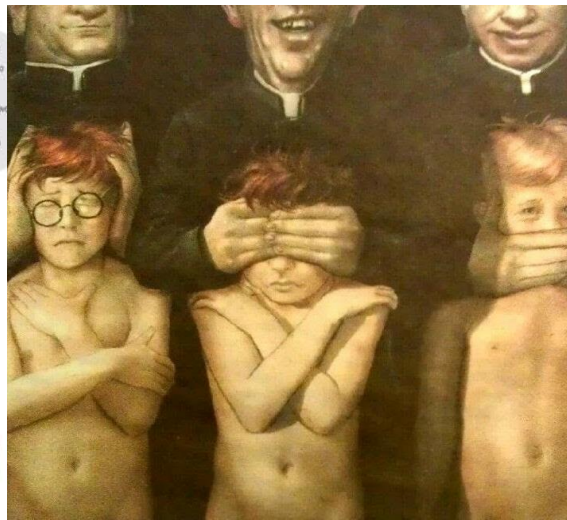
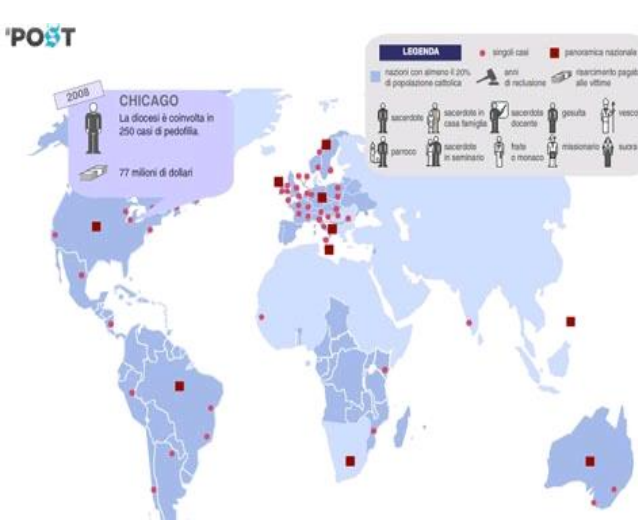
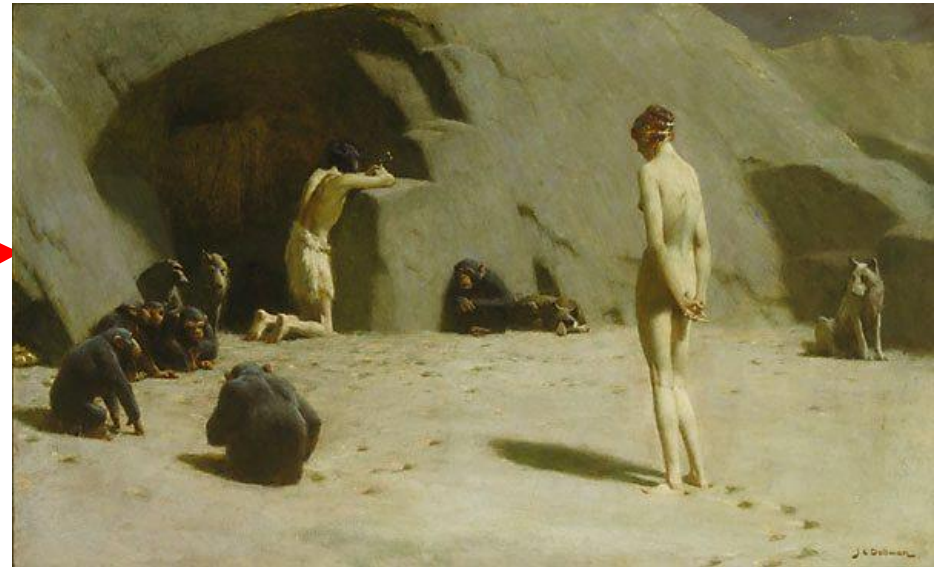


In fact, a common trend of many religions is that we should RESIST natural temptations, that precisely we are not animals, we are better than them (and can use them- animal abuse), because we are MORAL, like as if we need religions to be moral.. Not true..

