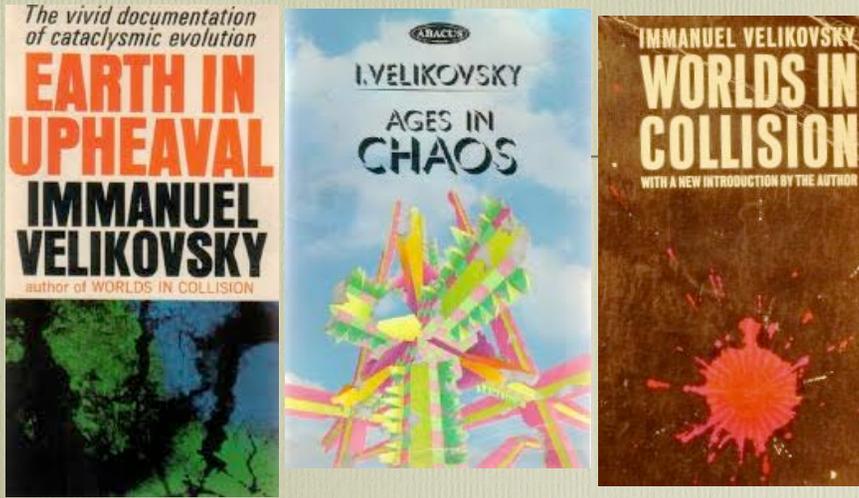
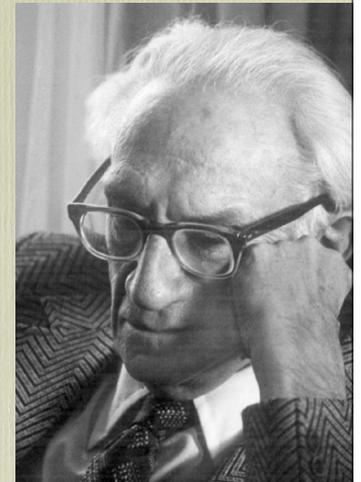


Immanuel Velikovsky: Too Many Ideas....



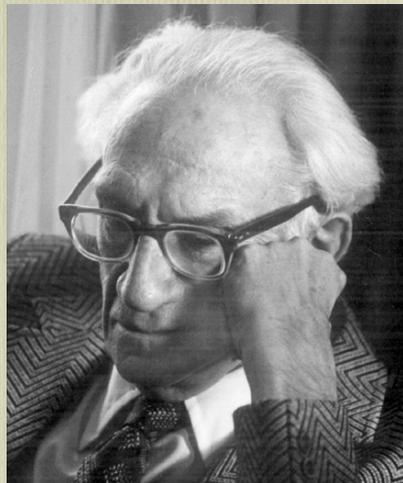
So who was he?

- Born Moscow 1895
- M. D. 1921
- Psychoanalysis Tel Aviv in 30's
- Worlds in Collision (Doubleday 1950)
- Earth In Upheaval (Doubleday 1955)
- Ages in Chaos



So who was he?

- AAAS (American Association for the Advancement of Science) debate with Sagan, Goldsmith, Mulholland (1974)
- Honorary degree (Lethbridge, 1978)
- Died 1985



Basic Thesis

- Basic 'experimental' input is vast array of myths from many cultures. These represent the incomprehensible as seen by primitive man, and hence can be interpreted as historically accurate data.
- Note there is a lot of evidence that even trained observers are incapable of seeing novel phenomena for what they really are.
- Many myths tell the same story: e.g., many peoples tell of magical food falling from the sky.

- Manna that sustained the Israelites,
- Morning dew in the Icelandic Edda
- Honey from the clouds in the Rig-Veda
Hindus,
- Honey from the clouds in the Finnish
- Hera, symbolizing the Earth, was served
ambrosia,
- Maori legends have two magical dews, one
for eating and the light for drinking.

"OH, WE LIKE THE MANNA
OKAY - IT'S JUST THAT
WE'RE A LITTLE TIRED
OF ETHNIC FOOD."



