













So what's the problem?

Humans can think of simple, reasonable sounding ideas that seem right, but are oh so wrong.



It's Obvious, Right? Wrong.

Disease is caused by humors in the blood, bleeding removes them



Bloodletting
1000BC to 1900AD+

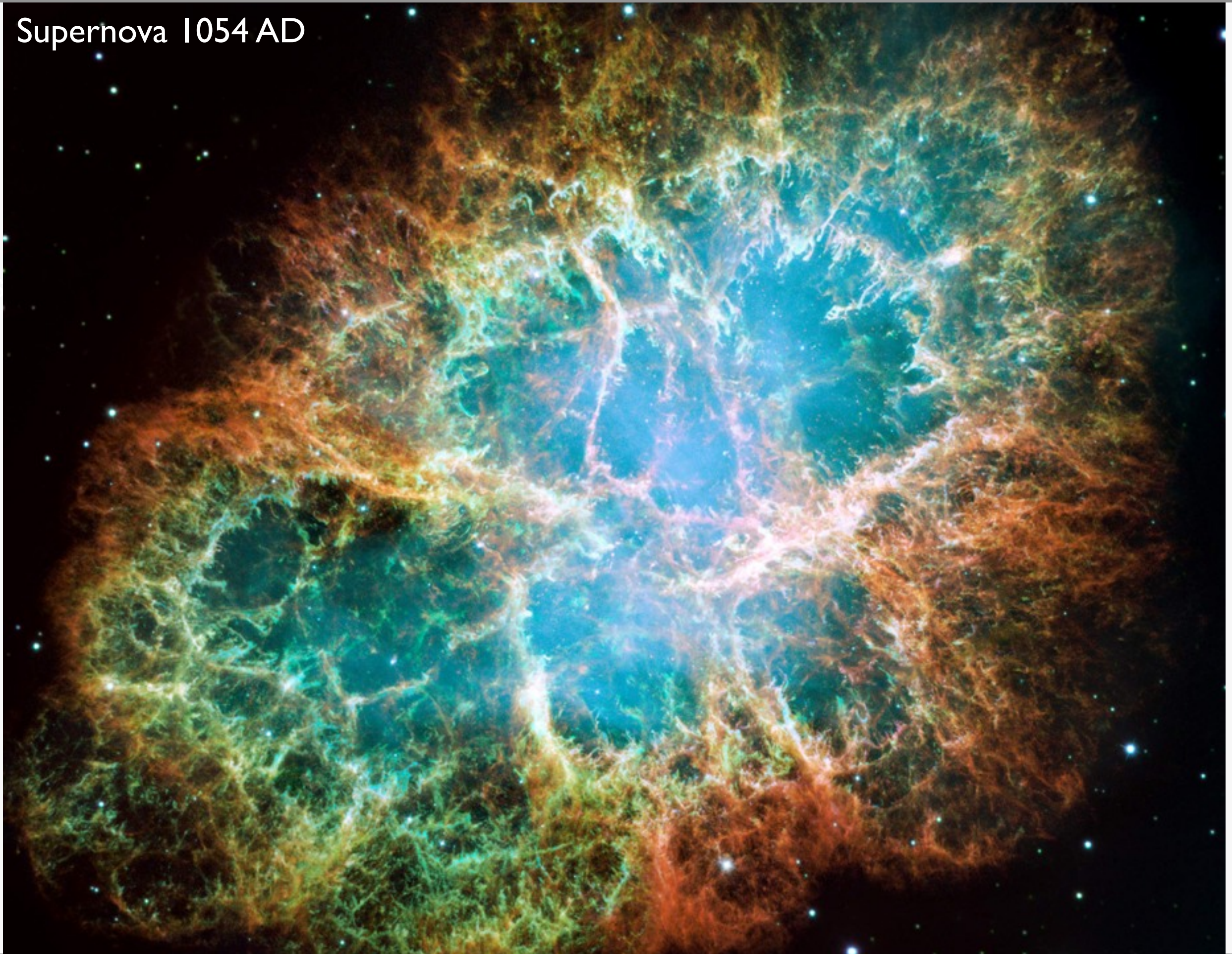


photo from 1860

Simple checks weren't done.

even today some ignore evidence that's *-already-* available

Supernova 1054 AD



Supernova 1054 AD



The OBSERVATION was unrecorded since it did not fit the idea

This does not work so well.



