

Influence of Religion:
a consideration for sanitation experts

William S. Warner
Dept. of Engineering
Agricultural University of Norway

Consensus

- Concern: hygiene
- Conflict: understanding and behavior
- Science
 - transmission of disease
 - conservation of water
- Religion
 - promote health
 - observe rituals... associated with *purification*

Conflict

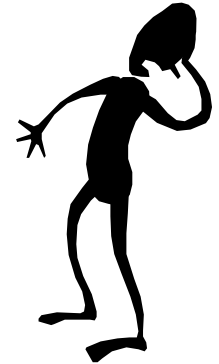
- Neither incompatible nor contradictory
- Heart of the conflict
 - Science
 - introduces new concepts
 - modifies behavior
 - Religion
 - preserves old beliefs
 - maintains traditions
 - Science tries to alter religious behavior

Toilet psychology

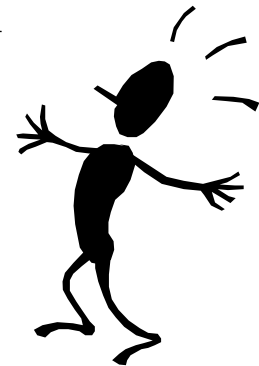
- Universal *attitudes* toward excrement
- cultural differences in *behavior*
- various *motivations* for using compost toilet
 - hygiene
 - soil improvement
 - financial
 - aesthetics
 - comfort
 - status

Universal Attitude

Excrement is sordid!



- What is attitude?
 - Perception = emotional impression
 - Cognition = thoughts
 - Behavioral *tendency*





Perception *image*



- Excreta
- dark
- defiled
- Evil - dangerous
- bad
- repulsion

- Water
- clear - reflecting light
- pure
- God/heavenly - safe
- good
- attraction



Cognition

what we know

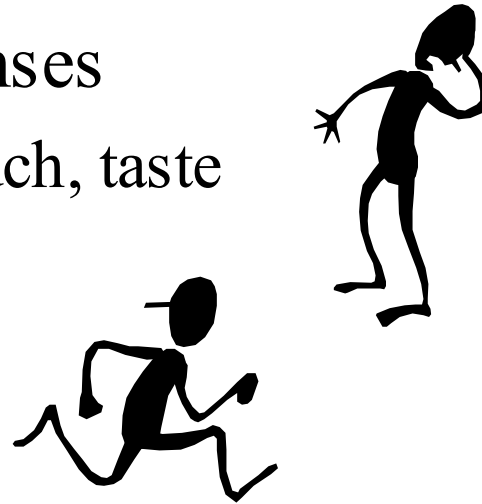


- Excreta cast away
- earthly
- decay - death
- soiling
- harmful
 - disease
 - death

- Water received
- heavenly
- growth - life
- cleansing
- healthful
 - recovery
 - necessary or life

Behavioral tendency

- *Natural* reaction to senses
 - sight, sound, smell, touch, taste
- Threat response
 - fear...flight
 - anger... fight (insult)
 - disgust... face, but back away
 - evolution: any other reaction leads to death



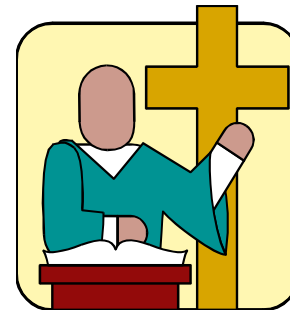
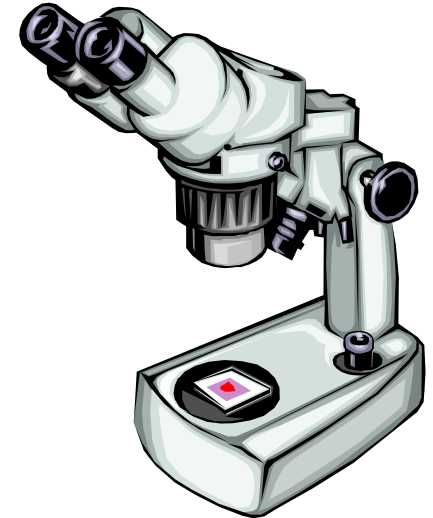
Disgusting Research!

- rank: dandruff, ear wax... to feces
- tolerance:
 - women
 - health professionals
- don't assume...