## RELIGION



**Devils In Female Form To Tempt St. Anthony/Men  
+ Love only for God/Christ → Abstinence of priests**



### Combination of:

**-Overwhelming power of priests, given by these narratives**

+

**-Completely going against 'nature', due to these narratives**

—

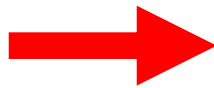
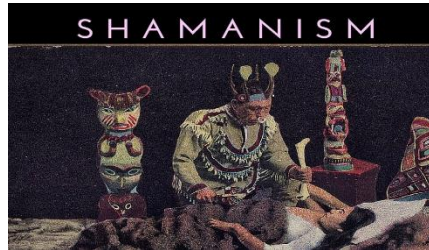
## CONTINUOUS SEXUAL ABUSE OF KIDS BY PRIESTS, EVERYWHERE



**Agricultural Revolution: wide-scale transition of many human cultures from hunting/gathering to agriculture/settlement, resulting in increasing of population**



**10000 to 8000  
years ago**



**Highly-populated cities**



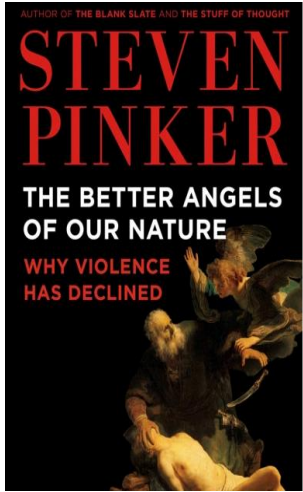
**Organized religion**



**Organized religion was crucial for rulers to "gain, justify, and keep their power" (Vaas 2009)**



## Hunter-Gatherers & Human Evolution: New Light on Old Debates (2018)



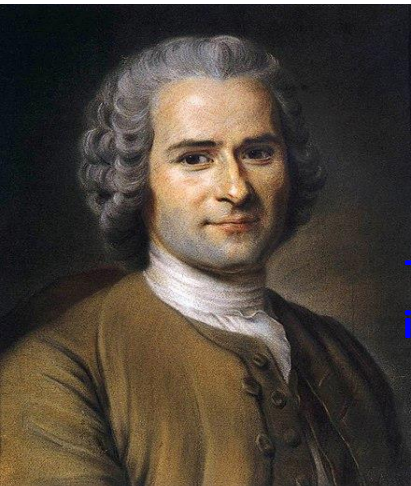
	Hobbes	Rousseau
Thoughts	People create gov't in exchange for law and order	The only good gov't is one formed out of free will by the people, to protect the people
Gov't favored	Absolute Monarchy	Self-gov't; Direct Democracy
Quotes	"In a state of nature, Life is solitary, poor, nasty brutish, and short"	"Man is born free, and everywhere he is in chains."



Richard E. Lee

"Right,  
conservative"

"Left,  
liberal"



Jean-Jacques Rousseau  
(1712-1778)

The ideas of Rousseau are too often 'romanticized', including the "Noble Savage".. For instance, he was particularly misogynistic.. In *Emile* he wrote: "The woman is made to please and be in subjection to man"

## Hunter-Gatherers & Human Evolution: New Light on Old Debates (2018)



Richard E. Lee

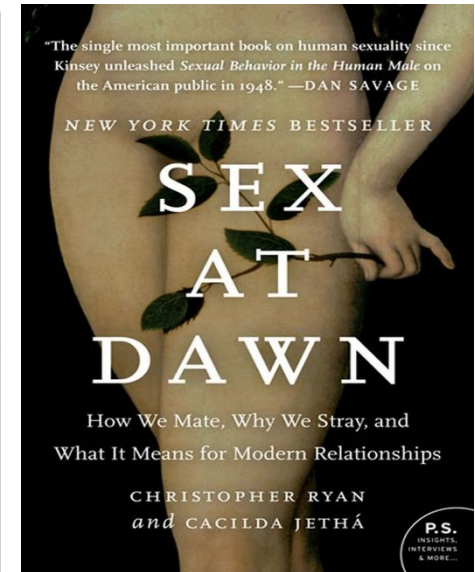
It is interesting to see that the broad, updated survey of the available evidence of hunter-gatherers by Lee mainly supports *Sex at Dawn*:

### Rousseau

The only good gov't is one formed out of free will by the people, to protect the people

Self-gov't;  
Direct  
Democracy

"Man is born free, and everywhere he is in chains."