Success of Evidence-Based Reasoning



the human genome decoded



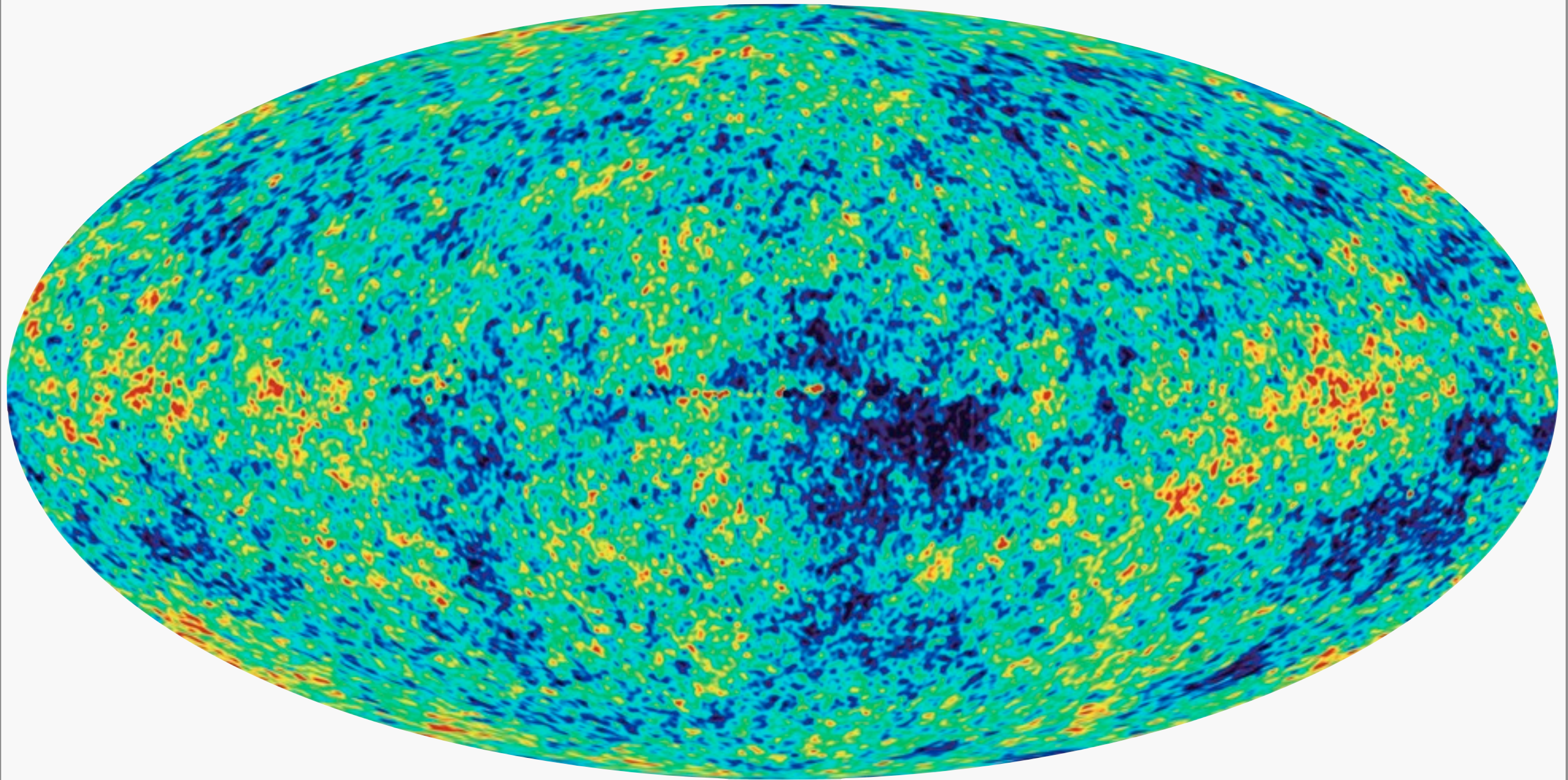
major health advances



photo of our place in the universe



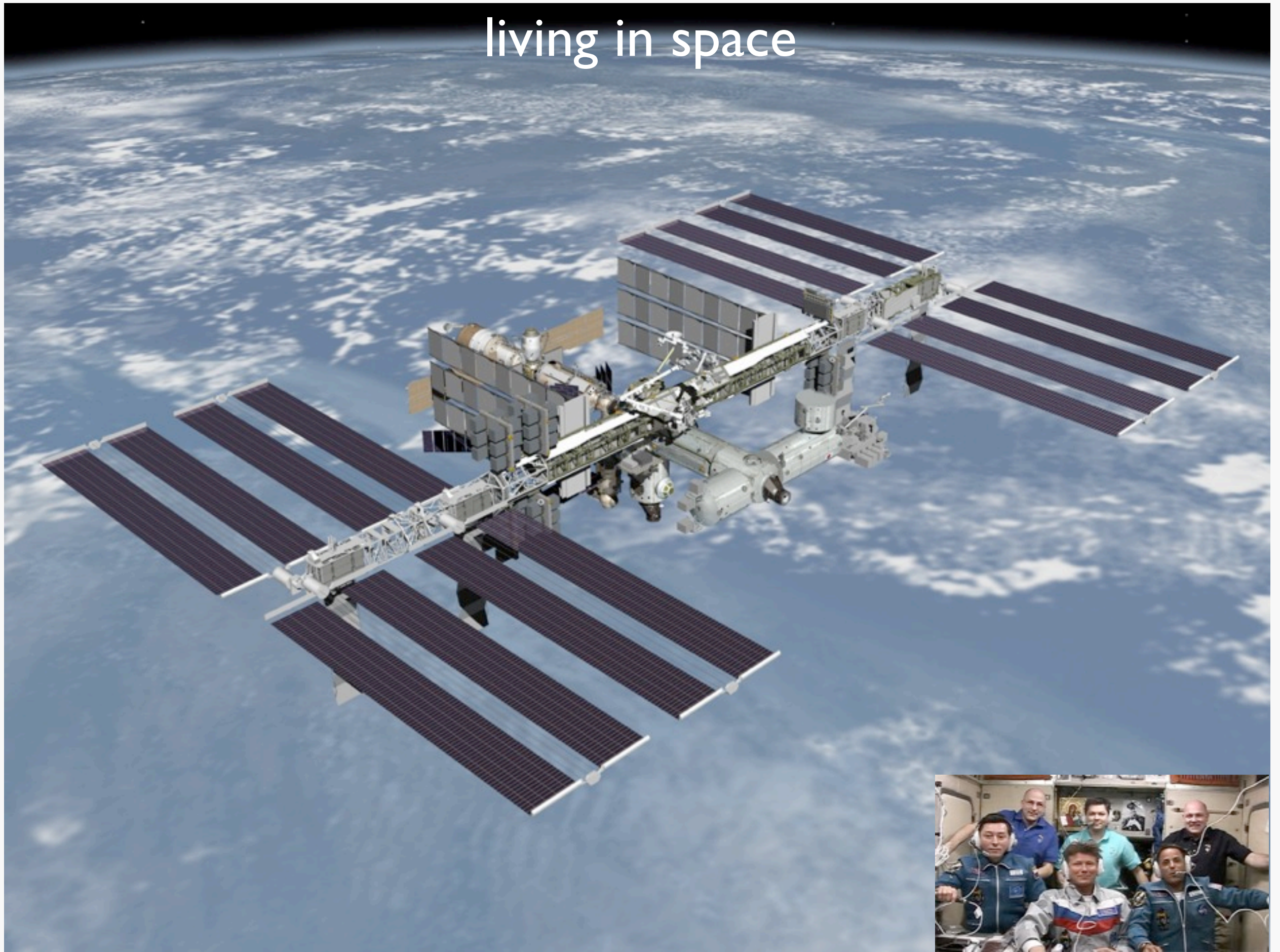
