

Islam and science.
3: Outline of alternatives

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Recap

Math

Physics

Summary of
alternatives

Outline

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Summary of alternatives

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Recap

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Summary of
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Recap

- ▶ We saw that church dogma has penetrated current math and science.

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Recap

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Summary of
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Recap

- ▶ We saw that church dogma has penetrated current math and science.
- ▶ And the authority of science is then used to attack Islam.

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Recap

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Summary of
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Recap

- ▶ We saw that church dogma has penetrated current math and science.
- ▶ And the authority of science is then used to attack Islam.
- ▶ The solution is to change math and science, and get rid of the church dogma in them.

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Summary of alternatives

Recap

- ▶ We saw that church dogma has penetrated current math and science.
- ▶ And the authority of science is then used to attack Islam.
- ▶ The solution is to change math and science, and get rid of the church dogma in them.
- ▶ **How** to do it?

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Recap

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Summary of
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- ▶ Step 1. Reject current Western philosophy of math, called formalism

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- ▶ rooted in dogmas of church rational theology.

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Summary of
alternatives

- ▶ Step 1. Reject current Western philosophy of math, called formalism
- ▶ rooted in dogmas of church rational theology.
- ▶ Step 2. Recognize that the practical applications of math to science ALL relate to calculation.

Recap

Math

Physics

Summary of
alternatives

- ▶ Step 1. Reject current Western philosophy of math, called formalism
- ▶ rooted in dogmas of church rational theology.
- ▶ Step 2. Recognize that the practical applications of math to science ALL relate to calculation.
- ▶ Step 3. Switch to the new philosophy of math called zeroism.

Recap

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Physics

Summary of
alternatives

- ▶ Zeroism similar to the way math developed in India and elsewhere.

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Physics

Summary of
alternatives

- ▶ Zeroism similar to the way math developed in India and elsewhere.
- ▶ Accepts empirical proofs and imperfections in math.

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Summary of
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- ▶ Zeroism similar to the way math developed in India and elsewhere.
- ▶ Accepts empirical proofs and imperfections in math.
- ▶ Zeroism a realistic philosophy which rejects idealism as **erroneous**,

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Math

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Summary of
alternatives

- ▶ Zeroism similar to the way math developed in India and elsewhere.
- ▶ Accepts empirical proofs and imperfections in math.
- ▶ Zeroism a realistic philosophy which rejects idealism as **erroneous**,
- ▶ hence also the metaphysics of eternal truth in math as **inferior**.

Recap

Math

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Summary of
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Consequences

- ▶ Makes math easy: whole course on calculus can be taught in 5 days.

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Summary of
alternatives

Consequences

- ▶ Makes math easy: whole course on calculus can be taught in 5 days.
- ▶ This has been demonstrated with 8 groups in 5 universities across 3 countries.

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Summary of
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Consequences

- ▶ Makes math easy: whole course on calculus can be taught in 5 days.
- ▶ This has been demonstrated with 8 groups in 5 universities across 3 countries.
- ▶ and reported (in ISI journals!) E.g.
<http://www.scienceandculture-isna.org/July-aug-2011/03%20C%20K%20Raju.pdf>,
<http://www.scienceandculture-isna.org/July-aug-2011/04%20C%20K%20Raju2.pdf>, also
arxiv:1312.2099, and 1319.2100.

Central University of Tibetan Studies
Sarag, Nepal
Workshop on "Calculus without Limits"
22nd - 28th September, 2009
By Prof. David Hestenes, UCR





نشست علمی "ریاضیات از منظری دیگر"، پروفیسور سی.کی. راجو
مرکز مطالعات و همکاری‌های علمی بین‌المللی، تهران، ۱۳۹۱



This ~~is~~ ^{is} perfect by
applicable here:

विद्या ददाती विनयं, विनयं ददाती पात्रताम् ।
पात्रता ददाती धनम् ॥

-Aulit-

For making me
believe in myself
and letting me know
that marks do not define
me. To the best teacher I
found in my life, thank you!
with love,
Sakshi ☺
Teacher.

सुखम् ॥

RUCHI

It was my
great pleasure
to share one
roof with you! I
am honored ☺
You rock sir! Keep
going! The space is
so small to express...
but in a word
THANKU ☺☺
Thank you sir for
encouraging me to
prove Western neoliberalism

Wrong. I will one day
prove them wrong
successfully and look
towards making a new
economic //

Antarix

- ▶ From the current perspective on Islam and science, what difference does it make?

Recap

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Summary of
alternatives

- ▶ From the current perspective on Islam and science, what difference does it make?
- ▶ Zeroism permits the use of floating point numbers used for all applications of calculus involving computers.

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Math

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Summary of
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- ▶ From the current perspective on Islam and science, what difference does it make?
- ▶ Zeroism permits the use of floating point numbers used for all applications of calculus involving computers.
- ▶ Shows that Western formal math not needed for any practical applications. We can safely dispense with it.