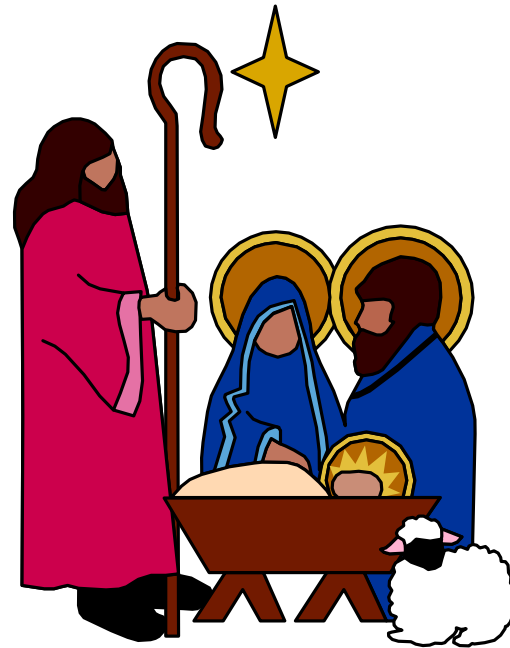
Cleanliness

- myth not molecule
- clean v.s. cleansed
- science
 - transmission of fecal-related disease
 - conservation of water and nutrients
- religion
 - promotion of health
 - observation of rituals



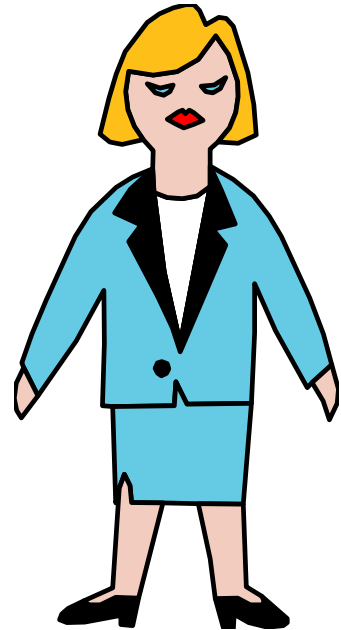
Religion

- 80% of world - substandard housing
- 70% non-Christian
- major religions
 - Judeo/Christian
 - Islam
 - Hindu
 - Buddhism



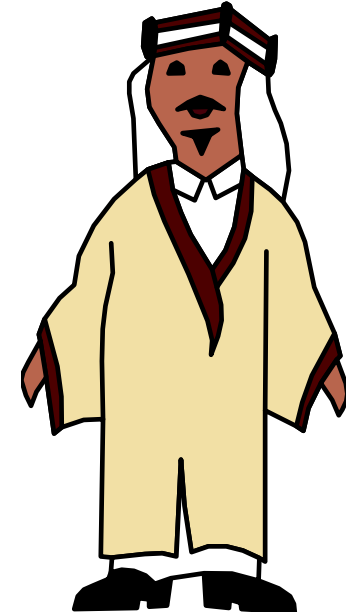
Judeo-Christian

- Water used for purification
 - baptism, kosher, Pilate...
- *Deuteronomy* 23:12-13
- Monasteries (Middle-Ages)
- Hygiene Virtue (1800s)
 - cholera claims 30,000 souls
- Rev. Henry Moule's Earth Closet



Islam

- *Koran*
 - feces are *najassa* - impure
 - anal cleaning
 - no use of blackwater, except...
 - different interpretations
- Malaysian public toilets
- Yemen's waterless toilets
- As varied as Judeo-Christian denominations



Hindu

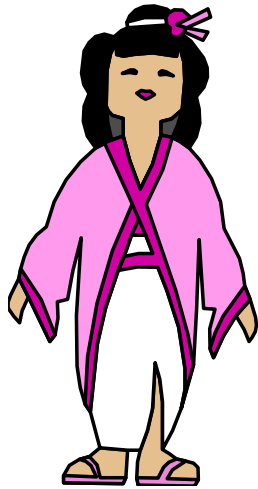
- *Artha Veda* (500-200 BC)
 - ritual washing (hands?)
- Brahmins
- Untouchables - night soil
- Inclusive not exclusive



Buddhism

- 2/3 fish farms use excreta
- Asia - ecology, food, economy
- Reincarnation
- Compost excreta 3000 years before Buddha
- Philosophy
 - absence of religious doctrine
 - not good or bad, but *how* it is used





... and others

- Japan - toilet design leader
- Vietnam - compost & eco-eng
- Africa - no crop-fert. tradition
- Americas/Australia/Pacific
 - superstitions not salvation
 - taboos



Summary

- Islamic & Hindu edicts
 - *tend to...*
 - influence wastewater practices
- Judeo-Christian and Buddhist doctrines
 - *appear to be...*
 - the result more the cause of cultural practices

Challenges

- Law
 - Secular societies: Law is the religion
 - Theocratic societies: Religion is the law
- Research: facts not anecdotes
- Focus on benefits of religion
 - accepts science: *Cleanliness next to Godliness*
 - work with (not against) established myths
 - water: sacred symbol, not molecular symbol
 - endorse healthy taboos (regardless of the logic)

Science and Religion

- Influence behavior
- Provide explanations to mysteries
- Seek the Truth

The Truth

- We are naturally
 - attracted to that which is good for us
 - repelled from that which is bad
- So ends the epistle... Amen!