

Unitarian Church, Concord MA

April 11, 2007

Unitarian - Trinitarian:

Can Science Bridge the Gap?

# Unitarianism

- Bible, reason, conscience
- Critical of doctrines of Fall, atonement, eternal punishment
- Socinians, 16th century
- 1638 confession, recognized religion
- John Biddle, UK, c. 1650
- T. Lindsey, UK, Essex Chapel, London 1774
- King's Chapel, Boston 1785
- 19th c. W.E. Channing and R.W. Emerson
- Charles W. Eliot, Harvard Divinity School, c. 1900

# Creation stories

- All ancient civilizations and current primitive peoples have creation stories
- Bible has two: Gen.2 (900 BC) and Gen.1 (500 BC)
- Common element: primordial chaos (differently described) from which divinity creates
- Gen.2: lifeless desert; Gen.1 formless void, waters, darkness (elements from Babylonian *Enuma Elish*)
- Yet, common Christian creation doctrine is *creatio ex nihilo* (creation from nothing). Why?

## *Creatio ex nihilo*

- In 2nd c. Christian belief threatened by gnosticism
- Gnosticism: evil demiurge creating from pre-existing evil matter. Good God (Father of JC) would put it right.  
Dualism, two gods
- Theophilus of Antioch (c. 180), in his battle against gnosticism, invented *creatio ex nihilo* (creation from nothing)
- Rapidly (and uncritically) accepted and held till now
- But it has five major problems

## Problems with *creatio ex nihilo*

- Conceptual: we cannot picture nihil --> 'existing' nihil  
e.g., Karl Barth, *das Nichtige* (chaos and evil)
- Scientific: science cannot work with nihil
- Biblical: no reference to nihil
- Theological: no satisfactory formulation of creation from nothing (e.g., Jürgen Moltmann)
- Theodicy: evil then created by God (Satan no go: if under God's control, then God still responsible; if not, then dualism)

# Chaos Theology, 1

I replace *creatio ex nihilo* with creation from chaos

## 1. Initial creation from primordial chaos

biblical: Gen.1 and Gen.2

science: at  $t = 0$  vacuum with quantum fluctuations

## 2. Continuing creation

biblical: Gen.1-11 (incl. flood) full creation story

Mk.13:19 ...*God created until now*

science: cosmic and biological evolution

# Chaos Theology, 2

## 3. Remaining chaos

- In OT symbolized as 'sea'(22x); NT 8x
- God battles remaining chaos
- Rev.21:1 *sea was no more*: chaos abolished

## 4. Evil emerges from remaining chaos

- physical evil: earthquakes, hurricanes, disease, all chaotic
- moral evil: chaotic thinking

Nos. 1-3 biblical, no. 4 my invention

# God's action in initial creation, 1

- Gen.1 has the *Logos* as God's creative agent. Philo (d. 50) and Maximus Confessor (d. 662): *Logos* is God's *energeia*
  - *Logos* brought in energy for 'big bang' ( $> 10^{22}$  kWh), part for kinetic energy of explosion and expansion, part for later conversion to particles
  - Needed to order chaotic explosion: physical laws and fundamental constants, *Spirit* as information carrier
- [In Gen.1:2 *ruach* not Spirit, but *mighty wind*, part of chaos, not creative agent]

## God's action in initial creation, 2

- Quantumcosmology: 1 bit/square Planck distance ( $10^{-35}$  m)
- After  $t = 0$ , but before 'inflation' (brief exponential expansion) started at  $t = 10^{-35}$  sec
- Calculation shows then 10 gigabits possible (10,000 bks), plenty for physical laws and fundamental constants
- Conclusion: *Logos* and *Spirit* are God's 'creative hands' (Irenaeus, c. 180)

# God's action in continuing creation

- God leaves evolving cosmos and life much freedom as 'trial and error' process but must intervene at crises
- How? Changing physical laws or fundamental constants would be catastrophic
- Through quantum events or self-organization - unlikely
- Through influencing chaos events described by chaos theory - more likely