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alternatives

- ▶ From the current perspective on Islam and science, what difference does it make?
- ▶ Zeroism permits the use of floating point numbers used for all applications of calculus involving computers.
- ▶ Shows that Western formal math not needed for any practical applications. We can safely dispense with it.
- ▶ Discrete number system agrees with the thinking of al Ashari.

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Summary of
alternatives

Subtler consequences

- ▶ This also resolves various problems about infinity

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Summary of
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Subtler consequences

- ▶ This also resolves various problems about infinity
- ▶ such as those in Hawking singularities

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Recap

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Subtler consequences

- ▶ This also resolves various problems about infinity
- ▶ such as those in Hawking singularities
- ▶ or relativistic (and non-relativistic) shock waves.

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Recap

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Physics

Summary of
alternatives

Subtler consequences

- ▶ This also resolves various problems about infinity
- ▶ such as those in Hawking singularities
- ▶ or relativistic (and non-relativistic) shock waves.
- ▶ But won't go into those issues here: see my MIT abstract.

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Summary of
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- ▶ So, we can have an easy math

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Recap

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Physics

Summary of
alternatives

- ▶ So, we can have an easy math
- ▶ and a math which works better for all practical applications

Recap

Math

Physics

Summary of
alternatives

- ▶ So, we can have an easy math
- ▶ and a math which works better for all practical applications
- ▶ just by rejecting Western metaphysics.

Recap

Math

Physics

Summary of
alternatives

- ▶ So, we can have an easy math
- ▶ and a math which works better for all practical applications
- ▶ just by rejecting Western metaphysics.
- ▶ And this math also agrees with Islamic thought (about empirical proof and discrete numbers).

Recap

Math

Physics

Summary of
alternatives

- ▶ So, we can have an easy math
- ▶ and a math which works better for all practical applications
- ▶ just by rejecting Western metaphysics.
- ▶ And this math also agrees with Islamic thought (about empirical proof and discrete numbers).
- ▶ You decide what you want: Western oppression or liberation from it.

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Physics

Summary of
alternatives

- ▶ I mentioned earlier that Newtonian physics failed

Recap

Math

Physics

Summary of
alternatives

- ▶ I mentioned earlier that Newtonian physics failed
- ▶ because Newton's conceptual mistake about calculus led to a conceptual mistake about time,

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Math

Physics

Summary of
alternatives

- ▶ I mentioned earlier that Newtonian physics failed
- ▶ because Newton's conceptual mistake about calculus led to a conceptual mistake about time,
- ▶ and that led to the failure of his physics.

Recap

Math

Physics

Summary of
alternatives

- ▶ I mentioned earlier that Newtonian physics failed
- ▶ because Newton's conceptual mistake about calculus led to a conceptual mistake about time,
- ▶ and that led to the failure of his physics.
- ▶ Correcting Newton's error about time led to the theory of relativity a century ago.

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Physics

Summary of
alternatives

- ▶ The theory is wrongly attributed to Einstein

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Physics

Summary of
alternatives

- ▶ The theory is wrongly attributed to Einstein
- ▶ who never understood a key aspect of the theory:

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Math

Physics

Summary of
alternatives

- ▶ The theory is wrongly attributed to Einstein
- ▶ who never understood a key aspect of the theory:
- ▶ that it **must** use functional differential equations (FDEs) not ordinary differential equations (ODEs).

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Summary of
alternatives

- ▶ What difference does that make?

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Summary of
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- ▶ What difference does that make?
- ▶ If Newtonian gravitation is reformulated

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- ▶ If Newtonian gravitation is reformulated
- ▶ as I have done in my “Retarded gravitation theory”

Recap

Math

Physics

Summary of
alternatives

- ▶ What difference does that make?
- ▶ If Newtonian gravitation is reformulated
- ▶ as I have done in my “Retarded gravitation theory”
- ▶ Then that explains the huge failure of Newtonian gravitation for the galaxy

Recap

Math

Physics

Summary of
alternatives

- ▶ What difference does that make?
- ▶ If Newtonian gravitation is reformulated
- ▶ as I have done in my “Retarded gravitation theory”
- ▶ Then that explains the huge failure of Newtonian gravitation for the galaxy
- ▶ and the tiny NASA flyby anomaly

Recap

Math

Physics

Summary of
alternatives

- ▶ What difference does that make?
- ▶ If Newtonian gravitation is reformulated
- ▶ as I have done in my “Retarded gravitation theory”
- ▶ Then that explains the huge failure of Newtonian gravitation for the galaxy
- ▶ and the tiny NASA flyby anomaly
- ▶ as also the tiny anomalous perihelion shift of Mercury.