"In general hunter-gatherers, compared to most sedentary, poststate groups, were/are:

- less bellicose
- more egalitarian
- attribute a higher status to women

SO THESE ITEMS WERE NOT NECESSARILY  
CREATED/INCREASED BY ORGANIZED RELIGION!

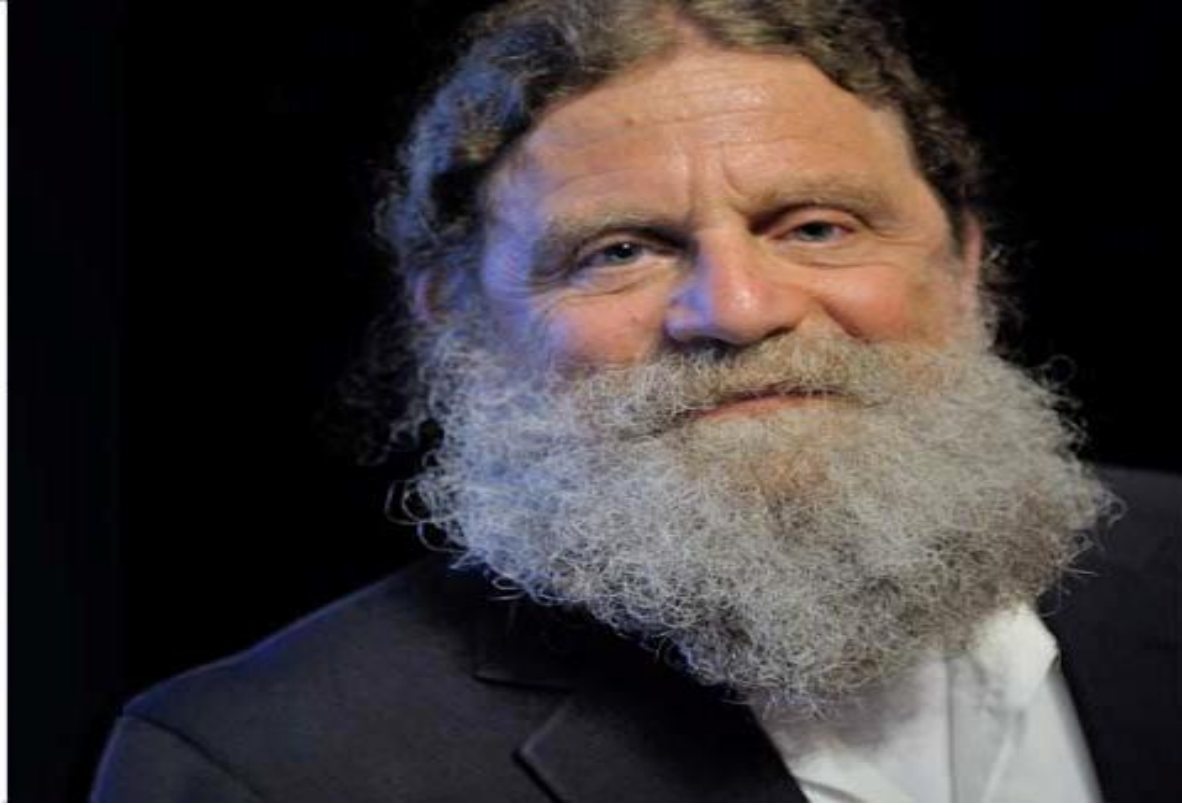


# BEHAVE

THE BIOLOGY *of* HUMANS  
at OUR BEST and WORST



ROBERT M.  
SAPOLSKY



All can be 'good' and 'bad', as we are product of chaotic, random, contingent evolution, so our behaviors depend a lot of the specific conditions in which our ancestors lived & we live..

So a “noble savage” is not specially “noble”, rather many of his so-called “nobles” acts – as well as many of the not so ‘noble’ ones - are because he/she is “savage”:

- small groups → difficult to cheat, need for sharing
- no very valuable material possessions → more egalitarian
- etc.



