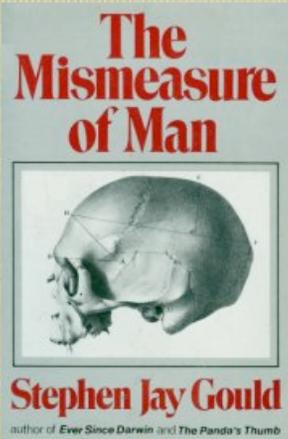


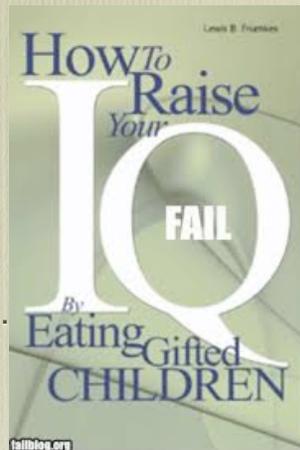
The sheep from the goats.



Peter Watson



- Showed IQ is 80% inherited by studying identical twins adopted into different families
- 11 plus examination. a test of mathematical skills and an I.Q. test.
- Pass → grammar schools, academic career,
- Failure → secondary modern schools.
- Presupposes intelligence is predetermined, **and** could be measured accurately at the age of eleven.



Cyril Burt (sir)

- 1883-1971
- School psychologist enforcing the “Mental Deficiency” act
- University College London (1931)
- Influence behind the education act of 1944



Except

- All of his data was destroyed after his death
- There is no evidence that Burt actually examined any twins
- Results are statistically impossible (Exactly the same results in three repeats of his experiment)
- Most of the letters supporting his position were written by him
- not clear that two of his collaborators existed

- Test is fudged:
- Girls tend to do much better in primary school/
Boys catch up only in their teens.
- 11 plus is around age when this difference is a maximum
- 90% of the children in grammar schools would be female.
- Obviously politically unacceptable, so the sex ratio is fixed to be 50-50

Cultural bias

- Where does your mother have her washing done?
- middle-class child "She sends it to the laundry" ✓
- working class child "She takes it to the launderette" ✗
- (remember, this was the 1950's)

Which group of academics has the highest IQ?

- Physicists?
- Mathematicians?
- Philosophers?
- Doctors?
- Psychologists!
- *But fortunately there is no bias*

Philippe Rushton

- Born 1943 in Bournemouth
- Ph. D with Eysenck at University of London (on altruism)
- Psychologist at Western
- AAAS paper
- Debate with Suzuki (1989)
- wrote *Race, Evolution, and Behavior* (1995)
- *Ottawa Citizen* Oct 1, 2005. pg. A.1.

Rushton's thesis

- White (Caucasoid) races diverged from common ancestors about 140,000 years ago
- Oriental (Mongoloid) races split about 40,000 years ago.
- Last ice age forced the oriental and white to adapt rapidly
- Became more intelligent and less sexually active
- Hence more evolved.

Thou shalt not over-simplify complex situations.

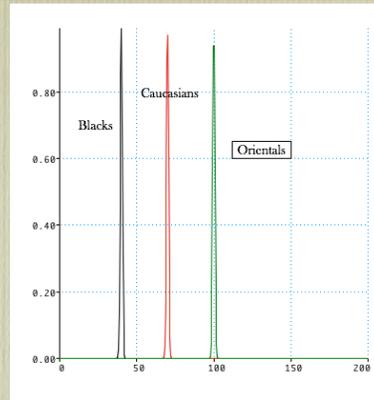
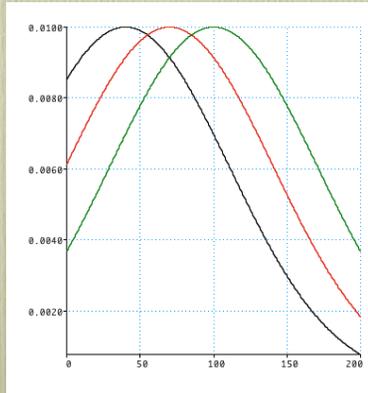
- "Race" is not a one-parameter concept
- e.g. in Nigeria, two of the dominant tribes are the Fulani and the Yoruba.
- Ethnically, culturally, religiously, linguistically and physically distinct.
- Share English as a second language (a cultural artifact) and skin colour.

- Melanin synthesis is common to almost all humans.
- High production of this mixture of polymers is a genetic adaptation to strong sunlight → improved survival in hot climates
- Hence dark skin colour is preferred.
- A few humans lack this so there are albino blacks.
- Clearly nonsense to homogenize humans by colour alone.

Thou shalt not present data as a ranking order.

- orientals rate 1, or highest in occupational achievement, blacks 3 or lowest.
- In terms of what? Salary? Job Satisfaction? Intellectual quality?
- Need to know what the averages are, and how much spread there is.

- Is it this?



- Or this?
- Note that if you added in the likely errors in this case, you couldn't distinguish the curves

Mind you, other people have made similar mistakes

- *At some future period, not very distant as measured by centuries, the civilized races of man will almost certainly exterminate and replace the savage races throughout the world. At the same time the anthropomorphous apes... will no doubt be exterminated. The break between man and his nearest allies will then be wider, for it will intervene in a more civilised state, as we may hope, even than the Caucasian, and some ape as low as baboon, instead of as now between the negro or Australian and the gorilla.*

- **Charles Darwin**

- Darwin, Charles, 1896. *The Descent of Man and Selection in Relation to Sex; The Works of Charles Darwin*, D. Appleton and Company, New York (First edition by AMS Press, 1972) P241-242

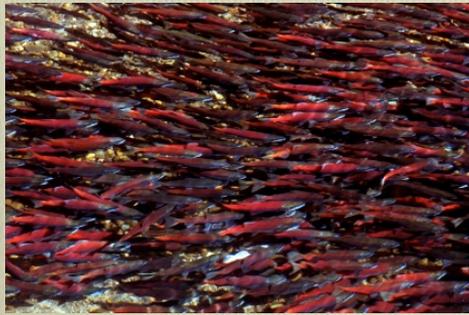
Thou shalt not combine data from unrelated datasets.