measured light from the Big Bang



reach-to-the-sky architecture



living in space

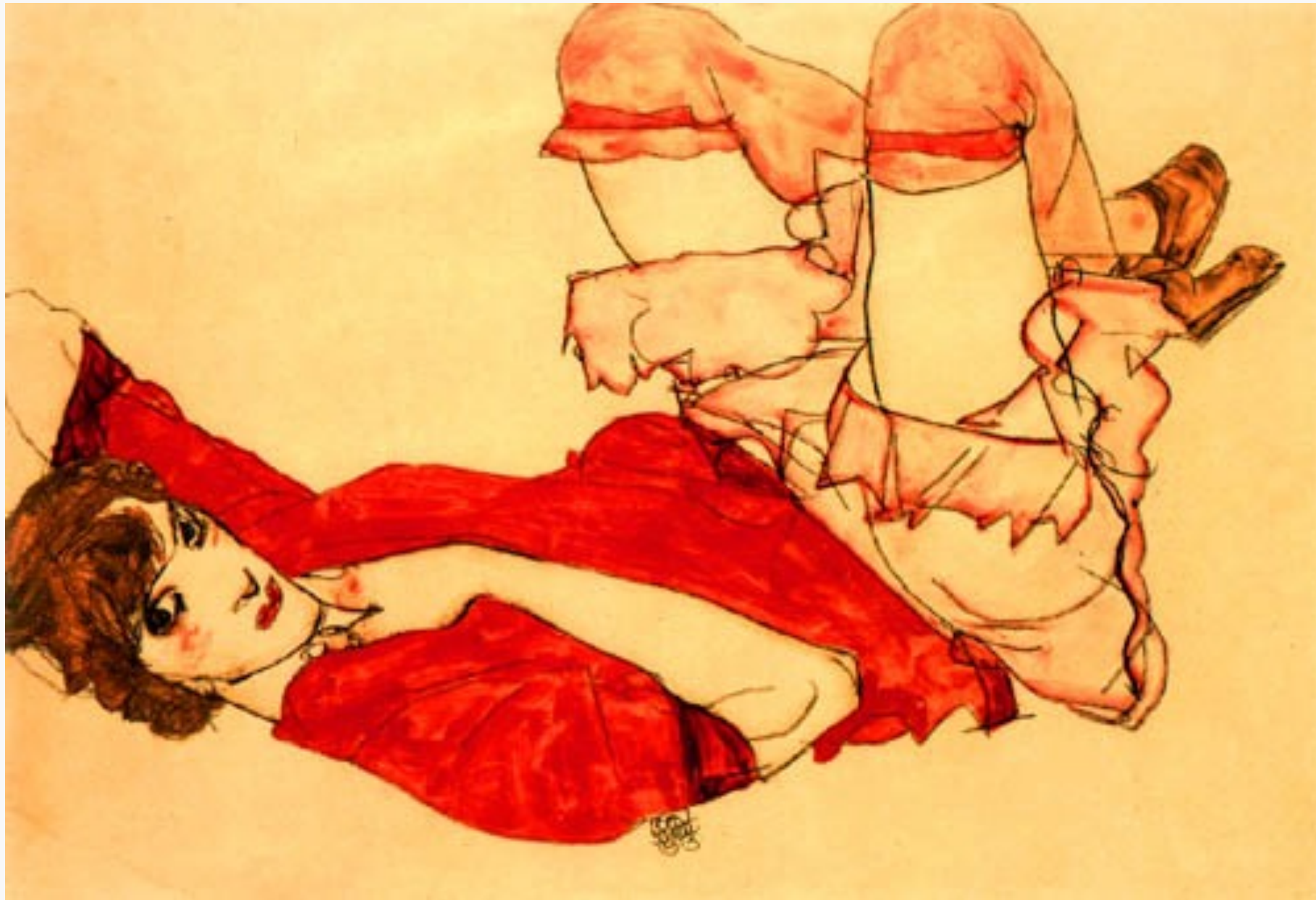


**But Still Failures
from Lack of Evidence-Based Reasoning**

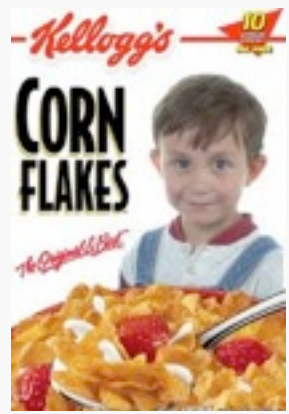


Human Sexuality

Masturbation, homosexuality are an abomination. Promiscuity, swingers, pornography are unnatural, dirty, shameful