## MESTRUATION: OLD TESTAMENT VS 'JESUS TEACHINGS'

He 'healed' her but did not isolate from others to clean himself → Jesus seems utterly indifferent to **the rules**, placing well being of a suffering woman above demands of his cultural prohibitions

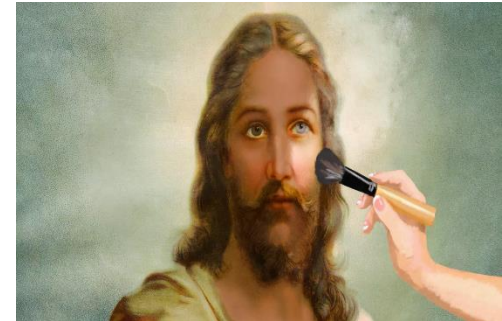
OLD TESTAMENT IS MORE ABOUT ABSOLUTE RULES (CRISIS MANAGEMENT) , WHILE JEJUS IS MORE ABOUT OF EACH CASE SEPARATELY

*The menstruating woman reaches out to touch the hem of Jesus' robe*

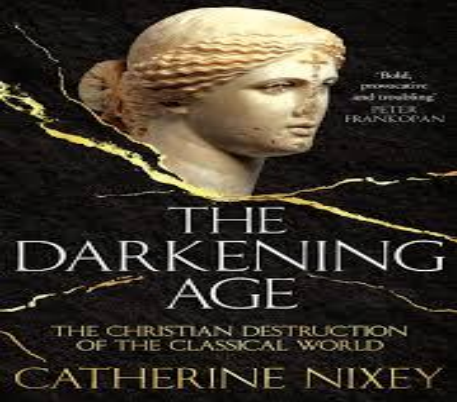


Jesus was probably not as often portrayed.. He said "I am the son of God"

.. still, it is interesting that his supposed 'teachings' are contradicted by so many religious people: **"authoritarianism, dogmatism, social distance, rigidity & intolerance"**







The book starts like this: “*The destroyers came from out of the desert. **Palmyra** must have been expecting them.. Bands of **bearded, black-robed zealots**.. moved in packs, and when they descended utter **destruction** followed. Their targets were the **temples**.. **statues** that had seen the rise of the Roman Empire fell in a single day ..**the zealots roared with laughter as they smashed the ‘evil’, ‘idolatrous’ statues**..*”



*“..only then does it seem that these men – these Christians – felt satisfied.. before they melted out once again into the desert..  
**The ‘triumph’ of Christianity had begun.**”*



## **“Function” of complex narratives/religions**

**Altruism/morality → might be true in some cases, but very controversial:**

- 1) Also **present in other animals**: some authors say humans can reach **extreme level of altruism**, but clearly humans, including religious people, can also reach **extreme level of selfishness**



- 2) Studies in general **don't show connection altruism-religion**, actually often is the opposite..

- 3) Also, societies without organized religion, e.g. **hunter-gatherers**, are often more egalitarian...

- 4) In fact, many **other beliefs/teleological narratives**, other than religious ones, are related to altruism/morality, such as **‘humanism’**: **“humans have the duty to”, “we are here to make progress in human rights”, etc..** the **only difference is the “why”**: instead of saying that this is **“because there is a God”**, they say **“because we are highly conscious animals”, etc.**

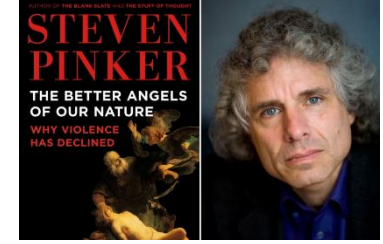
Of course, I do admire many progresses made by such people, e.g. end of colonialism, increase of women rights, etc.. the problem is that:

- A) Such narratives are also false, we are not here for any of these reasons, we are simply the by-product of a combination of random, contingent, and chaotic natural events (meteorite, drying of the Eastern African forests, etc..)**

- B) Most of these problems (colonialism, misogyny) were precisely created by, or at least justified by, similar fake teleological narratives, in the first place**



Also, comparing crime rates in major cities as X crimes within 100000 people does make sense in most cases, but comparing number of deaths historically, e.g. in hunter-gatherer communities vs genocides, seems completely out of context



= 1 killed every 25 years in a 100-people hunter-gatherer temporary settlement



.. could be an isolated/spontaneous act of revenge, jealousy, just an incidental killing with a lost arrow.. in 25 years!