- One factor included in “sexual restraint” is penis size
- Blacks rate highest and orientals lowest.
- Measured in recruits to the French Army in the early 20th century.

- Combined with IQ measurements on American students in the late 20th century.
- Blacks rate lowest and orientals highest.
- Proves nothing: the French army recruits may have had exceptionally high IQ.
- Note that Rushton realised this and tried to survey his students at UWO
- Complete a survey on sexual proclivities or write an extra paper

Thou shalt not misuse ideas from other branches of science.

- r and K strategies from population biology
- The (extreme) r-strategy: have lots of offspring but take no care of them: **think sockeye salmon.**



- K strategy: have very few offspring but provide a lot of care and protection: **think elephants.**
- More complex animals follow the K-strategy: evolving this has taken a very long time.

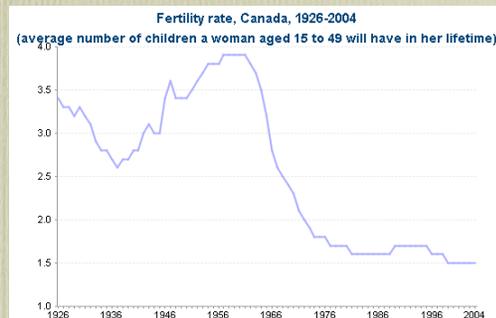
Tarangire elephants
Dan Morris



- Black mothers have more children than orientals, hence they less highly evolved.

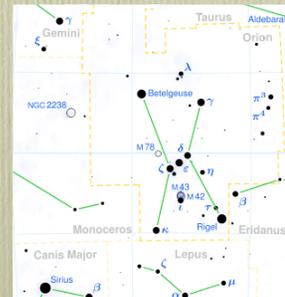
Unfortunately families of 50 years ago in Western white society were **much** larger than today.

- Have we really managed a hundred million years of evolution in two generations?



Thou shalt not ascribe a purpose to random events.

- The stars that make up Orion are random lights in the sky



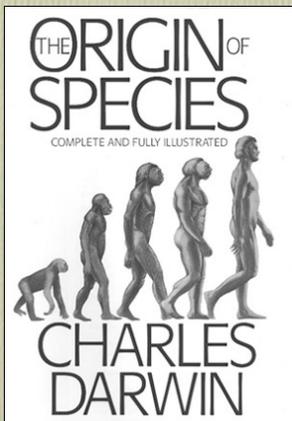
They do not represent a mythic figure.



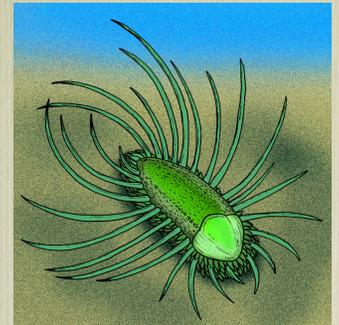
- Evolution is a random process: it does not have a purpose.
- If “more evolved” means having more genetic material or more chromosomes, the crayfish (with 200 chromosomes) is more evolved than humans (with 46).
- If it means “more recently evolved”, then HIV wins.

- Correct word is “complex”
- No evidence that Nature is working towards more complex and intelligent beings
- Steven Jay Gould has pointed out that this is probably temporary: viruses have much better survival values than humans

An image that is embedded in our sub-conscious



- Note whole orders of living beings have disappeared from the earth for no apparent reason.
- E.g Burgess shale
- this is Orthozanclus



- this is Opabinia

A depressing corollary

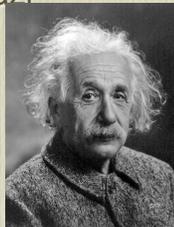
- Fermi's question: *where are they?*
- if the universe is full of planets (it is) and some have liquid water (almost certainly) and evolution is universal (why wouldn't it be?)
- Why isn't the galaxy full of inhabited planets with intelligent species who want to talk to us?

Maybe intelligence isn't such a great idea!



- Maybe intelligent species last a **really** short time

- *Probably* a strong genetic component to intelligence, along with all other human traits.
- Hinted at by intellectual achievements of small, close-knit groups of humans e.g Ashekanazi Jews



- Unfortunately they come from the Middle East, which was spared most of the last ice age.

Thou shalt think through the consequences of one's ideas.

- Small breast size shows more advanced evolution
- Oriental women typically have smaller breasts, so they are "more evolved"
- Unfortunately chimpanzees have smaller breasts than any human species.....

*Thou shalt not protect one's ideas
by arguing for special expertise*

- Physicists are not experts in psychology, so they cannot criticize psychology.
- The ultimate cop-out!
- and yes, since you ask, I **am** the subject of a thesis in sociology on the defence of the Big Bang model!
- see Alex Ipe

So do we have a summary?

- Not really!
- Science is hard
- If we think science is played by immutable rules, we get it wrong
- Scientists are driven by exactly the same set of needs that drive all of us
- Most of the time it works
- We cannot be surprised when it doesn't