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Summary of
alternatives

- ▶ Many other issues related to physics

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Recap

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Physics

Summary of
alternatives

- ▶ Many other issues related to physics
- ▶ such as runaway solutions in electrodynamics are also resolved.

Recap

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Physics

Summary of
alternatives

- ▶ Many other issues related to physics
- ▶ such as runaway solutions in electrodynamics are also resolved.
- ▶ See ongoing series of pedagogical articles on FDEs in Physics Education,

Recap

Math

Physics

Summary of
alternatives

- ▶ Many other issues related to physics
- ▶ such as runaway solutions in electrodynamics are also resolved.
- ▶ See ongoing series of pedagogical articles on FDEs in Physics Education,
- ▶ or see list posted at <http://ckraju.net/papers/Reading-list-Bengaluru.html>

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Summary of
alternatives

- ▶ What difference does it make in the present context of Islam and science.

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Summary of
alternatives

- ▶ What difference does it make in the present context of Islam and science.
- ▶ Recall the point that the word “causality” has multiple meanings which are diametrically opposite.

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- ▶ Recall the point that the word “causality” has multiple meanings which are diametrically opposite.
- ▶ When we say a thief is the **cause** of a theft we assert that the theft was NOT a mechanical consequence of the past.

Recap

Math

Physics

Summary of
alternatives

- ▶ What difference does it make in the present context of Islam and science.
- ▶ Recall the point that the word “causality” has multiple meanings which are diametrically opposite.
- ▶ When we say a thief is the **cause** of a theft we assert that the theft was NOT a mechanical consequence of the past.
- ▶ Using a word with two opposite meanings can be used to derive any conclusion whatsoever.

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Physics

Summary of
alternatives

- ▶ Current physics does not discriminate between living and non-living

Recap

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Physics

Summary of
alternatives

- ▶ Current physics does not discriminate between living and non-living
- ▶ so it must apply equally to living organisms.

Recap

Math

Physics

Summary of
alternatives

- ▶ Current physics does not discriminate between living and non-living
- ▶ so it must apply equally to living organisms.
- ▶ But how to account for mundane human creativity?

Recap

Math

Physics

Summary of
alternatives

- ▶ Recall also the other principle of “causality”

Recap

Math

Physics

Summary of
alternatives

- ▶ Recall also the other principle of “causality”
- ▶ used in Western propaganda against Islam.

Recap

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Physics

Summary of
alternatives

- ▶ Recall also the other principle of “causality”
- ▶ used in Western propaganda against Islam.
- ▶ Al Ghazali rejected causality to assert creativity.

Recap

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Physics

Summary of
alternatives

- ▶ Recall also the other principle of “causality”
- ▶ used in Western propaganda against Islam.
- ▶ Al Ghazali rejected causality to assert creativity.
- ▶ He was a sufi who thought human creativity was a manifestation of divine creativity.

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Summary of
alternatives

- ▶ This relation between rejection of causality

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Summary of
alternatives

- ▶ This relation between rejection of causality
- ▶ and acceptance of creativity

Recap

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Summary of
alternatives

- ▶ This relation between rejection of causality
- ▶ and acceptance of creativity
- ▶ is exactly what is brought out by the new physics.

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Summary of
alternatives

- ▶ Difficult to explain since numerous prominent Westerners (Popper, Feynman etc.)

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Summary of
alternatives

- ▶ Difficult to explain since numerous prominent Westerners (Popper, Feynman etc.)
- ▶ have tripped on this question due to their Western biases.

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Summary of
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- ▶ Difficult to explain since numerous prominent Westerners (Popper, Feynman etc.)
- ▶ have tripped on this question due to their Western biases.
- ▶ Rejecting causality leads to mixed-type FDEs.

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Summary of
alternatives

- ▶ Difficult to explain since numerous prominent Westerners (Popper, Feynman etc.)
- ▶ have tripped on this question due to their Western biases.
- ▶ Rejecting causality leads to mixed-type FDEs.
- ▶ This is a model in which the future is conditioned by the past, but not determined by it.

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Summary of
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- ▶ This theory described also in my books *Time: Towards a Consistent Theory*, Kluwer, 1994,

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- ▶ This theory described also in my books *Time: Towards a Consistent Theory*, Kluwer, 1994,
- ▶ and *Eleven Pictures of Time*, Sage, 2003,

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- ▶ This theory described also in my books *Time: Towards a Consistent Theory*, Kluwer, 1994,
- ▶ and *Eleven Pictures of Time*, Sage, 2003,
- ▶ together with the related ethics.

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Summary of
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Summary

- ▶ There is already a decolonised alternative

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Summary of
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Summary

- ▶ There is already a decolonised alternative
- ▶ to both Western math and science.

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Recap

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Summary of
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Summary

- ▶ There is already a decolonised alternative
- ▶ to both Western math and science.
- ▶ Adopting it eliminates the existing conflict between Islam and science.

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