6 million Jews killed in 5 years (1941-1945) by Nazis;  
3000 million people on earth at that time



How does it compare with detailed planning of Nazis, construction of concentration camps, of train lines to reach them, killing centers, acquisition of gas used in those centers, design of the most painful medical experiments ever done with humans, and so on?

Another clear evidence that God was developed by humans, not the other way round, is that the sacred texts of a same religion changes over time, often to favor those writing them →  
Who said that it was Eve, and not Adam, that did the original sin? Who changed the narratives about Magdalene? Men..

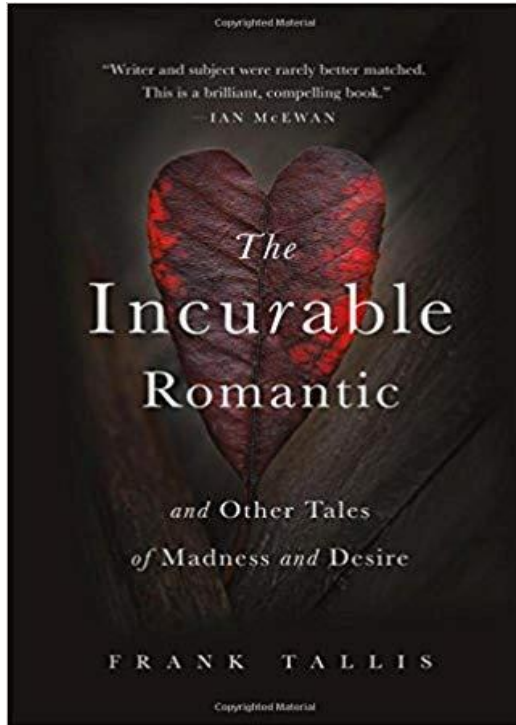
*The Penitent Magdalene*  
(c.1598), Tintoretto



- According to the **four canonical gospels**, Magdalene traveled with Jesus and was **a witness to his crucifixion, burial, and resurrection**
- But most **earliest Church Fathers do not mention her at all**, or only briefly.
- Ephrem the Syrian (4<sup>th</sup> century): 1st clear identification as **redeemed sinner**
- **Middle Ages**: conflated with Mary of Bethany & "**sinful woman**"
- 1969, identification with "sinful woman" removed, General Roman Calendar, but view of her as prostitute **persisted in popular culture (NARRATIVE)**



Also seen in romantic love, as I explained my last talk, which is highly teleological and about purpose, truly a belief, including some pathological behaviors



TRYING TO HAVE FULL CONTROL: “I choose him/her because I want someone smart, funny, etc, etc..”.. But:

- ‘**Underground factors**’ we are not even aware of (hormones, odors, etc.)
- **Randomness**, my mother met my father randomly, could never have met him..
- **Contingency**, of course this happened with portuguese man

PURPOSE: “MEANT TO BE, MY OTHER HALF, ETC”.. BUT:

- Why > 50% divorce?
- Reinforces/justifies obsessive behavior.. If we are meant to be, it needs to be forever.. If it is for love, it is right..