Note: here chaos means *unpredictable*; in chaos theology chaos means *disorder*

# Chaos theory: chaos events, 1

- Biological organisms, solar system, climate etc. obey non-linear dynamics in time, given by equation:

$$x_{n+1} = k \cdot x_n (1 - x_n)$$

- Example: reproduction of moth colony

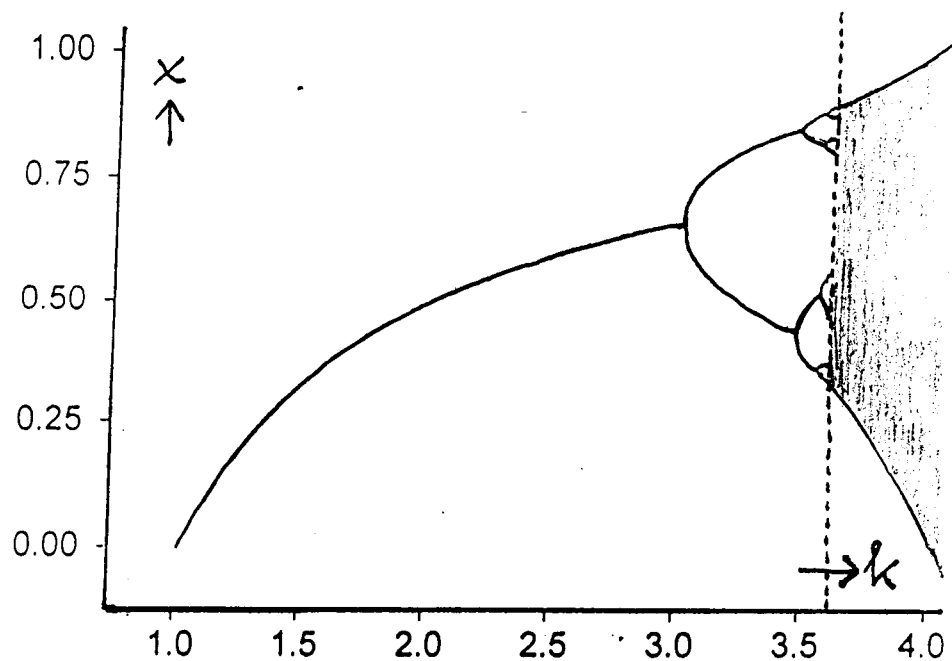
$x_n$  is number of moths in generation  $n$ ,  $x_{n+1}$  in next

$(1 - x_n)$  for starvation or disease in dense colony

$k$  represents fertility, slowly increasing

# Chaos theory: chaos events, 2

Fork at  $k = 3.0$ , two at  $k = 3.45$ , infinite at  $k = 3.57$



# Chaos theory: chaos events, 3

- No energy difference between legs, so equally likely
- System becomes unpredictable (chaotic)
- Influencing possible by 1 bit of information
  
- Observed in laboratory experiments:
  1. turbulent flow of He-3 by lowering temp. from 0.0010 °K to 0.0007 °K
  2. electron diffusion in semiconductor by adjusting voltage (merely forcing into chaotic behavior)

# Chaos theory: chaos events, 4

- Can God influence a chaos event?

$$\Delta E = \Delta I \times k_B \times T \times \ln 2 \quad \Delta E \times \Delta t = h$$

- Calculation:  $\Delta E = 0.7 \times 10^{-21}$  gcal,  $\Delta T = 10^{-14}$  °C

$$\Delta t = 2.0 \times 10^{-13} \text{ sec}$$

- Conclusion: it is possible, but will be undetectable for us (too small, too fast, moment not known)

# Conclusions

- All creation stories have a primordial chaos
- *Creatio ex nihilo* is unsatisfactory
- Chaos theology offers a new approach
- God's action in creation: Logos and Spirit in beginning; influencing chaos events in continuing creation
- Can be seen in unitarian fashion
- But is this all? Let us look further at Spirit and Christ

# Spirit and Information, 1

- Bible: 195 refs. in OT, 302 in NT
- 1. Life-giver, 2. Unifier, 3. Revealer, 4. Sanctifier, 5. Advocate.
- Transmitter of information in each case:
  - biological, spiritual, and eschatological life
  - unity and love from God to us
  - God's message in prophecy and scripture
  - sanctity, spirituality
- How does Spirit carry out these activities?

## Spirit and Information, 2

How does Spirit transmit information? Science can help insofar as process takes place in our world.

Pannenberg: Spirit acts as divine field of force (Faraday)  
(depersonalizes Sp.; not physical reality but metaphor)

Loder&Neidhard: Strange Loop model, based on *perichoresis* idea of Gregory of Naz. (no insight in action of Sp.)