All these seem to be associated in the legends
with times of great upheaval and darkness

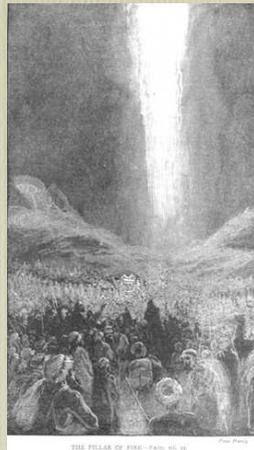
• Velikovsky
extracted the
common
features, and
welded them
into a history
of primeval
disasters.
e.g. Exodus:
10 plagues of
Egypt

1. Nile turned to blood
2. Plague of frogs
3. Plague of Lice
4. Plague of flies
5. Death of Cattle
6. Plague of Boils
7. Plague of hail
8. Plague of locusts
9. Plague of darkness
10. Death of first-born



Followed by

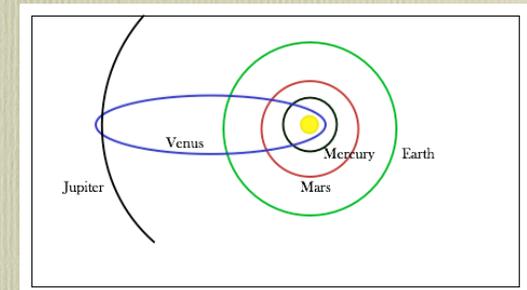
- Parting of Red Sea
- Provision of Manna in the desert
- Pillar of cloud by day,
- a column of fire by night



THE PILLAR OF FIRE - Paris, 18th c.

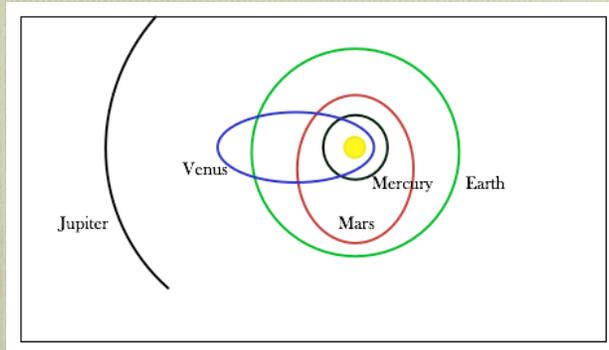
Velikovsky's Model

- 3000 BC: Mars lies
between Earth and Sun,
- Venus ejected from
Jupiter as comet (birth of
Athene from Head of
Jupiter),
- leaves behind great Red
Spot on Jupiter



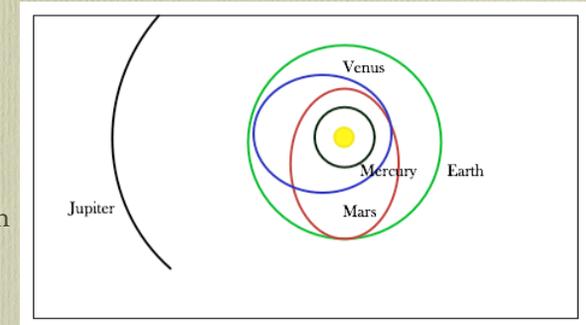
1450-1400 BC

- Venus passes close to earth
- nearly collides with Mars, ejecting it from old orbit (Exodus)



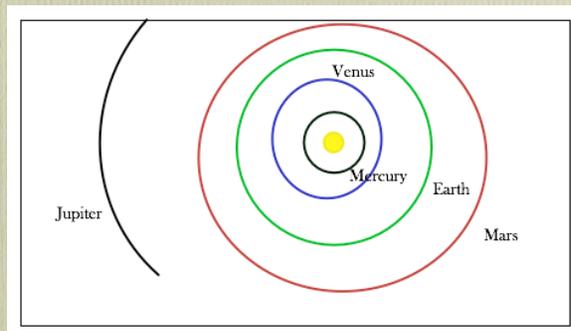
747-687 BC

- Mars and Venus in elliptical orbits,
- Mars almost collides with Earth
- Stops rotation of Earth temporarily
- (Battle of Jericho)



687 BC

- Final near collision:
- Mars settles into current orbit



Analysis: the Biblical story of Exodus.