Enforced through social pressure, government regulations, tax breaks, discrimination, violence, mutilation



Human Sexuality

Masturbation, homosexuality are an abomination. Promiscuity, swingers, pornography are unnatural, dirty, shameful

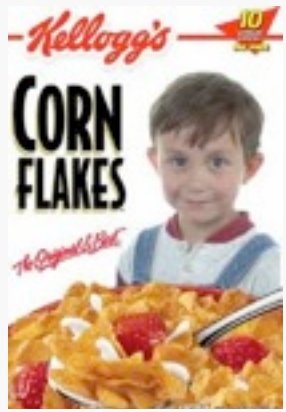
“Masturbation is a great evil that leads to madness and death”



J.H. Kellogg



Enforced through social pressure, government regulations, tax breaks, discrimination, violence, mutilation



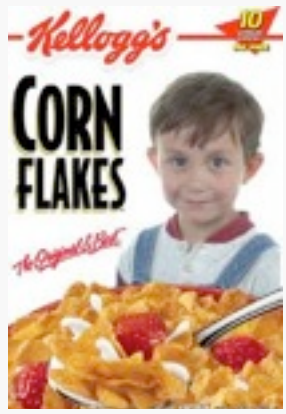
Human Sexuality

Masturbation, homosexuality are an abomination. Promiscuity, swingers, pornography are unnatural, dirty, shameful

“Masturbation is a great evil that leads to madness and death”



Enforced through social pressure, government regulations, tax breaks, discrimination, violence, mutilation



Human Sexuality

Masturbation, homosexuality are an abomination. Promiscuity, swingers, pornography are unnatural, dirty, shameful

"Masturbation is a great evil that leads to madness and death"



J.H. Kellogg



Surgeon General

Jocelyn Elders

"It is part of human sexuality, and perhaps it should be taught"

[to prevent the spread of AIDS]

Enforced through social pressure, government regulations, tax breaks, discrimination, violence, mutilation



Human Sexuality

Masturbation, homosexuality are an abomination. Promiscuity, swingers, pornography are unnatural, dirty, shameful



Enforced through social pressure, government regulations, tax breaks, discrimination, violence, mutilation



Free Market Ideology

Rational, self-seekers interacting through free markets leads to the best outcomes and individual freedom

Justified: decades of deregulation, small government, privatization, union busting

Outcome: higher inequality, less job security, frequent financial crises, 3rd world poverty



Dogma adhered to in spite of contradictory evidence; poor outcomes ignored



Free Market Ideology

Rational, self-seekers interacting through free markets leads to the best outcomes and individual freedom

Justified: decades of deregulation, small government, privatization, union busting

Outcome: higher inequality, less job security, frequent financial crises, 3rd world poverty



"It has condemned people to death," J. Stiglitz

Dogma adhered to in spite of contradictory evidence; poor outcomes ignored



The Alarmist Paradigm

The world is more dangerous than ever
We're being poisoned by toxins, new technologies, & invisible threats

•
NUCLEAR



Death Rate Per Watts Produced



Policy decisions based on poor evaluation of relative risks doom
thousands to death



The Alarmist Paradigm

The world is more dangerous than ever
We're being poisoned by toxins, new technologies, & invisible threats



NUCLEAR



Death Rate Per Watts Produced

Policy decisions based on poor evaluation of relative risks doom thousands to death

The Alarmist Paradigm



Policy decisions based on poor evaluation of relative risks doom thousands to death



Skepticism
doesn't tell you *what* to think but *how* to know

My Personal Vision for the Future Evidence-Based Reasoning