Moltmann: gives Sp. near-monopoly in creation, but refers only to life-giving action of Sp. (neglecting 9 billion yrs of creation before life originated)

# Spirit and Information, 3

My metaphor: Spirit acts like cosmic Internet: virtually instantaneous, world-wide transmission of information (text, numerical data, images, voice) in digital form

Life-giving action: like remote activation of apparatus in our home

Unifier: like message posted on Internet leading to concerted action of many people

Prayer: like e-mail message is transmitted to addressee anywhere in the world

# Spirit and Information, 4

Receptivity to Spirit: for wireless connection to Internet  
‘airport card’ in computer must be tuned to phone or cable  
modem to receive and send messages.

Evil spirits assumed in some of Jesus’ healing acts can be  
compared to ‘spam’ entering our computer.

Interaction of spiritual ‘information’ with our mind: triggers  
nerve impulses in neuronal networks in specific areas of  
the brain. Meditation: frontal cortex to limbic system,  
parietal lobe deactivated. Serotonin affects spirituality.

# Spirit and Information, summary

- Information for creation at beginning and at end
- Life-giving to first living cells and throughout evolution, as well as to each of us individually
- Representing God to us after Christ's ascension
- Revealing God's message in prophecy and preaching
- Unifying and sanctifying the Church
- Transmitting our prayers to God
- Spirit makes God permanently immanent in creation

# Problem of evil

In chaos theology:

- Evil emanates from remaining chaos, is abolished on last day (Rev.21:1 - *the sea was no more*)
- Physical evil: chaotic tectonic forces cause earthquakes and eruptions, chaotic atmosphere causes hurricanes, random mutations cause disease.
- Moral evil: due to chaotic thinking. Paul: *I do not understand my own actions. For I do not do what I want, but I do the very thing I hate* (Rom.7:15). Temptation

# Cosmic Christ and reconciliation, 1

- Jn.1:14 Incarnation of Logos in Jesus
- Paul (2Cor.5:19) and John (Jn.3:17): Christ is reconciling the world (Gk. *kosmos*) to God.
- Supported by cosmology: “*we are made of stardust*”  
Early stars produced from H all elements, in supernova explosion ejected into space as cosmic dust, later accreted to form Sun and Earth, all living beings formed from these elements through food chain. Thus humans, incl. Jesus of Nazareth, in union with entire cosmos
- Hence: Jesus’ saving work comprises entire cosmos

## Cosmic Christ and reconciliation, 2

- Through the incarnation Jesus becomes the cosmic Christ
- God's battle with remaining chaos is a cosmic drama, not just a human predicament
- Yet, infirmity of those created in God's image is serious, has even led to the crucifixion
- Jesus died *through*, rather than *for* our sins; reconciliation through *resurrection* rather than through *crucifixion*
- Humans are the only creatures that have to say Yes or No to sharing in Christ's cosmic reconciliation

# Eschatology, 1

- Sharp conflict between science and theology accounts
- Cosmology: in 24 billion yrs complete degradation, in final b.y. galaxies and solar systems break up, in final 30 min stars and planets disintegrate, in final sec molecules and atoms break up and evaporate to cold photon cloud
- In 5 b.y. Sun turns into red giant, touching Earth, 1300 °C, all earthly life ends
- Steven Weinberg: "*The more I understand the universe, the more it seems to me to be pointless.*"

# Eschatology, 2

- Biblical account is hopeful: chaos abolished, new heaven and earth, eternity life after our resurrection
- Before last day catastrophes, drought, starvation, disease, warfare (ecological crisis, conflicts about oil?), but not even the apocalyptic stories predict complete degradation of cosmos.
- When last day?: before irreversible harm has occurred
- Why conflict with cosmological prediction?  
closed universe (no energy/information coming in) vs. open universe

# Eschatology, 3

- Biblical view assumes open universe, open to God
- Christ, the incarnate *Logos*, will provide the energy, Spirit the ‘physical laws’ needed for the new creation [now no delay because present universe is large]
- Not evolutionary, but revolutionary transformation
- Not through our work, but through God’s work
- We are to erect signs through fighting ecological crisis, armed conflicts, injustice
- We need only say Yes to be part of this new world (NDE)

# Conclusions

- Logos and Spirit the two hands of God in creation and eschatology
- Spirit makes God permanently immanent in our world
- Cosmic Christ (incarnate Logos) brings cosmic reconciliation
- The two hands become from parts of God divine Persons
- Transition from Unitarian to Trinitarian view of God

## Further reading

*Creation and Double Chaos*

Fortress Press, Minneapolis, 2005

website:

[www.chaostheologie.nl](http://www.chaostheologie.nl)