- First entry into comet's tail: ferric dust precipitated, poisons rivers,
- Babylonians pour
- (Nile)
- Warn



- Interaction with Venus caused earth's axis to be stopped and permanently shifted:
- Iran saw a 3-fold day and 3-fold night,
- Chinese legends speak of a holocaust during which the sun does not set for several days and the land was aflame
- Plague of darkness
- Meteorites from cometary core:
- Annals of Cuauhtitlan “sky rained, not water, but fire and red-hot stones”
- Death of first-born

- Earthquakes triggered by Venus first drain Red Sea and then trigger tsunamis, which drown Egyptians

- Parting of Red Sea



- Hydrocarbons from comets tail are turned into carbohydrates by bacterial action, allows survival of the Israelites in the desert (Manna)
- Earthquakes and volcanoes triggered by Venus → volcanic explosions and earthquakes

Pillar of cloud by day, a column of fire by night

- Eruption of Mt. Thera of Minoan civilization on Crete (1600 B.C. away).

- First explosion on scale ash over the eastern Mediterranean

- Image courtesy
NASA/GSFC/
METI/ERSDAC/
JAROS and U.S./
Japan ASTER
Science Team



- Atlantis legend: a land of great natural wealth and advanced civilization that sank beneath the waves in a single day and night of misfortune.
- Plato gave Atlantis dimensions of 200 kilometres by 400; pre-eruption Santorini was about 20 x 40.
- Huge cloud of dust from Santorini had worldwide effects, extending as far as China,
- beginning of the Shang dynasty also dates from ~1620 B.C.

- But Velikovsky predicts much more:

- Hard to escape the conclusion that, if we are to judge a scientific theory by its results, conventional astronomy is marginally worse.

Prediction	Velikovsky	Astronomy	Observation	V	A
Temperature of Venus	Hot	Same as Earth	800°C	1	0
Cooling of Venus	Still cooling	Static	Prob. static	0	0.5
Clouds of Venus	Hydrocarbons	Not known	Sulphuric acid	0	0
Atmosphere of Venus	Very thick	Earthlike	50 atmos.	1	0
Craters on moon	Formed in 1450 B.C.	Prehistoric meteors	3 billion years old	0	1
Radioactivity on moon	Strong	None	Little	0	1
Magnetism on moon	Large	None	Evidence in rocks	1	0
Jupiter's temperature	Hot	Cold	Clouds cold, Core Hot	0.5	0.5
Radio waves from Jupiter	Yes	Never thought of it!	Seen 1958	1	0
Jupiter's atmosphere	Chlorine and sulphur	?	Both present	0.5	0
Magnetic reversal	850 B.C.	No recent ones	Maybe in pottery	0	0.5
Martian atmosphere	Argon/ neon	Nitrogen, oxygen	Carbon dioxide	0	0
Total				5	3.5

- Astronomers at Harvard suppressed the publication of Worlds in Collision, by forcing Macmillan's to reject the book, with the threat that no more academic textbooks would be sent to them for publication.
- “Frankly,..... the publication must cut me off from the Macmillan Company”
- Howard Shapley, Director Harvard Observatory (Jan 1950)
- Rights transferred to Doubleday
- “Several attempts have been made to link such a move to stop the book’s publication to ..the Harvard Observatory. This idea is utterly false.”
- Howard Shapley (Sept 1950)
- “This was not only immoral, but a blunder.” Isaac Asimov.

Then why are Velikovsky's ideas unacceptable?

- The short answer is that his solar system doesn't conserve energy, or momentum or angular momentum.
- E.g stopping the Earth’s rotation would cause temp everywhere to rise by 50°C (don’t think you’d be fighting the Battle of Jericho, but the walls would definitely tumble down!)
- But he was the first person to link Mt Thera to Exodus!