‘**Honor killing**’ of women



**Domestic violence & Crimes of ‘passion’ against women**



## CONFUSION BETWEEN SCIENCE AND BELIEF:

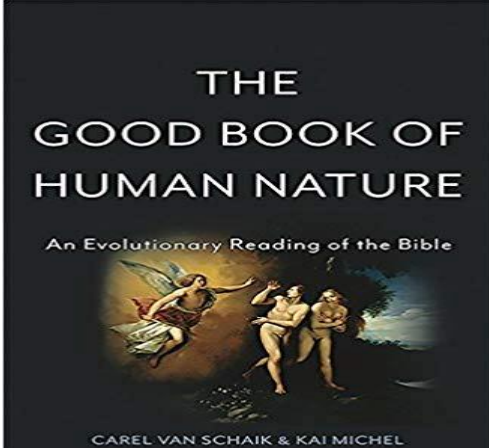
- If the scientific ideas that are known about our natural world – “the laws of nature” - are violated, then one could say: this is a miracle, a supernatural event
- However, most believers confuse this, and say: ohh, you scientists did not explain yet A or B, so this is evidence that there is more in the world than just ‘the laws of nature’.. For instance, if you cannot explain where the first particle of the Big Bang came from, then it is because there is God, because something (the particle) cannot come from nothing..
- As if scientists had an obligation to explain actively everything and if not believers just need to passively wait for things that scientists cannot explain yet to ‘prove’ that there are supernatural events..
- Common mistake: absence of evidence = evidence of absence.. No! Believers also need to actively explain and ‘prove’ that there are supernatural events.. I can do same question: so, where did God come from? From nothing, how can you have God? Actually more realistic to think that from nothing comes a very small, inanimate particle, then to think that from nothing comes suddenly a ‘perfect’, highly complex, omnipotent God..



## A NATURALISTIC HISTORY OF RELIGION

**It can also be seen even in the first scientific texts, such as Aristotle, who was highly teleological, scala naturae, what lead to racism, etc..**

**Even darwin, who is supposed to have 'killed god' and showed that evolution was random, was actually very teleological, talking about progress, which is totally a teleological notion, fake, as there cannot be progress in nature, if there is no good or bad, how can there be a direction to something good, particularly if there is no agent/God to direct that evolution?**



Organized religions, particularly as seen in old testament, studied from an anthropological perspective: mainly way to cope with passage from hunter-gathering (the 'lost paradise') to agriculture..

“With **domestication of animals**, **number of diseases leaped from them to humans**: plague, smallpox, measles, influenza, cholera.. Tooth decay exploded”

“**Famine, injustice and repression** made themselves at home in the new societies, and women bore the brunt of the suffering.”

Humans did what they do best - **create narratives**: “in Mesopotamia, Egypt, etc. **any type of misfortune was credited to wrathful spirits and gods**”

“People began to formulate rules/other measures that developed into **systems of crisis management** aimed at soothing the **gods' rage**” (Old Testament)



One  
week



## EXAMPLE OF MESTRUATION: “PAIN; IMPURE” IN OLD TESTAMENT

“.. as in the days of her **impurity**, she shall be **unclean**”.. and whoever touches anything upon which she sits shall **wash** his clothes, and **bathe himself in water**, and shall be **unclean** until the evening (Leviticus 15.19-25)



### 3 MAIN REASONS:

- 1) Older - fear of death, human universal: try to disconnect humans from ‘animal bodies’
- 2) Misogyny, mainly agriculture: women as sinners, etc.
- 3) Organized religions, just after agriculture: systems of **crisis management**

Latter is similar to **eating pork** in **Islam**: made some sense then, but not anymore.. Still, such practices still occurs in various religions, including Christianity, e.g. women menstruating barred from sacraments of communion in some Eastern Orthodox churches.

I love my life, because  
I've seen my purpose.

Nick Vujcic

© cuckelancy

People try to connect and rationalize events of their lives using A POSTERIORI NARRATIVES, to give them a 'purpose', a 'path', a sense of 'progress'

My own life as an example.. WHEN DID YOU CHOOSE YOU WOULD COMPARE HUMANS WITH OTHER ANIMALS TO TRY TO HAVE A BROADER VIEW OF LIFE AND SOCIETY?



Papua New 'tribe'



Another problem of this **WRONG** deterministic/cosmic view of life: deterministic **RACISM**..

**YOU CAN ACHIEVE ANYTHING  
YOU WANT IN LIFE IF YOU HAVE  
THE COURAGE TO DREAM IT,  
THE INTELLIGENCE TO MAKE A  
REALISTIC PLAN, AND THE WILL  
TO SEE THAT PLAN THROUGH  
TO THE END.**

**SIDNEY A. FREIDMAN**

.. if you don't, its your fault, either you are lazy (racism type A) or just inferior (racism type B)

-These ideas, now even more **in vogue** in this  
'new wage' era, are not true at all:

- We don't have **CONTROL** about everything  
that happens in our lives..

- We don't choose our parents, where we are  
born, if a earthquake kill us, if a terrorist attack  
happens, etc

Number of Nobel price award per country:

