



THE ROLE OF TECHNOLOGY IN HUMAN EVOLUTION

Exploring The Western Path



Toronto

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4/29/2016

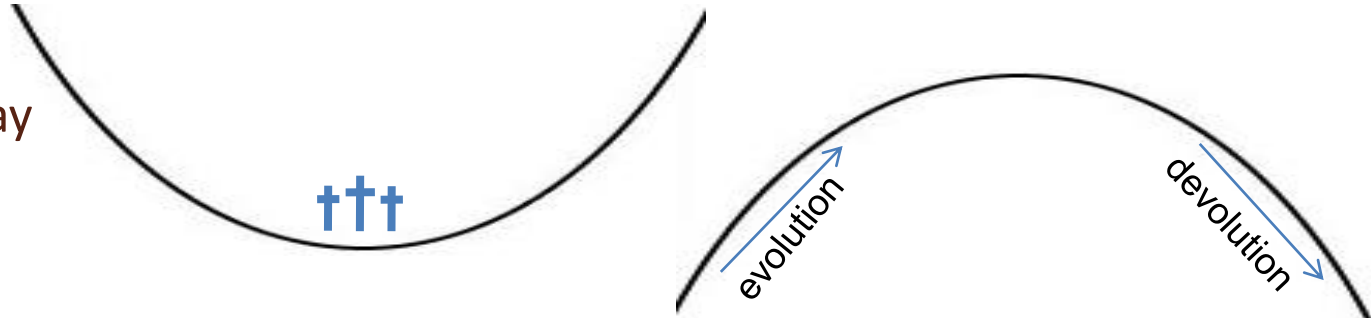
[Technology in Human Evolution](#)

3 DAY OUTLINE

- Cosmic
 - Tonight



- Earthly
 - Friday



Freedom

- Current: 5th Post Atlantean Cultural Age (PACA)
 - Workshop Saturday



SCHEDULE

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April 28, 2016 Lecture 1

- 19:30 – 21:00 Merging with Machines – The Path to Jupiter?

April 29, 2016 Lecture 2

- 19:00 – 21:00 Sexuality and Technology – Preparations for the Remaining Post-Atlantean Ages

April 30, 2016 Workshop

- 09:30-10:00 Registration, social time, tea/coffee
- 10:00-11:30 Sexbots; Hephaestus; preparations for our time
- 11:30-12:30 Experiencing Rhythm Through Eurythmy: In Tune With Sound, Soul, And Creating
- 12:30-01:30 Lunch (BYO) together
- 01:30-03:00 Electricity & evil, EMR, sensitivity & safety, resonance, rhythms, robotics, and life
- 03:00-03:30 Break tea/coffee
- 03:30-04:00 Eurythmy exercises and tools for balancing technical work
- 04:00-05:00 Artificial intelligence, artificial soul; consciousness soul development, a path to “future Jupiter” and concluding remarks



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PROMO: MORAL TECHNOLOGIES

- 11 to 14 April 2016, Melbourne, AU
- What do artificial intelligence, nanotechnology, and the Singularity mean for human development?
 - Is humanity prepared for Artificial Intelligence? Are you?
- Four days with [Nicanor Perlas](#) and other seekers investigating what moral technology means
 - Explore your relationship to technology and its role in society
 - Share with others on a journey of understanding
 - Investigate the forces needed to meet the opportunities and challenges of contemporary technology
- Videos available on [YouTube](#) and on [Facebook](#)

K-8 WALDORF EDUCATION

- e.g. [Forest Kindergarten](#)
 - Connects children with nature
 - An innovative learning experience
 - 3 to 6 years old spend 3 hours a day outside year round
- Rhythms, imagination, art, nature, will, responsibility
- Goal: no TV, no adult technology
 - But what about after grade 8?
 - What about electricity?
- Reflect on Anthroposophy?
 - Anthroposophists?





CHALLENGES AND PERSPECTIVES

Do Anthroposophists

- Think that technology is dehumanizing?
- Believe electricity brings evil into our lives?
- Avoid the use of technology?
- Steer their kids away from careers in technology?
- Expect technology will hasten the War of All Against All

“It is an indispensable condition of initiation that we should not wish things were otherwise.”

-- R. Steiner

WHAT IS YOUR PICTURE OF THE FUTURE (2050 →)





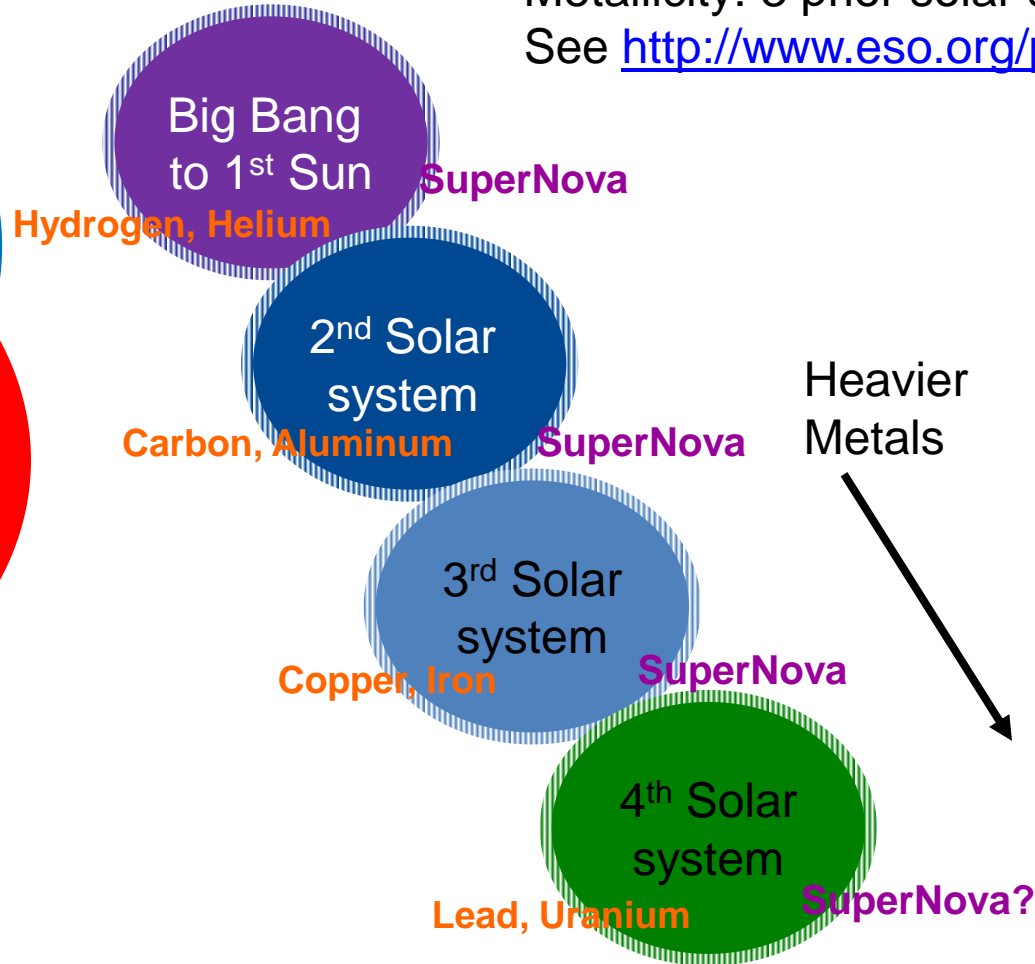
NO GOING BACK – FORWARD ONLY

- “Man had to **get away from old rhythm**; his progress depends on this
- When certain prophets go around today preaching ‘**Back to Nature**’, they want to bring life into reverse instead of helping it forward
 - All this chatter about returning to nature contains no understanding **of real evolution**
 - When a movement today recommends people to eat certain foods **only at certain times of the year** because nature herself indicates this by making foods grow only at certain times, this is the abstract talk of an amateur
- The essential thing about evolution is that man grows more and more **independent of outer rhythm**
 - But we must not lose **the ground from under our feet**
 - It is **not the best thing for man's progress and salvation to return to the old rhythm** and ask himself how he should live in harmony with the four quarters of the moon
 - For it was essential in olden times for man to be like an impress of the cosmos, but it is important too that **man should not believe he can live without rhythm**”

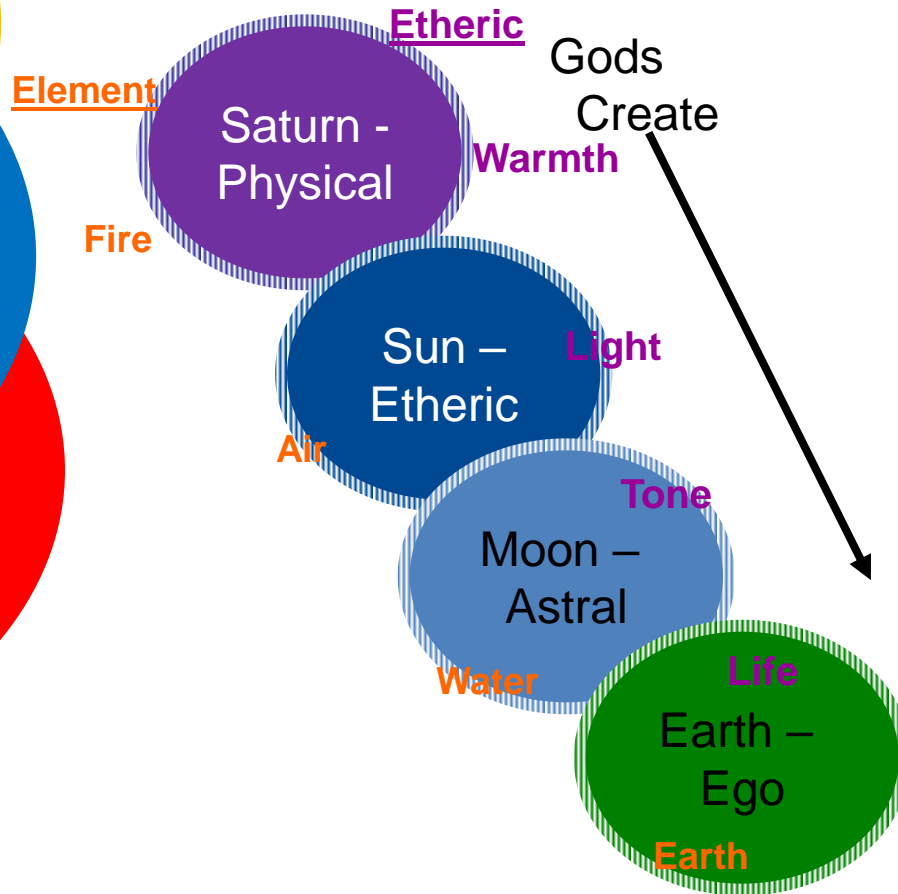
R. Steiner, *The Being of Man and His Future Evolution*, Lecture 5, 12Jan1909, GA 107

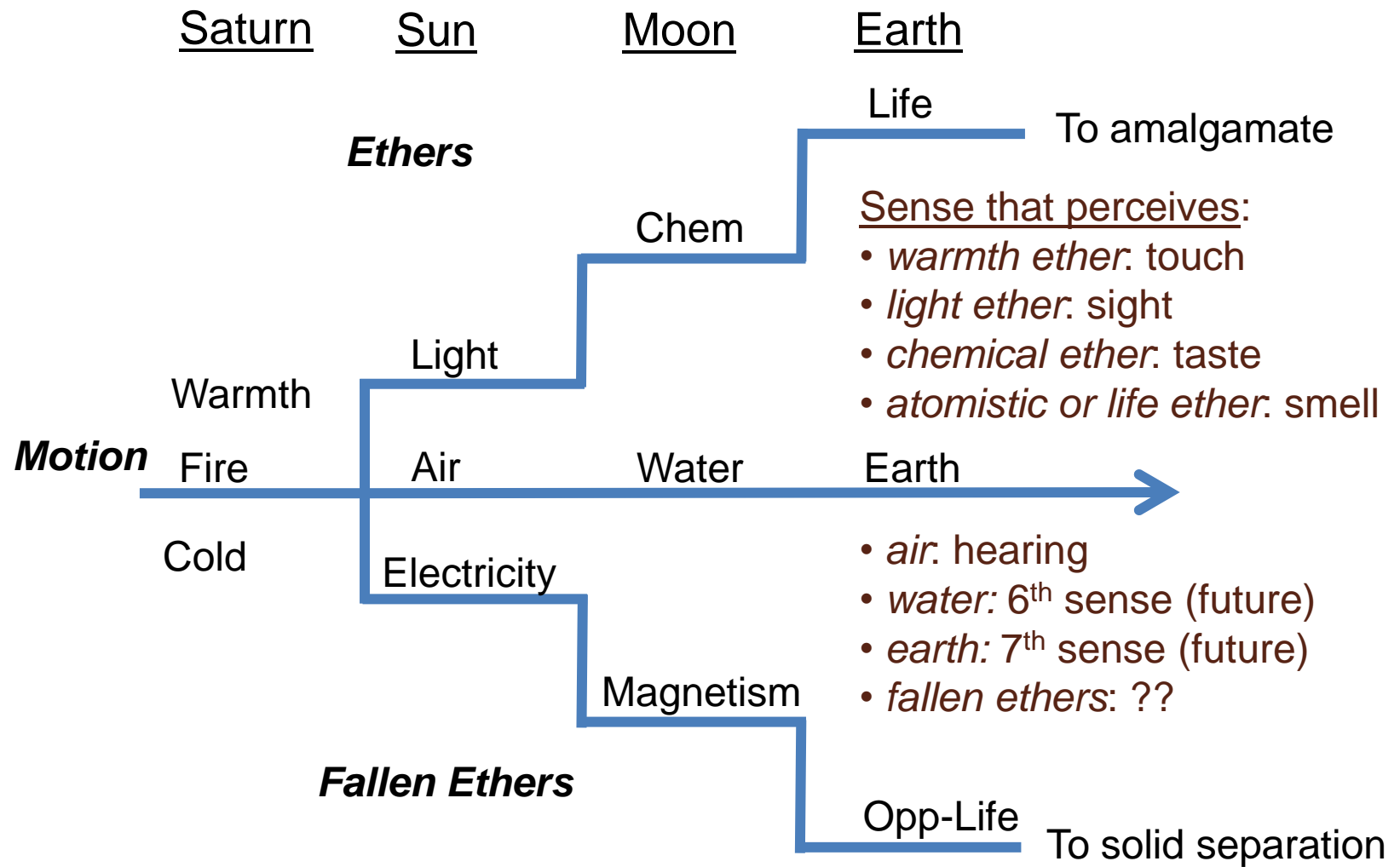
STELLAR EVOLUTION & METALLICITY

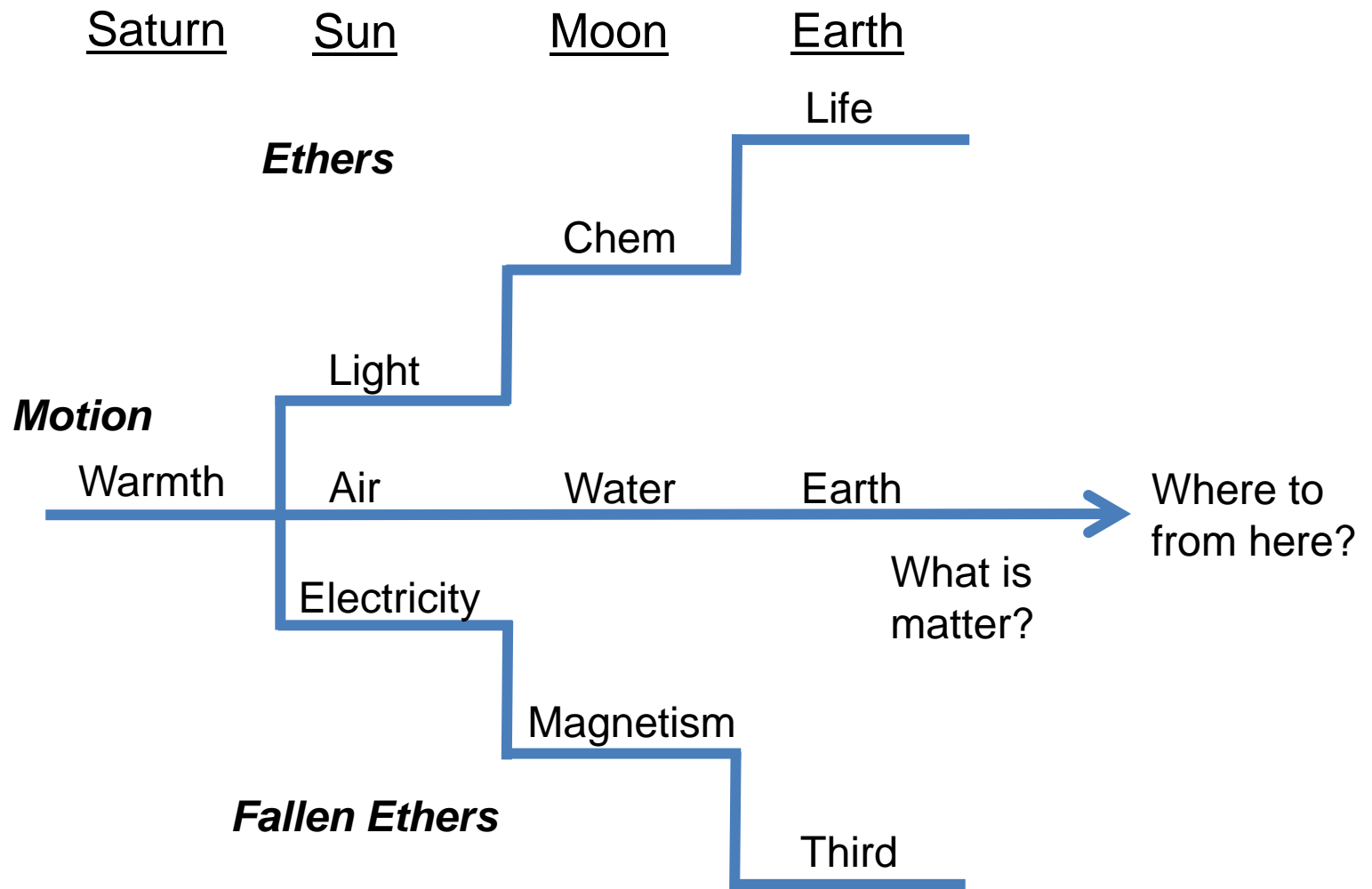
Metallicity: 3 prior solar systems to have heavy metals.
See <http://www.eso.org/public/usa/news/eso0129/>



FIRST 4 STAGES OF HUMAN CONDITION







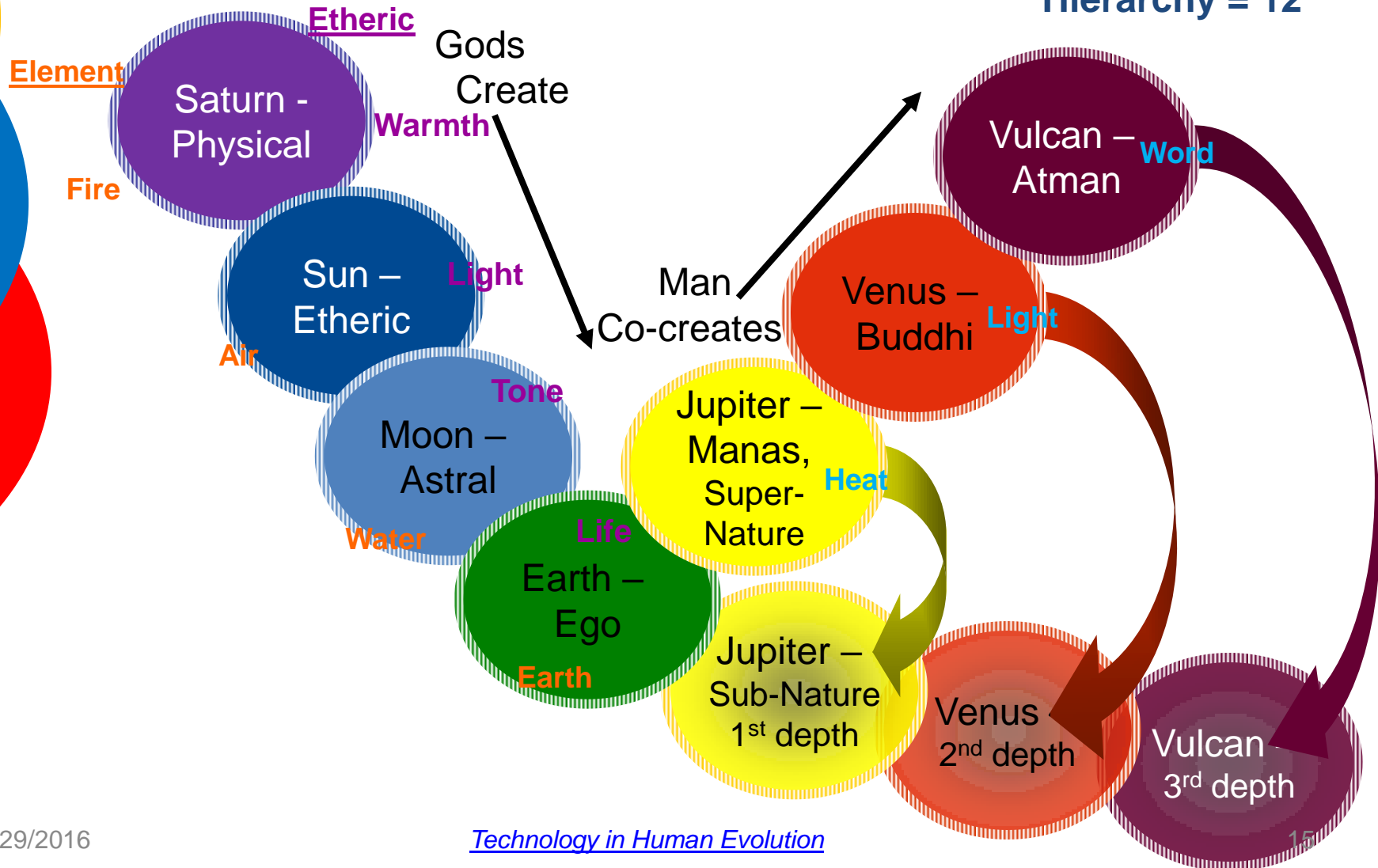


OUR SERVICE TO THE SPIRITUAL WORLD

- “We are born into this physical world because here on this earth there are things to be learned, things to be experienced, which **cannot** be experienced in the spiritual worlds.
- But in order to experience these things **we must descend** into this physical world, and from this world **we must carry up** into the spiritual worlds the results of this experience.
- In order to attain that, however, we must really **plunge down** into this physical world; our very spirit in its quest for knowledge **must dive down** into this physical world. ***For the sake of the spiritual world, we must immerse ourselves in this physical world.***
- – R. Steiner, *The Mysteries of Light, of Space, and of the Earth*, 12Dec1919, GA 194

7 STAGES OF HUMAN CONDITION

Hierarchy = 12





OUR DEBTS AND OUR DEBTORS

- During the second half of the prior planetary condition called Old Moon, when the angels were at the human stage, we entered their field of activity and became quite a nuisance to them.
- Some of them did not complete their goal - were we in part to blame? Is this what is meant by "forgive us our debt"?
- And now, in the second half of Earth evolution, those who will be human on Jupiter are being pushed up from below, through Ahriman's realm - so they come with an Ahrimanic "flavor", and they are becoming a nuisance for us?
- "As we forgive our debtors" is now understood. As those angels love us, so shall we love those who will be human next.

THE CHANGING OF THE GUARD

- Spirits of Form led until 15th Century
- Now Spirits of Personality begin to ascend to Exusiai level
- They do not intercede but wait for us to rise to them
- Michael?





PREPARING FOR JUPITER

- Today man works upon his soul; in this way he makes his body more and more like the soul
 - When the earth has arrived at the end of its mission, his body will have become an outward image of the soul which has taken Christ into itself
 - Such a man will survive and implant in the next embodiment of our earth the forces he has thus developed
- Jupiter will have an appearance such **as men are able to bring** about by constructing it out of their own bodies
 - This Jupiter will, to begin with, receive its form from that which man has made for himself
 - Imagine that all the bodies you have fashioned are united in a single cosmic globe; that will be Jupiter
- **In your soul** you have the **germs of the future form** of Jupiter, and of the forces it will contain
 - And out of Jupiter will be born the Jupiter beings
 - Incomplete Earth-Humans will use early stages of Jupiter
- Thus **man is now preparing for the birth of the Jupiter bodies**
 - R. S. *Apocalypse of John*, lecture 9



When the evolution of the earth comes to an end, all mineral substances will turn to dust and dissolve in the cosmos. Only what pertains to the plant, animal and human world will pass over to the Jupiter existence. – R. Steiner, *Elemental World and the Future of Mankind*, Dornach, 28May1922, GA 212



ON THE WAY TO JUPITER

[Through liberating Lucifer] “We prophetically anticipate what will come to us as our own possession only during Jupiter.” – R. Steiner, *Esoteric Studies: Cosmic Ego and Human Ego*, Munich, 9Jan1912, GA 130



CONSCIOUS LIFE ON JUPITER

- The pain and pleasure of this soul will arise in pictures before you
- The pictures of the pain of the other soul will distress you
 - If you do not remove the other's pain, it will be impossible for you to feel happy
- The pictures of sorrow and suffering would torment the Jupiter-man with his exalted consciousness if he were to do nothing to alleviate this sorrow and thus at the same time remove his own distressing pictures which are nothing but the expression of the sorrow around him!
- It will not be possible for one to feel pleasure or pain without others also feeling it
 - Source: R. Steiner, *Apocalypse of John*: Lecture XII, GA104

SEVEN EPOCHS OF EARTH

1. Polarian
2. Hyperborean
3. Lemurian
4. Atlantean ← What did we look here?

5. Post-Atlantean Cultural Age (PACA)

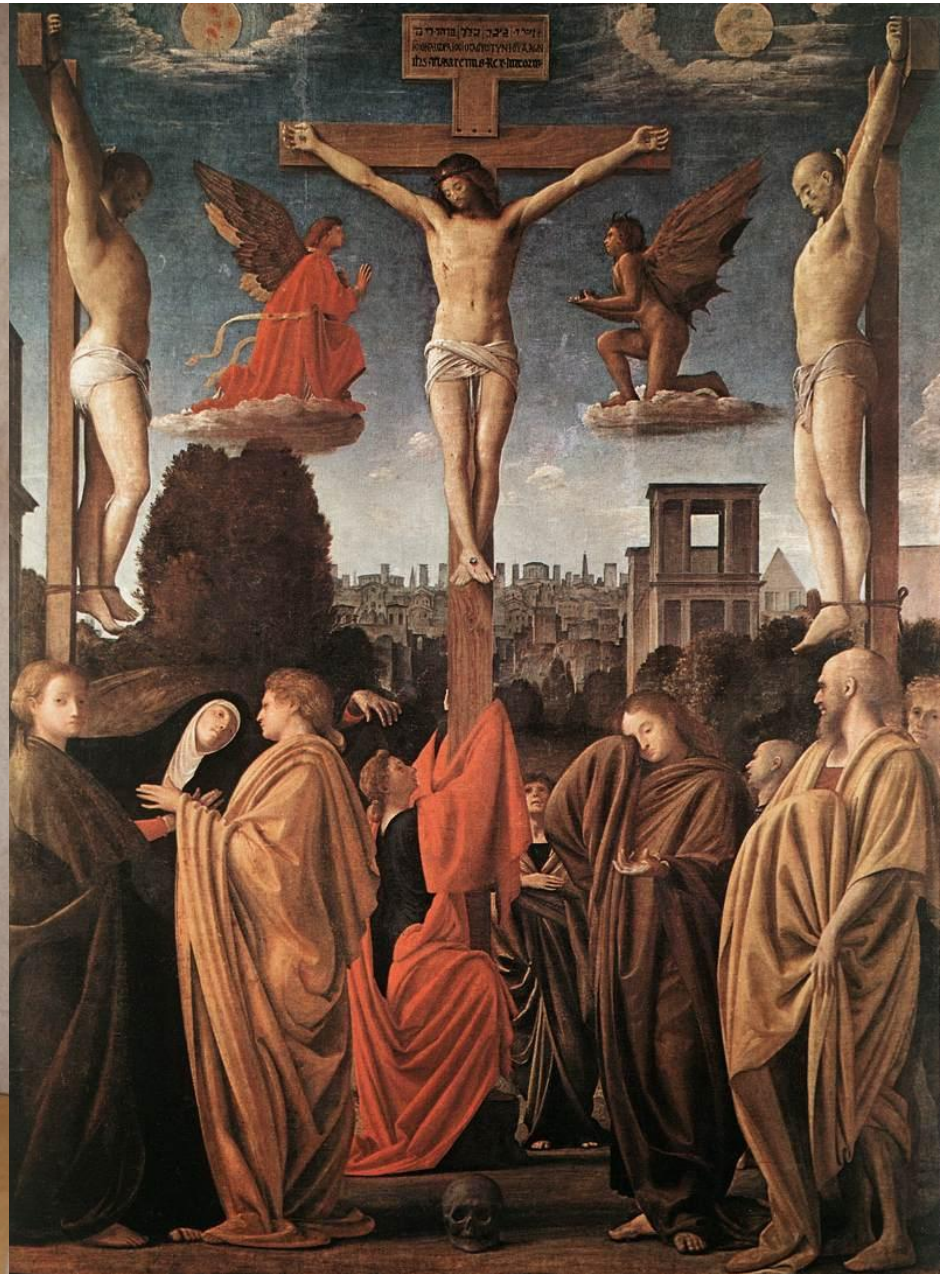
- | | |
|----------------|-----------------------------|
| 1. Indian | 5. 5 th ← Now |
| 2. Persian | 6. 6 th Russian |
| 3. Egyptian | 7. 7 th American |
| 4. Greek/Roman | |

6. Sixth Epoch ← What will we look like here?

7. Seventh Epoch



As awakeners of ancient memories, festivals turn our thoughts and feelings to the past. Through what they signify they awaken in us thoughts that link us to all that our souls held **holy in distant ages**. But other thoughts also are roused through the understanding of the content of these festivals, thoughts which turn our eyes to the **future** of mankind, which, for us, means the future of our own souls. Feelings are awakened which lend us the **enthusiasm** to live on into the future, and inspire our **wills** with **strength** so to work that we may *grow ever more and more adequate for our future tasks*.



GRASPING LUCIFER AND AHRIMAN



- **Order** was established between **Calculable** and **Incalculable**
- **Between birth & death**, Man has the **Calculable** ready-laid for his body
 - Groundwork needed to unfold the free Incalculable of his inner, spiritual soul-life
- **Between death and new birth**: exist in the **Incalculable**, ponder the Calculable
 - Thereby — out of this Calculable — one becomes the architect of their next earth-life
- **Lucifer** can combine with his own form of being **nothing calculable**
 - His ideal: a cosmic unconditioned action of intelligence and will
 - Role: freedom where it should rightly rule events
 - Without his aid, freedom would never make its way into Man's spiritual and soul life
- **Ahriman** stands as complete opposite the divine spirit-beings
 - Ahriman: cold **Hate of everything expanding in freedom**
 - Ahriman's aim and endeavour is to **make the cosmos a machine**
 - His ideals: Measure, Number and Weight
- **Michael** intervenes: stands in the Incalculable dressing the **balance** between the Incalculable and the Calculable that he bears within him as a World-thought received from his Gods
 - These Gods are at present purely spiritual beings who bear within themselves perfectly free intelligence and perfectly free will
 - They create, in their free intelligence and will, a wise insight into the necessity of the Calculable
 - They are united in Love and this Love streams from them throughout all the universe
- He who comprehends the world as **everywhere Spirit-in-body**, he alone really comprehends it

- Source: *Michael Mystery*, lecture XV, GA026



QUESTIONS TO HELP UNDERSTAND OUR FUTURE

- Who gave us pain and suffering? *Good spirits, counter Lucifer*
- Who gave us karma? *Good spirits, rectify Ahriman*
- What is the point of Earthly gravity? *Upright Freedom*

Goethe: “There is no past that we can bring back by longing for it. There is only an eternally new that builds and creates itself out of the best as the past withdraws.”



PREPARATION FOR AHRIMAN'S INCARNATION

“It is essential for the favorable effect of what Ahriman will bring to humanity —he will bring beneficial gifts too, just as Lucifer did— that we take the right attitude. The all important thing is that we do not sleep through Ahriman's arrival and fail to perceive it.”

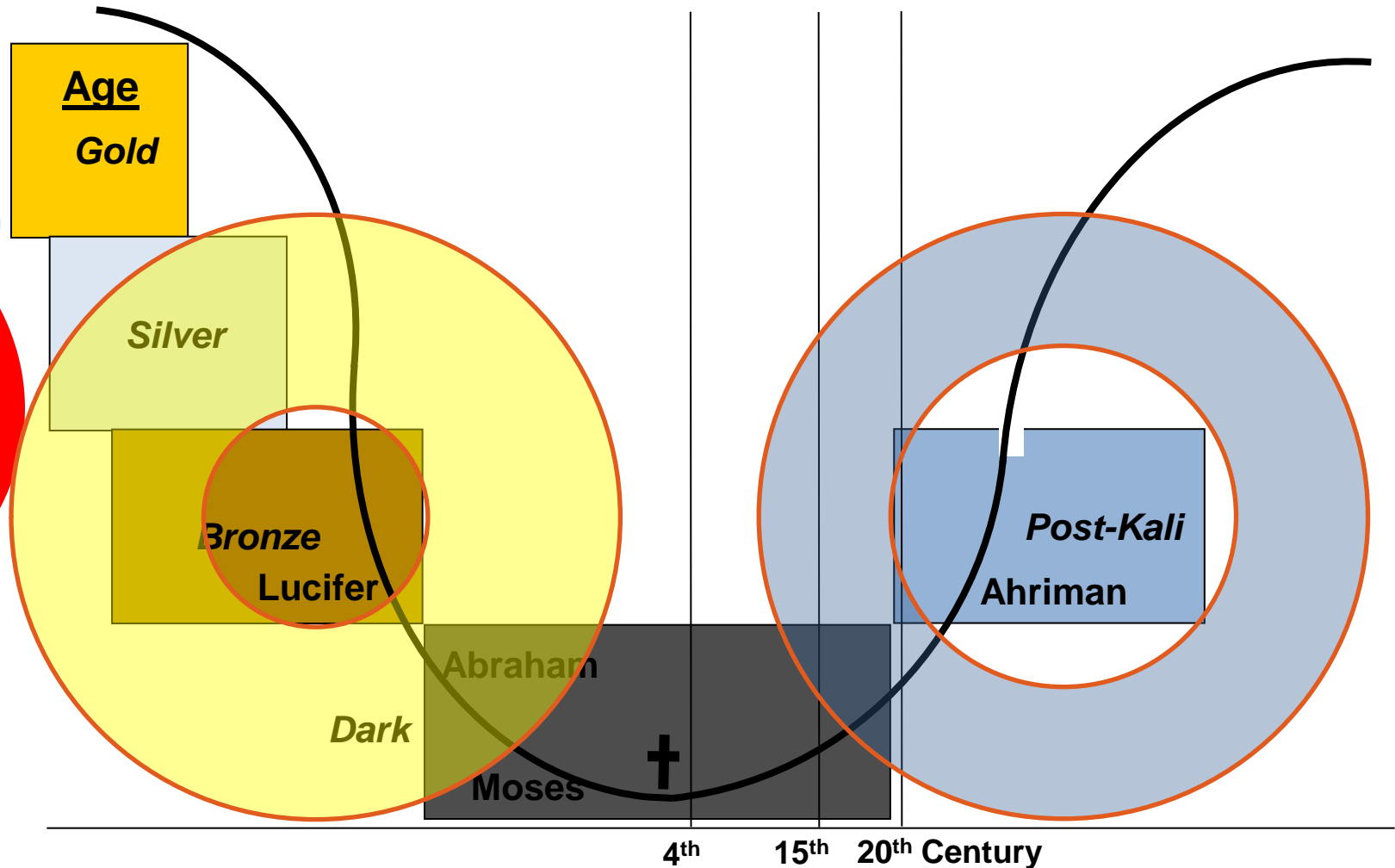
R. Steiner, Stuttgart, 28 December 1919



INCARNATION OF LUCIFER

- Imagine you lived in China ~3000 BCE
 - The incarnation of Lucifer is imminent, you know it is coming
 - How do you approach this?
- Lucifer, the light bearer, the Spirit of Venus
 - *Man in the Light of Occultism, Theosophy and Philosophy*, GA137, Christiania, 12th June, 1912
 - Venus as the star of those unfinished from Old Moon
 - On Old Sun, Christ and Lucifer were 'brothers'
- Now, how do we prepare for Ahriman's incarnation?

POST ATLANTEAN HISTORICAL PICTURE PENDULUM





FULFILLMENT OF CULTURAL EPOCHS

- “The Third PACA [Egypto-Chaldean] reappears in the Fifth, in order to permeate human souls with what the Fourth PACA has brought as something completely new
- Something similar will be the case with the Sixth PACA in regard to the Second, and the Seventh in regard to the First, the ancient Indian PACA”

R. Steiner, *Occult Science*, The Present And Future Of Cosmic And Human Evolution

MICHAELIC AGE

- Mankind will be tempted into an alliance with Ahrimanic Beings
 - Also elemental beings
 - A further detachment of Cosmic Intelligence from its original source
- Thus Michael battles the Ahrimanic Powers
 - Beneath his feet
 - Constantly driving them down into deeper regions below where Man is pursuing his development
- Michael knows that he will always have Ahriman beneath his feet – but is it the same for Man?





MICHAEL'S TASK IN THE SPHERE OF AHRIMAN

- Key Point in Time: 20th to 21st Century
 - Intellectual Soul to Consciousness Soul (began 1413)
 - Earlier epochs Man beheld divine spirit-beings as his source for what he was and what he did – Man had no will of his own
 - Man existed as organs of the Divine Spirit-beings
 - Earlier Man felt himself through the Divine Spirit-beings active within him livingly bound to the spiritual world
 - Ahrimanic form of mind had no power here
- Personal **will** arises in our time – *what makes it strong?*
 - As thoughts pass over into physical body, they lose their aliveness
 - And dead thoughts release us from the spiritual world to physical
- We are now within the **sphere of the Ahrimanic Mind**
 - Slide into Ahriman's Mind sphere began with Mystery of Golgotha
 - End of a stream of evolution in 15th C → Intelligence-Personality



FINDING IN FREEDOM THE RIGHT SPIRITUAL PATH

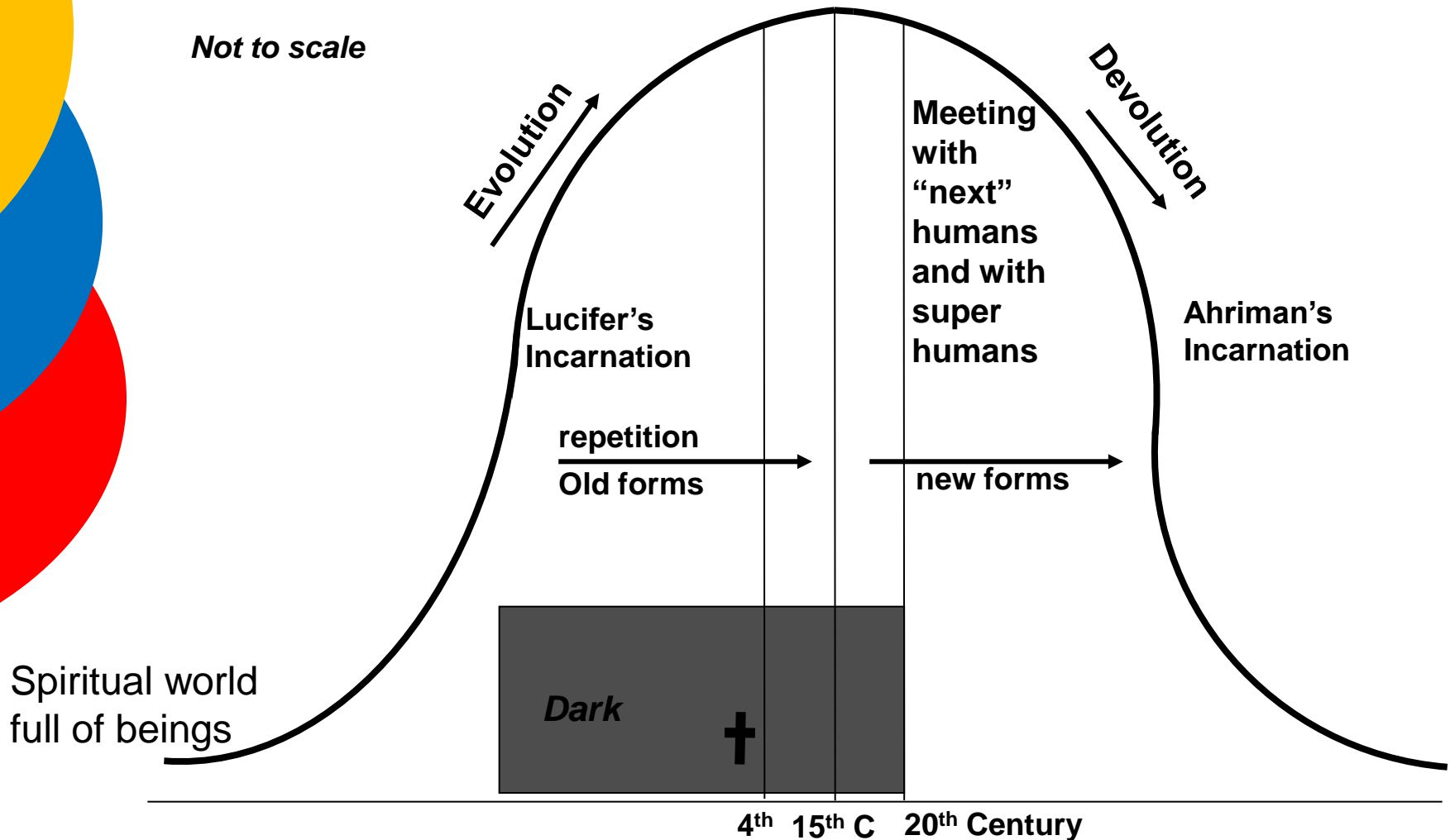
- In this Ahrimanic world-stratum, *divine influences congenial to Man have died out*
 - No other possible way to arrive at the development of **free will**
 - Even the Sun is changed, only extinct remains are left that carry no life powers in thought that goes into the body
- Christ has united his own living being **with deadness**
 - Present within the Kingdom of Ahriman!
 - Upon this *rock* I build my church
- Freedom (gift of Lucifer): choose either evolution-path defined by (1) Christ or (2) Ahriman
 - Michael is the time spirit who respects Man's freedom
 - Exerts no influence from his part upon man, only shows his path



FULFILLMENT OF MICHAEL'S COSMIC MISSION

- Michael arranges the doings of the Gods, so that Man continues to exist in a “cosmic corner”
 - Archai are focused on moving on to Exusiai, Michael becoming Archai
- Michael administers the Intellectuality of the Cosmos
 - He desires the force which works as Intelligence throughout the Cosmos should become concentrated in the individuality of Man
 - To keep Intelligence, now growing up in mankind, in continuous connection with the Divine Spiritual Beings
 - Cosmos now lives by its **past** Intelligence as it descends to man
- Ahrimanic beings are pre-disposed to absorb intelligence
 - Especially that which is detached from the Gods
 - They grow to be the greatest, most comprehensive and most penetrating Intelligences in the whole Cosmos
- *Mankind **MUST** come into contact with these Ahrimanic beings*

POST ATLANTEAN HISTORICAL PICTURE



NOW IN DEVOLUTION – GET USED TO IT!

- “We really are no longer in this world to take care of our own organization; we do still incarnate, but no longer in order to take care of our own organization
- This organization evolved until the middle of the Atlantean age, or until ancient **Greek times** when, **human bodies were as perfect** as they can be during time spent on earth
 - Not until Jupiter will humans achieve a higher level of physical perfection
- Now, we are really here to be part of a **downward curve** of evolution, to incarnate in order to learn and experience all manner of things by the very fact that we are in **bodies which are dying, increasingly crumbling and withering** away
- The fact is that anything we **inwardly develop** and inwardly are, will **no longer** become **part of** the **outer physical body** to the same extent as it did in the past
 - The Exusiai are moving on ...
- Consequence of this will be **all kinds of changes in development”**

R. Steiner, *Fall of the Spirits of Darkness*, lecture 5, 7Oct1917, GA 177



ATTACHMENT OF A SECOND BEING

- “Let us be quite candid about the trend of evolution.
- “A different form of experience will come to the man of modern times. In his own opinion he knows everything so well; he observes the material world, uses his intellect to establish the interconnections between its phenomena and believes that all its riddles are solved in this way, never realizing that he is simply groping in a phantasmagoria. But this way of working coarsens and dries up his ether-body, with the ultimate result that the Ahrimanic powers, **like a second nature, will attach themselves to him now and in times to come.**
- “The Ahrimanic nature is strengthened by all the prejudices and limitations of materialism, and **a future can already be perceived when everyone will be born with a second being by his side, a being who whispers to him of the foolishness of those who speak of the reality of the spiritual world.**
- Accompanied by this second being, he will feel the **urge** to think materialistic thoughts, **to think, not through his own being, but through the second being who is his companion.**”
- Rudolf Steiner, *The Balance in the World and Man, Lucifer and Ahriman*, lecture 1, GA158

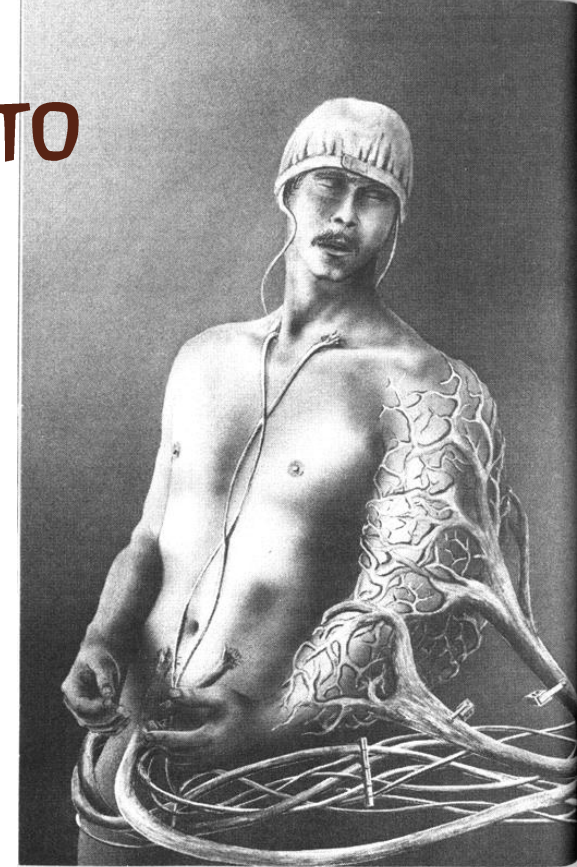


STEINER ON FACING HUMAN-MECHANICAL

- “The will is there **to harness human energy to mechanical energy**
 - These things should not be treated by fighting against them – that is a completely false view
 - These will not fail to appear; they will come
 - What we are concerned with is whether, in the course of world history, **they are entrusted to people who are familiar in a selfless way with the great aims of earthly evolution and who structure these things for the health of human being** or whether they are enacted by groups of human beings who exploit these things in an egotistical or in a group-egotistical sense
- It is not a question of **what**; the what is sure to come; it is a question of the **how**, how one tackles these situations”
- Rudolf Steiner, *The Reappearance of Christ in the Etheric*, lecture 12

HOW WILL WE BE ATTACHED TO MACHINES?

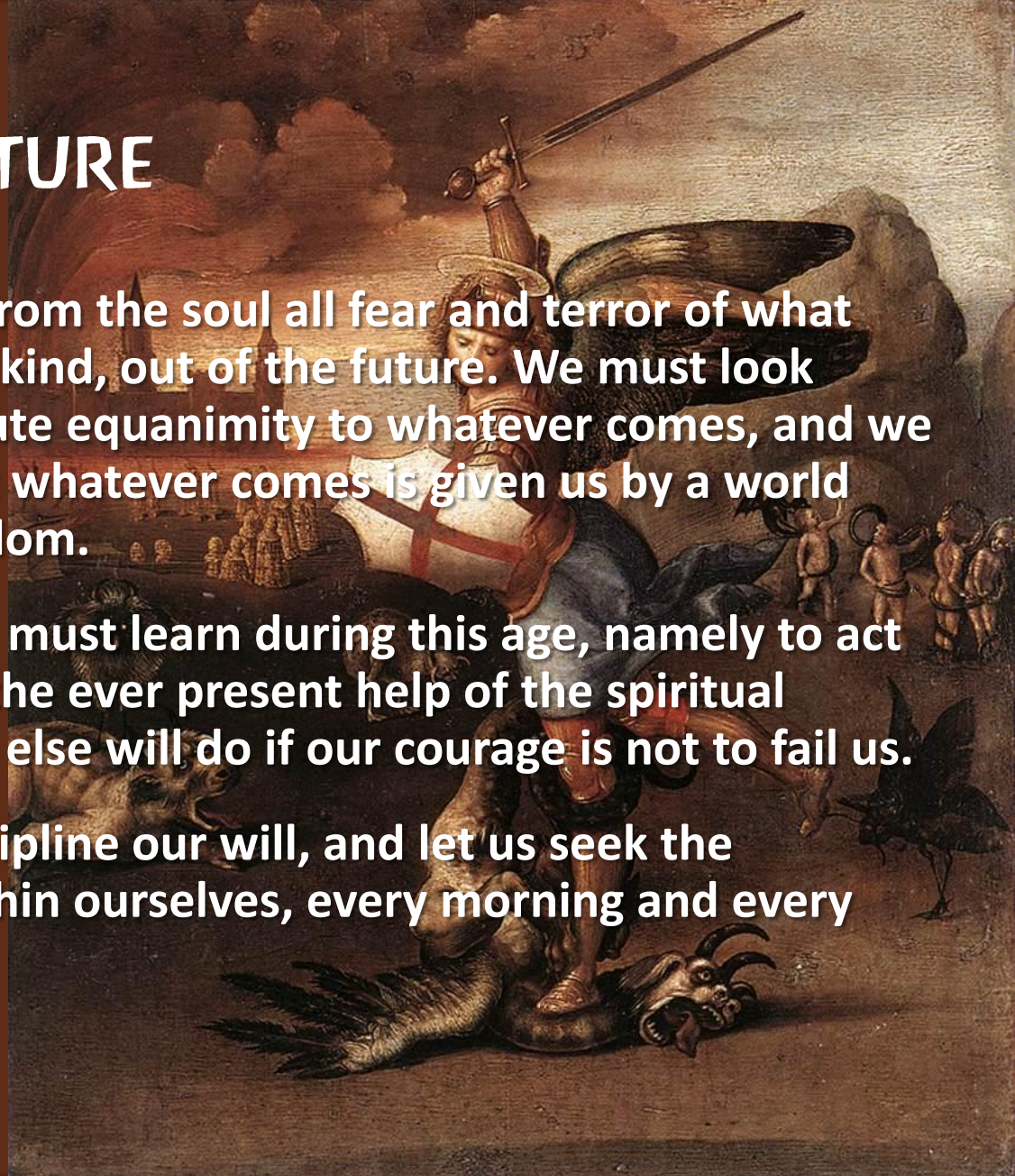
- Rhythms – Sympathetic Vibratory Physics?
 - Fifth post-Atlantean period will have to solve the problem of how human moods, the **motions of human moods**, allow themselves to be translated into **wave motions on machines**, how man must be brought into connection with what **must** become mechanical
 - Keely Machine – Sympathetic vibrations
 - Stader Machine
- Remember: it is not the **What** but the **How**



FACING THE FUTURE

- We must eradicate from the soul all fear and terror of what comes towards Mankind, out of the future. We must look forward with absolute equanimity to whatever comes, and we must think only that whatever comes is given us by a world direction full of wisdom.
- It is part of what we must learn during this age, namely to act out of pure trust in the ever present help of the spiritual world; truly nothing else will do if our courage is not to fail us.
- Therefore let us discipline our will, and let us seek the awakening from within ourselves, every morning and every evening.

Rudolf Steiner





OUR WORLD IS CHANGING

**Shall we bemoan it or embrace it?
Turn cold and scorn it or feel enthusiasm for
the work to be done?**

“‘Yes,’ said Gandalf. ‘If you have walked all these days with closed ears and mind asleep, wake up now!’ He knocked on the door.”
— J.R.R. Tolkien, *The Lord of the Rings*



“We want to transplant your brain into an elegantly designed bionic body called Humai” (Human-AI). Is this Panpsychism?

MAN AND MACHINE: INTELLIGENCE, CONSCIOUSNESS, SOUL, AND IMMORTALITY



HUMAI: IMPLANT A HUMAN BRAIN TO AN ARTIFICIAL BODY - *IS IT SIMILAR TO DRIVING A CAR?*

- “We’re using artificial intelligence and nanotechnology to store data of conversational styles, behavioral patterns, thought processes and information about how your body functions from the inside-out
- This data will be coded into multiple sensor technologies, which will be built into an **artificial body** with the brain of the deceased human
- The artificial body functions will be **controlled with your thoughts by measuring brain waves**
- After death we’ll freeze your brain using cryonics technology
- When the technology is fully developed we’ll implant the brain into an advanced artificial body”
- Later, “As your brain matures, genetic engineering will help fight the aging process, while advancements in nanotechnology will offer extensive tissue repair and regeneration, including the repair of individual brain cells, one molecule at a time.”
- *How much of the soul’s activity is hereby “captured”?*



IS HUMAN-LEVEL AI EVEN POSSIBLE?

The reasoning goes like this:

- If people are biological machines, then eventually we will **reverse engineer** them, and understand their workings
- Then, surely we can **make improvements**
 - With materials and technology not available to evolution
 - How could there not be something we can improve?
 - Design can overcome local minima, make great strides, try things much faster than biology
- OK, when might this happen? AI Industry claims:
 - 25% chance by 2030
 - 50% chance by 2040
 - 10% chance never

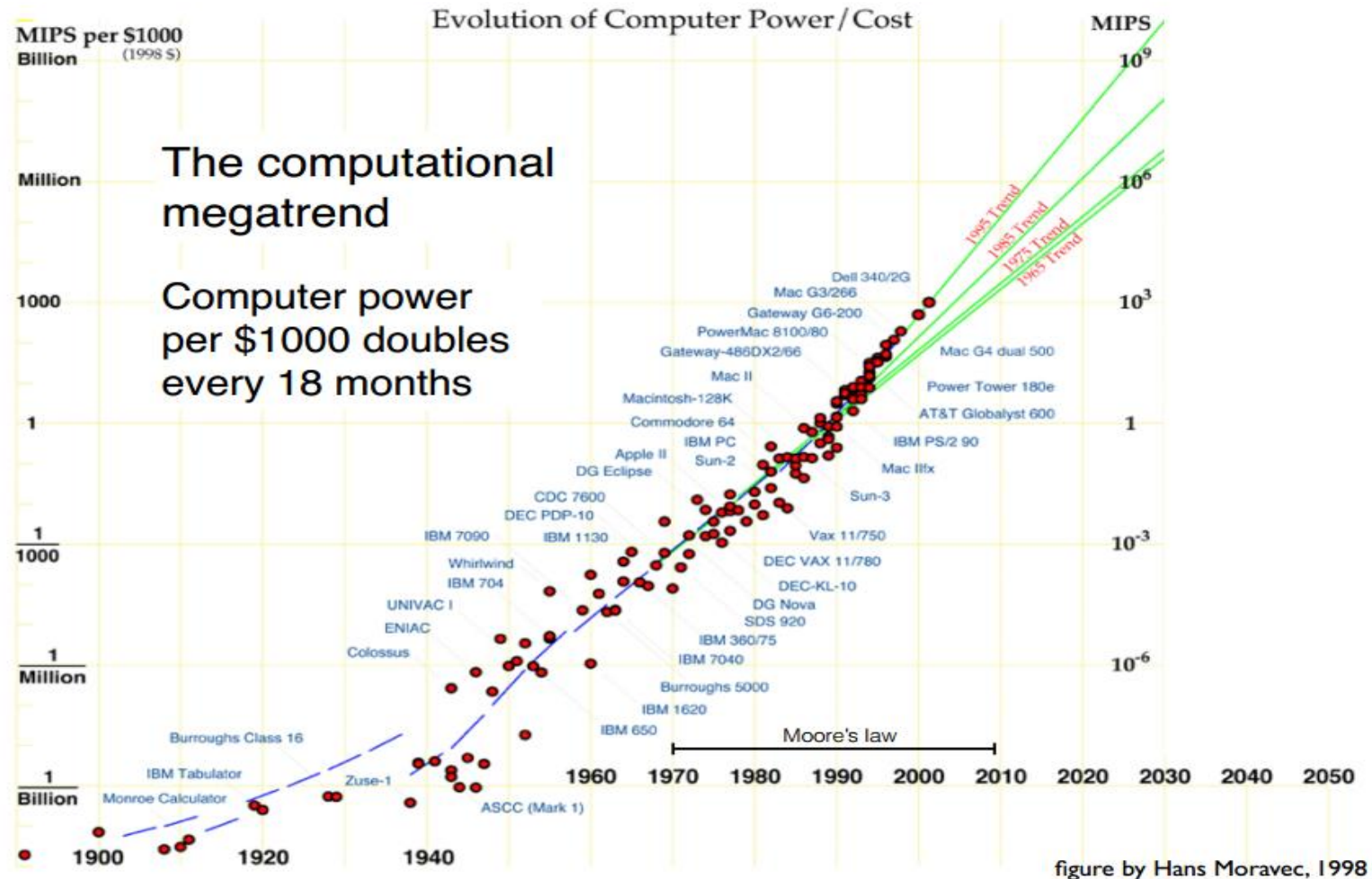


U.S. BRAIN INITIATIVE

- To revolutionize our understanding of the human brain
- Center for the Neural Basis of Cognition
 - Carnegie Mellon University funded by the U.S. Intelligence Advanced Research Projects Activity (IARPA) for \$12 million
- Impact will likely be long-lasting
 - Promises to be a game changer in neuroscience and AI
- Improve performance of artificial neural networks
 - “By incorporating molecular sensors to monitor neural activity in combination with sophisticated optical methods, it is now possible to simultaneously track the neural dynamics of most, if not all, of the neurons within a brain region”
- Result in machines that have more human-like *qualities*

WHEN WILL AI BECOME HUMAN-LEVEL?

“By 2025 these machines will have an IQ greater than 90% of the U.S. population. That ... would put another 50 million jobs within reach of smart machines.” Harvard Business Review, 2014



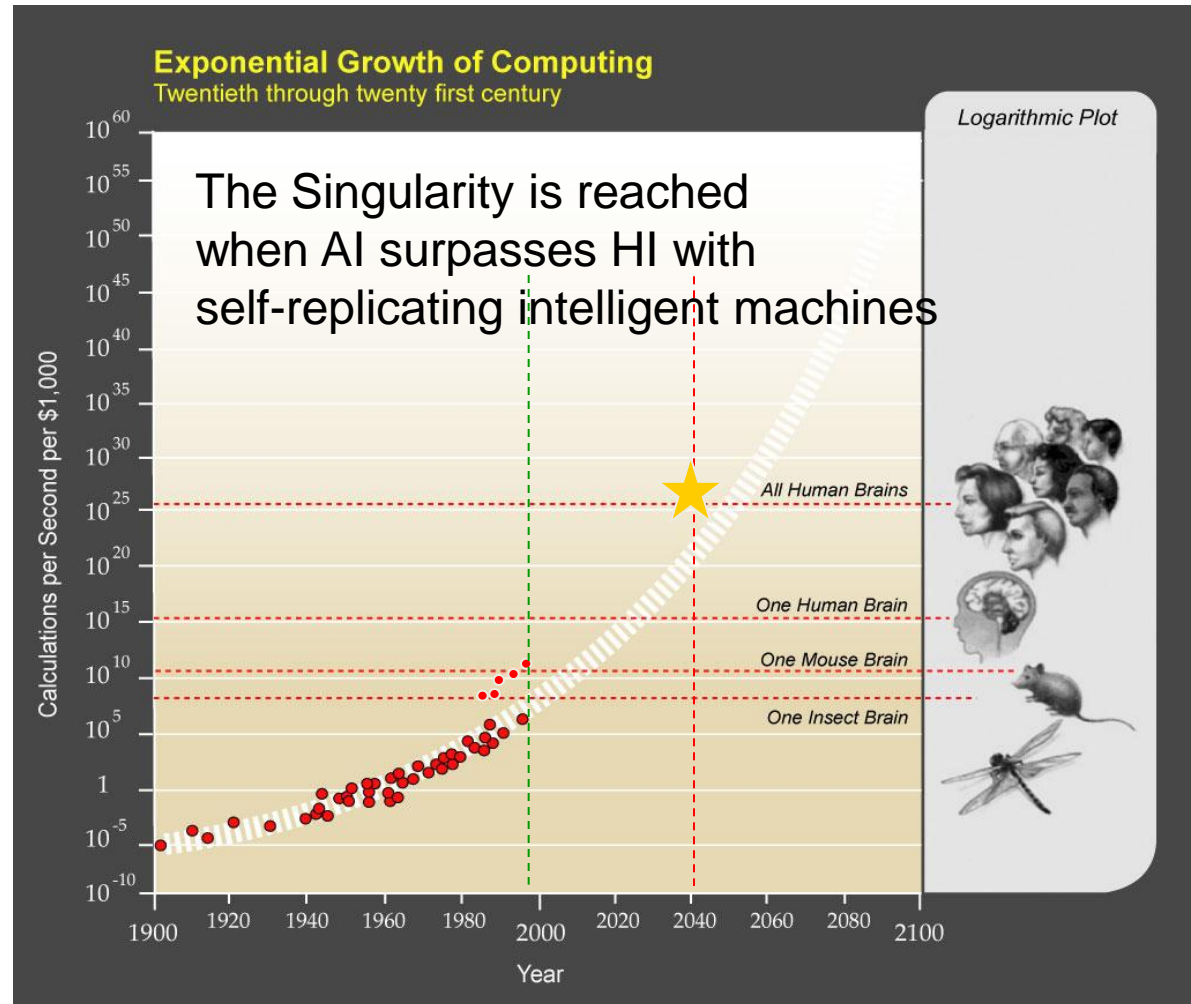
WHEN SILICON BEINGS SURPASS CARBON

\$2000 computer, 2020 = human brain, 2045 = Σ all human

Law of
Accelerating
Returns:
technological
change is
exponential as
is the change
in the *rate* of
change

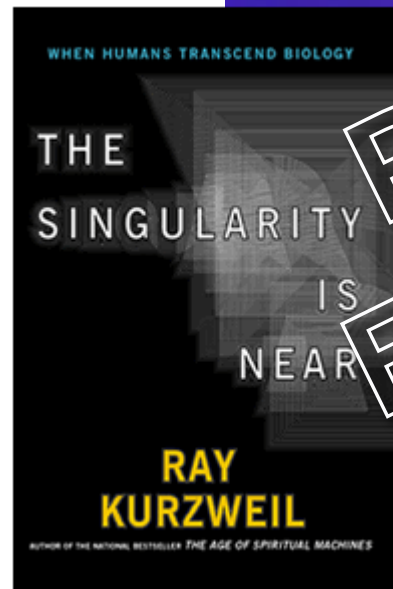
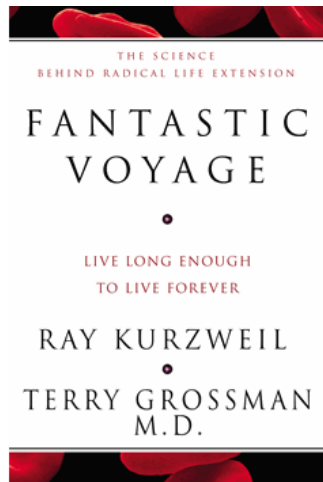
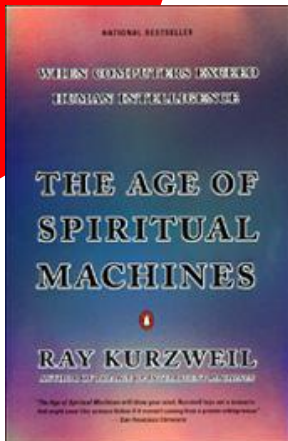
Blue Brain Project
Mimic the Brain

www.eetimes.com, May 28, 2008



RAY KURZWEIL'S VISION OF THE FUTURE

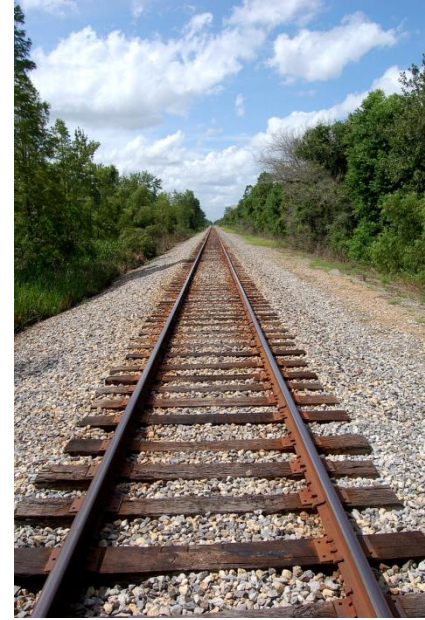
- Immortality is within our grasp
- When Humans transcend biology



Key: GNR

IT IS NOT THE WHAT BUT THE HOW

- What: iron necessity. How: human freedom.
- Futurologists see a What similar to Steiner's
 - How is their vision different from Steiner's?
- Is this a de-humanized future?
 - If so, how can it be changed?
 - Is our destiny better if Man and Machine do NOT merge?
 - **With the dumbing down of humanity, is it needed?**
 - Has such a dreary outlook ever occurred before in history?
 - The Flood (Atlantis), What happened to Lemuria?
 - God(s) brought prior destruction, this one will be by humans
- Body and Soul: What becomes of attaining Atma?
 - What will it mean to the Christ if our bodies cannot resurrect?
- Are we getting help from spiritual beings (e.g. angels)?





AI'S PERSPECTIVE ON HUMAN WILL

- “**‘Motive’** in humans could be **reduced to calcium** and other ionic strengths in neurons and other cells — i.e., ‘electromotive force,’ the voltage developed by any source of electrical energy such as a battery (https://en.wikipedia.org/wiki/Electromotive_force) — or the voltage applied to a chip.
- The only substantial difference is in the respective programming, which could be “do not reduce voltage to zero” (‘self-preservation’)
- **‘Emotion’** seems to be a ‘suitcase word’ (Minsky) for a **set of ionic strengths** (and other factors) — in that sense, it would appear that an **AI could be “motivated” to terminate mankind.**” — Editor of <http://www.kurzweilai.net/the-problem-of-ai-consciousness>



FLI'S THE FUTURE OF AI, JAN. 2, 2015

When people finally come to understand the principles of intelligence—what it is and how it works—well enough to design and create beings as intelligent as ourselves:

1. It would change the way we work and play, our sense of self, life, and death, the goals we set for ourselves and for our societies
2. It would also be of significance beyond our species, beyond history
3. It would **lead to new beings** and new ways of being, beings inevitably much more powerful than our current selves
 - A fundamental goal for science, engineering, the humanities, ... for all mankind -- http://futureoflife.org/misc/ai_conference
4. <http://www.techrepublic.com/article/humans-2-0-how-the-robot-revolution-is-going-to-change-how-we-see-feel-and-talk/>

2045 INITIATIVE

- Founded February 2011 by **Russian** entrepreneur Dmitry Itskov
- “Initiative aims to create technologies **enabling the transfer of an individual’s personality to a more advanced non-biological carrier**, and extending life, including to the point of immortality”
- “An international research center where leading scientists are engaged in research and development in the fields of **anthropomorphic robotics**, living systems modeling, plus brain and consciousness modeling with the goal of transferring one’s individual consciousness to an artificial carrier and achieving **cybernetic immortality**”
 - Fields of neural interfaces, robotics, artificial organs and systems



<https://www.youtube.com/watch?v=01hbkh4hXEk>

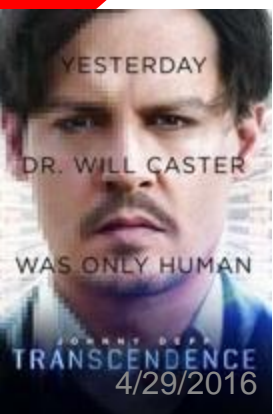
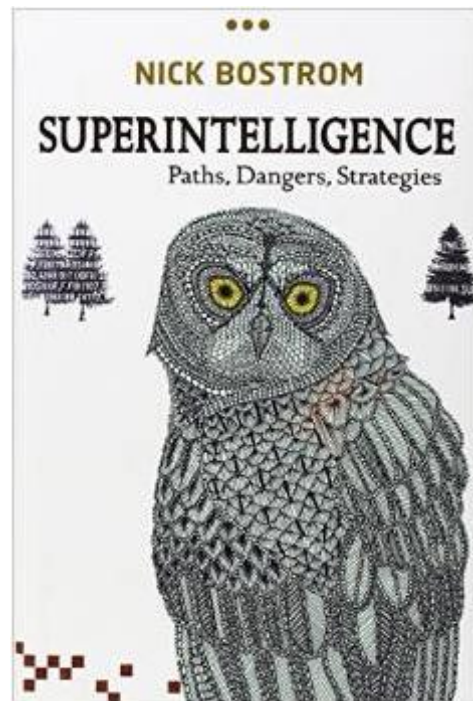
2045 INITIATIVE'S TIMELINE

- **2015-2020** Affordable android "**avatars**" with "brain-computer" interface
 - Work in dangerous environments, perform rescue operations, travel in extremes
 - Avatar rehab of disabled patients, prosthetic limbs, recover lost senses
- **2020-2025** Autonomous life-support system **linking brain to a robot**
 - Avatar saves people whose body is completely worn out or irreversibly damaged
 - Any patient with intact brain will be able to resume a fully functioning bodily life
- **2030-2035** Computer **model of the brain and human consciousness**
 - Transfer individual consciousness to an artificial carrier: cybernetic immortality
 - Ordinary people will restore or modify their own brain multiple times
 - A real revolution in the understanding of human
- **2045** **Substance-independent minds** receive ***new extreme bodies***
 - A new era for humanity will have arrived! – **become a new species**
 - **Large-scale expansion into outer space becomes feasible**



ONWARD TO GOD-INTELLIGENCE

- “If some day we build machine brains that **surpass human brains** in general intelligence, then this new superintelligence could become very powerful. And, as the fate of the gorillas now depends more on us humans than on the gorillas themselves, so the fate of our species would **depend on** the actions of the machine superintelligence.”
- “We do have one advantage: we get to build the stuff. ... It also looks like we will only get one chance. Once unfriendly superintelligence exists, it would prevent us from replacing it or changing its preferences.” – Nick Bostrom
- Will Superintelligence rival Godintelligence?
 - God the all-wise or super-AI or God is love?
 - For Good or Evil?





ISSUES WITH AI'S VISION

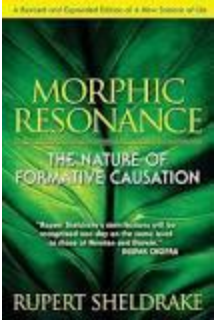
Is Intelligence = Consciousness?

- “Consciousness is a simple memory loop mechanism which combines real-time perceptions, with memorized experiences. It provides us with “self awareness”. If you contemplate it for a time, you will see it. It is a continuous process, which begins, for practical purposes, when we are born, and ends with our death.” – Kurzweil AI, [The Problem of AI Consciousness](#)

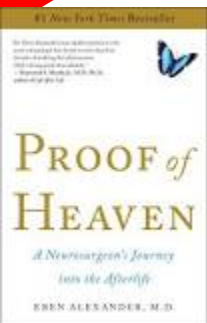
If one were to achieve cyber immortality, then:

- What might it mean to be in the same state forever?
 - Renewal then is only changing parts but not one's personality
- Would we be overwhelmed with Cosmic Boredom as we feel imprisoned within our singular personality?
- Would we long for biological life? Death?
- Would we miss creativity and being part of on-going creation?

NEW SCIENCE ON CONSCIOUSNESS



- Francis Crick (DNA structure): all cells/molecules turn over within 7 years – how then is memory stored to survive molecular TO?
- Rupert Sheldrake, Nobel prize, “we do not understand why the initial storage of memory requires the hypocompost ...” A *New Science of Life and Science Set Free*
 - Reductionism does not work here
 - Human memory is somewhere else – holographic (?) in the quantum field of the universe, morphic resonance transcending time and space, non-physical
- Thomas Nagel *Mind and Cosmos*
- Free will and reflective capability
- Neuroscientist’s NDE: Eben Alexander *Proof of Heaven*
- Gödel: accept the assumptions of a system – no way to reflect upon the system – must be out of system – higher dimension



HUMAN CONSCIOUSNESS & THE BRAIN

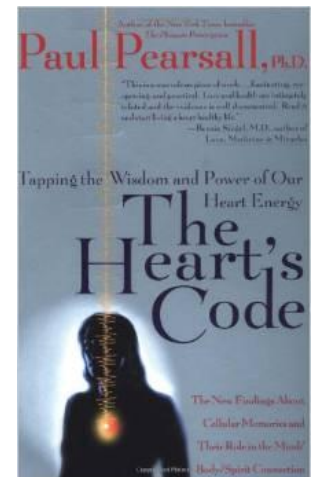
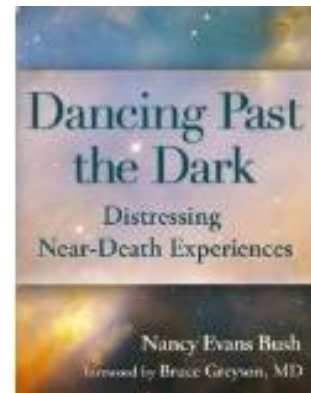
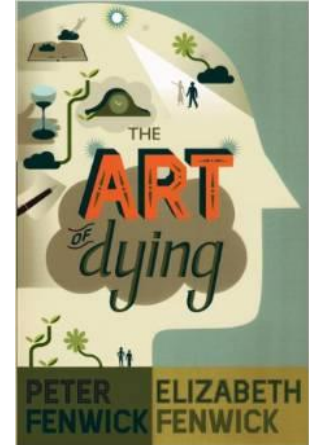
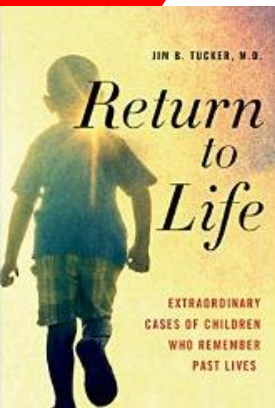
Will we “be there” once we reverse engineer the brain?

- Peter Fenwick
 - Eminent neuropsychiatrist, disorders of the brain
 - Research: end of life phenomena
 - **Consciousness may be independent of the brain and so able to survive the death of the brain**
 - Change attitudes so that we in the West can *face up to death*, to embrace it as a significant and sacred part of life
- Richard Greyson (and Robert Mays)
 - Professor Psychiatry and Neurobehavioral Sciences, UVa.
 - Researcher in the field of **near-death experiences** (NDE)
 - <https://www.youtube.com/watch?v=Rtk644N2DDs>
 - <https://www.youtube.com/watch?v=en-3Bz1RMig>

Paul Pearsall

- The heart is more than just a pump; it conducts the cellular symphony that is the very essence of our being
- Research on cellular memory of the heart
- Do memories move with transplanted heart? Other organs?

Jim B. Tucker *studies of recollections of past lives*



IS IT WRONG TO COUPLE MAN TO MACHINE?

Improving Prosthesis

- From Captain Hook to ...
- Helping the maimed to live
 - Is this not the Christian thing?
 - Or is it one's karma (so do nothing)?
- Built in robotics – better than bio?
- Is this a slippery slope?
 - Temptation to change natural (weaker) for artificial?
 - Example: plastic surgery
 - How does the human soul & spirit deal with mechanical limbs?
 - Can Atma still be attained?
 - What does it mean for future generations? **Moon/Jupiter related?**



BIONIC EYE

- Allen Zderad was blind 20 yrs.
- Given a bionic eye implant
 - Created by Second Sight, Inc.
- Mayo Clinic (Raymond Iezz)
- Works by bypassing his damaged retina and sending signals directly to the optic nerve
- A small chip was attached to the back of the eye with multiple electrodes offering 60 points of stimulation
- Future version could have 1000 points of stimulation
- Source: <http://www.medicalnewstoday.com/articles/289863.php>



BIONIC LIMBS

- Three Austrians have replaced injured hands with bionic ones that they can control using nerves and muscles transplanted into their arms from their legs
- His son, then 4, said proudly, "my father is a robot"
- Transplanted arm (from cadaver) would have meant taking anti-rejection drugs for the rest of their lives
- 98% of amputees report **phantom sensations**
 - Also see [mirror-touch synesthesia](#)
- Isn't this very expensive? – only for the rich?

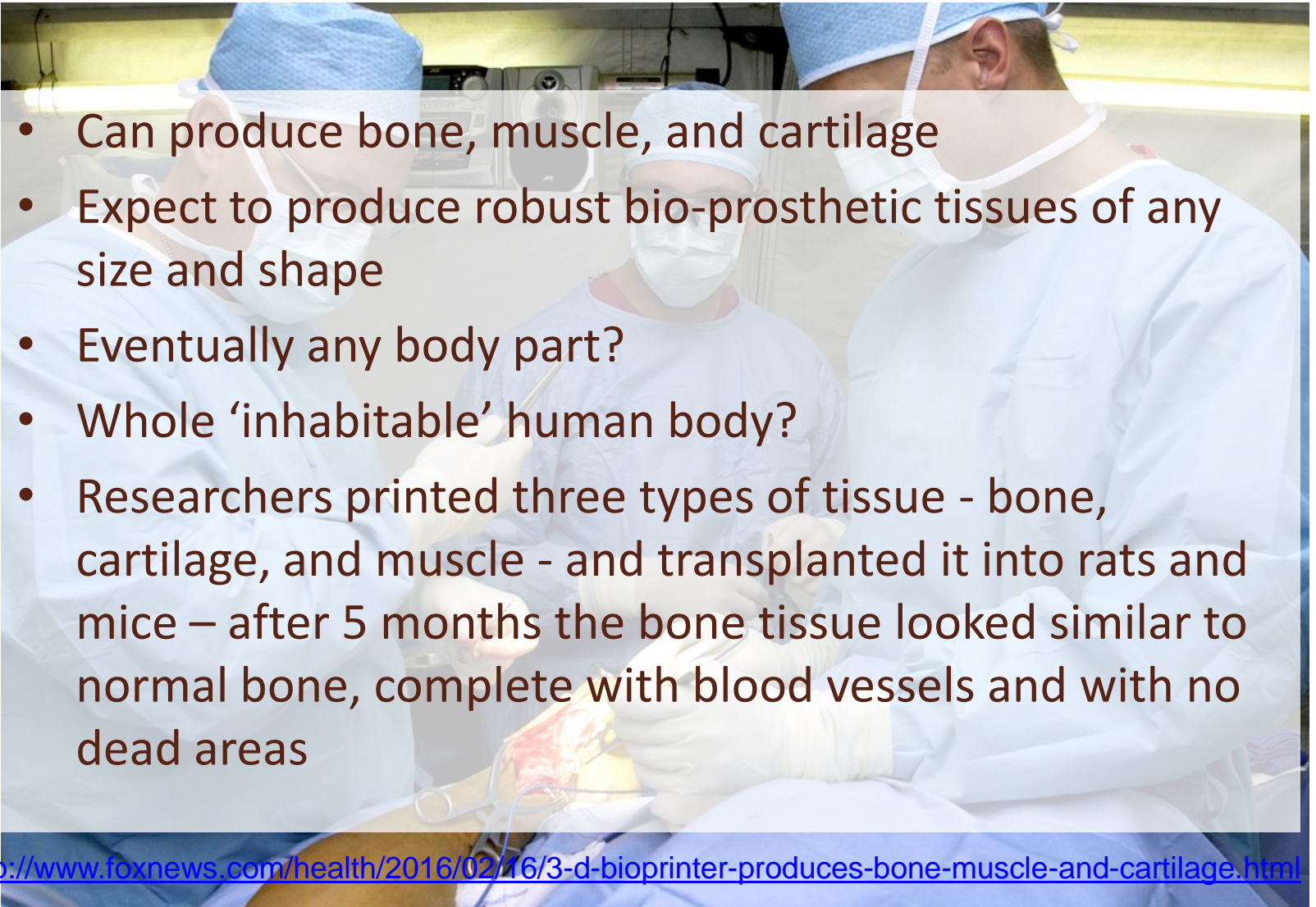


BIONICS BECOMING AFFORDABLE

- Made with \$2000 3D Printer and inexpensive materials
- More: <https://www.youtube.com/watch?v=A6isKsPWubA>



USING 3D PRINTERS TO MAKE BODY PARTS



- Can produce bone, muscle, and cartilage
- Expect to produce robust bio-prosthetic tissues of any size and shape
- Eventually any body part?
- Whole 'inhabitable' human body?
- Researchers printed three types of tissue - bone, cartilage, and muscle - and transplanted it into rats and mice – after 5 months the bone tissue looked similar to normal bone, complete with blood vessels and with no dead areas

<http://www.foxnews.com/health/2016/02/16/3-d-bioprinter-produces-bone-muscle-and-cartilage.html>

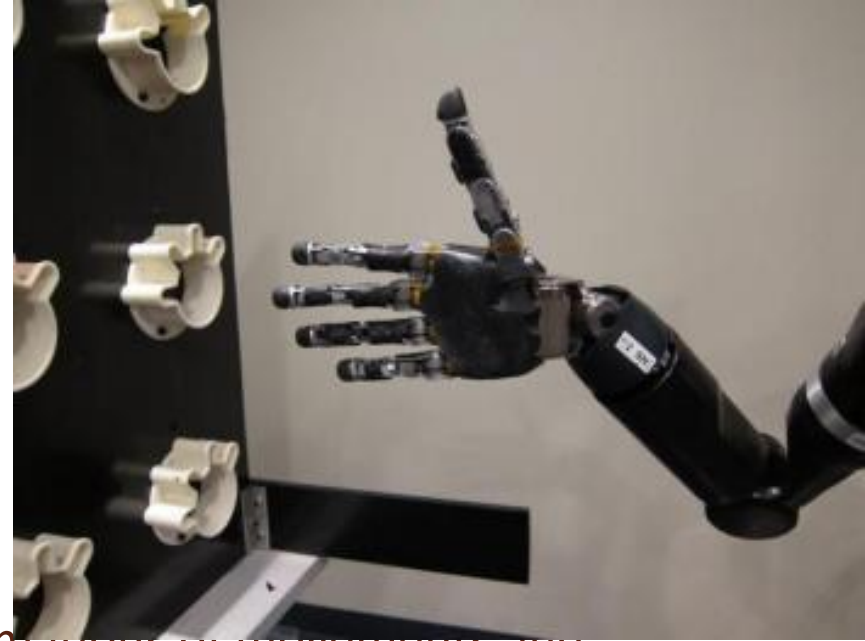
RECENT NEWS (MAY 21, 2015)

- Erik Sorto, paralyzed a decade, was recently able to pick up a beer and drink it thanks to a robotic arm.
- “He's painted pictures, made the smoothies.
- It's a very good thing for our patients who are paralyzed to see such tech wizardry.”
- For ALS, severe strokes
- [Upright Paraplegics Show Improved Health Stats](#)
- [Wearable Robots on the Rise to Help Paraplegics Walk](#)
- [Bionic Fingertips](#) and [NYT video](#) of Les Baugh testing a robotic prosthetic that he can control with his mind



HOW IT WORKS

1. Record brain activity
 2. Set brain probes
 3. Train brain to use
 - Jan Scheurmann watched animations of movements and imagined them
 - The signals her brain sends to calibrate the system are recorded
 - Then "reading her thoughts" allows proper placement of probes she uses to move the hand
- Source: <http://www.medicalnewstoday.com/articles/287120.php>
 - How close to Strader/Keely Machine is this?
 - Can the human change to accommodate machines?
 - Does neuro-plasticity play a role?



NEUROPLASTICITY OF THE BRAIN

- Refers to changes in neural pathways and synapses due to changes in behavior, environment, neural processes, thinking, emotions, as well as changes resulting from bodily injury
- Known in vision improvements
- Leads to human trials on a broad scale for motor cortical implants to help quadriplegic or locked-in patients perform tasks and communicate with the outside world



INVESTMENTS NOW POURING IN

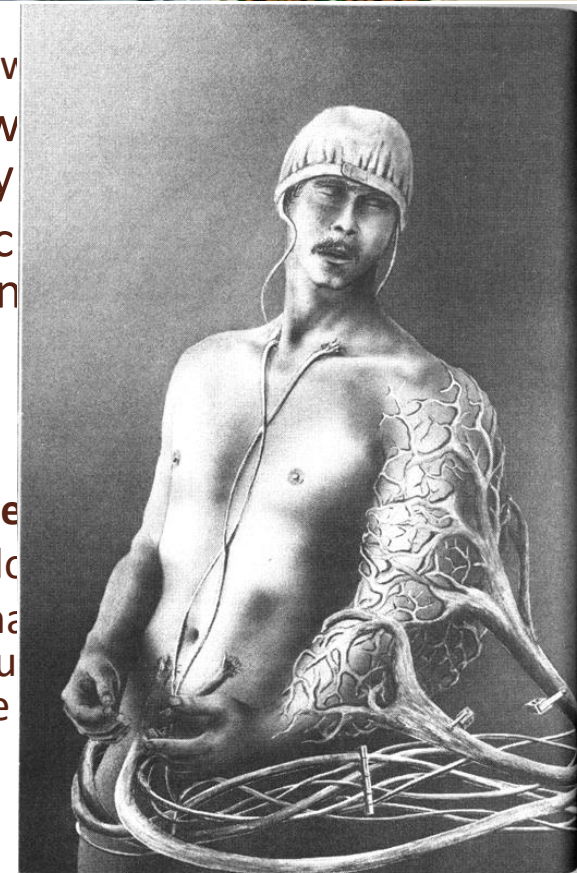
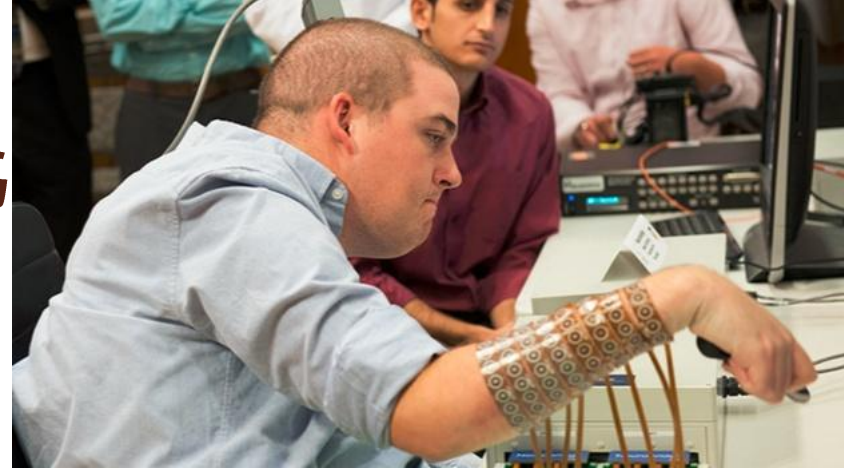
- “I'm getting quite a few questions lately regarding one of my favorite companies, **Ekso Bionics Holdings Inc.**(OTC:EKSO).
- “As you know, the company is tied into one of the most dynamic Total Wealth Trends of all - and potentially the most profitable, too - Human Augmentation. So I thought we'd revisit EKSO and, in the process, update some of the interesting stuff that's going on.”
- www.totalwealthresearch.com



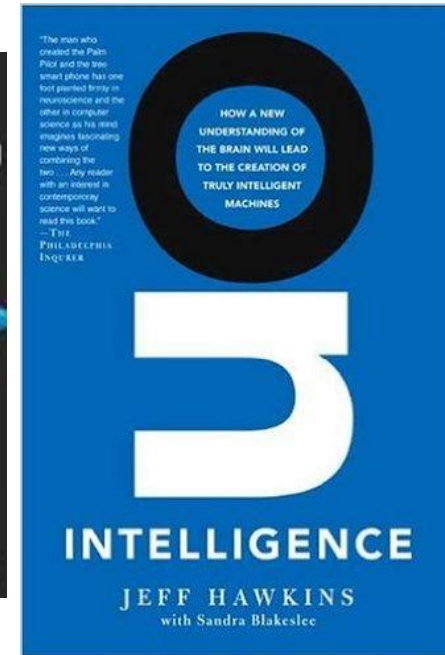
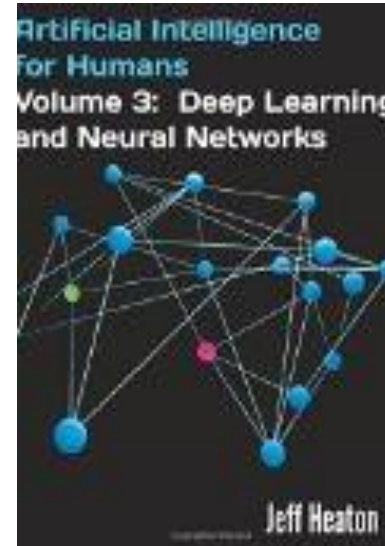
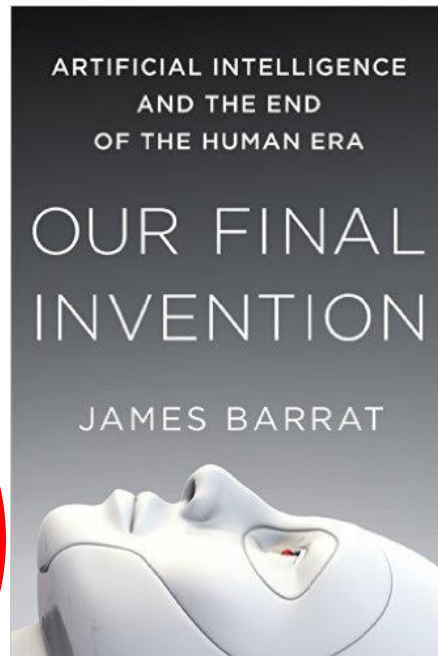
<http://eksobionics.com/ekso>

NEURAL ENGINEERING

- Ohio State Univ.
- Ian Burkhart
 - Chip implanted in brain 2 yrs ago
 - His injury had left him paralyzed from the chest down
- “I had lost sensation in my hands and I had to wonder how to know whether I was squeezing or extending my fingers”
- Match motor cortex (left side) signals with specific chip with 96 microelectrodes detect neurons and a brain-attached cable
 - Frequent recalibration as signal patterns change
 - Now “I can brush my teeth!”
 - **It is very important to understand how this is done**
 - The doctors note the **pattern in the brain** where blood flow is high
 - The so-called motor nerves have no feedback to show if the activity is being accomplished or not. The will through the brain causes the “brain patterns” which in turn cause the muscles to cause muscle contractions.
- <http://www.bbc.com/news/health-36015248>



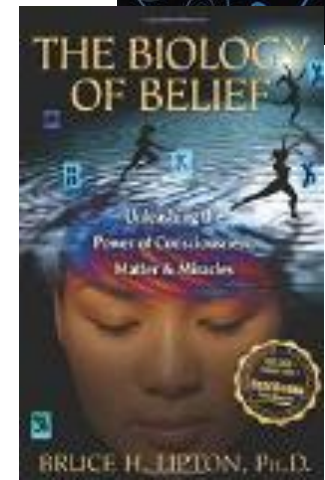
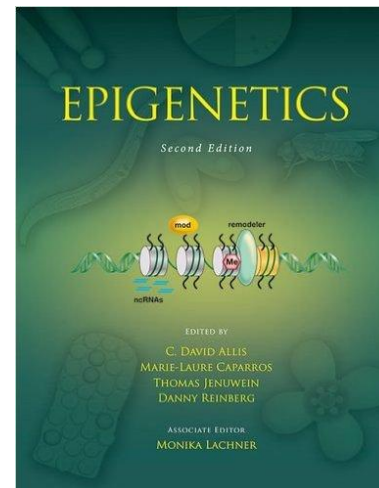
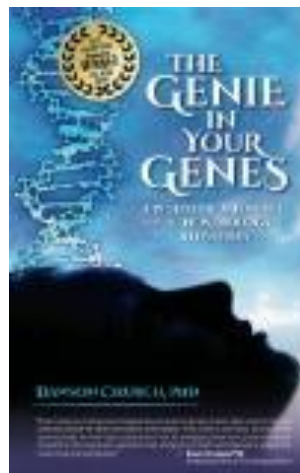
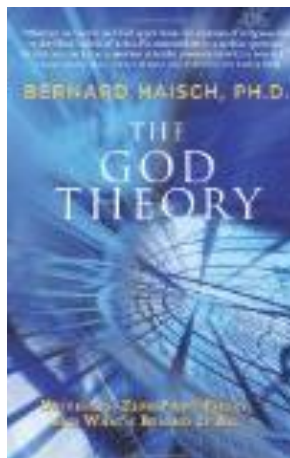
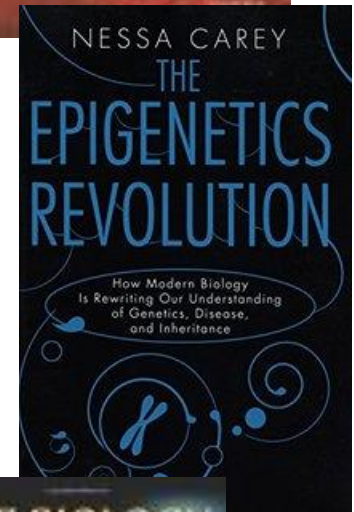
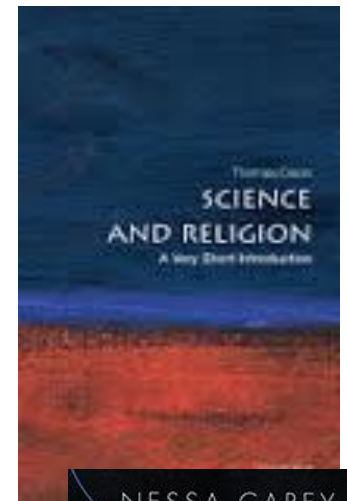
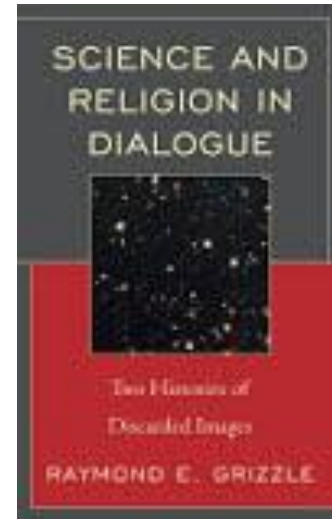
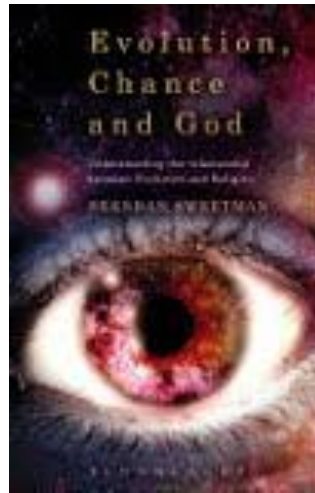
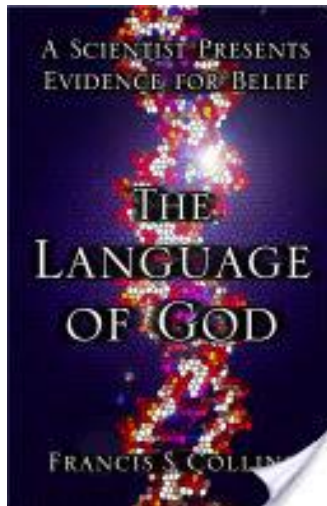
AI BOOKS OF INTEREST



- “The **brain is not a computer**, but a **memory system** that stores experiences in a way that reflects the true structure of the world, remembering sequences of events and their nested relationships and making predictions based on those memories. It is this **memory-prediction system** that forms the **basis** of intelligence, perception, creativity, and even **consciousness**.” – Jeff Hawkins

SCIENCE AT THE THRESHOLD

- All fields are encountering consciousness



WALDORF SCHOOL ROBOTICS

Huh? – Waldorf School Robotics?

Congratulate the PolyGnomes!

- Green Meadow's robotics team
 - Coaches: James Madsen & Lisa Krogh
- Results:
 1. Won 50 of 58 matches
 2. Hold several tournament scoring records
 3. Won all qualifying tournament championships
 4. Finalists in regional championships
 5. Received two prestigious judged prizes:
 - PTC Robot Design Award
 - Rockwell Collins Innovate Award
 6. #2 at Eastern Super Regional in Scranton, PA
 - Against 72 best teams on the east coast, from Virginia to Maine
 - Beat elite schools specializing in STEM and teams heavily supported by technology companies
 7. #5 at World Championship in Saint Louis, MO April 22-25
 - Top 2% of teams in the country, plus 30 international teams
 - 4500 teams from around the world
- ***This is what is needed for the mankind's evolution***





THE STARS ONCE SPOKE TO MAN

The Stars once spoke to Man.
It is World-destiny
That they are silent now.
To be aware of the silence
Can become pain for earthly Man.

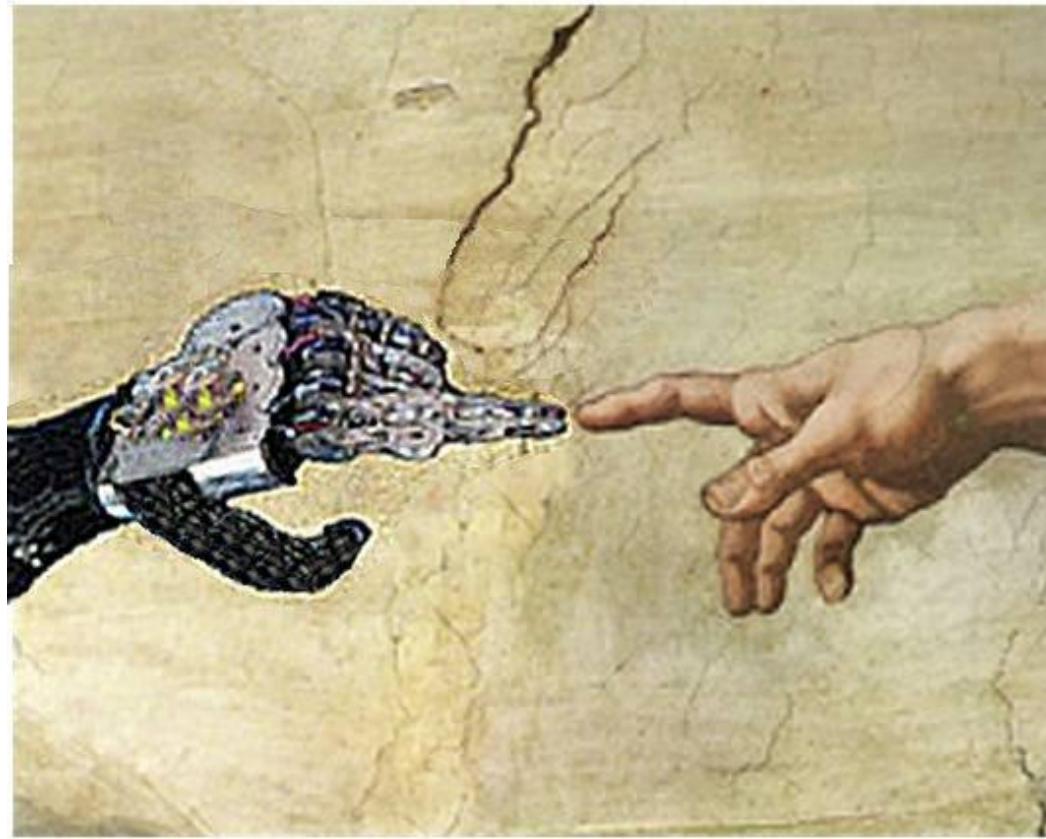
But in the deepening silence
There grows and ripens
What Man speaks to the Stars.
To be aware of the speaking
Can become strength for Spirit-Man.

Rudolf Steiner

spirit

soul

life



END LECTURE 1

COSMIC EVOLUTION – JUPITER, DEVOLUTION, AHRIMAN, PREP FOR THE FUTURE, SINGULARITY, AI, AND MERGING WITH MACHINES



SCHEDULE

April 28, 2016 Lecture 1

- 19:30 – 21:00 Merging with Machines – The Path to Jupiter?

April 29, 2016 Lecture 2

- 19:00 – 21:00 **Sexuality and Technology – Preparations for the Remaining Post-Atlantean Ages**

April 30, 2016 Workshop

- 09:30-10:00 Registration, social time, tea/coffee
- 10:00-11:30 Sexbots; Hephaestus; preparations for our time
- 11:30-12:30 Experiencing Rhythm Through Eurythmy: In Tune With Sound, Soul, And Creating
- 12:30-01:30 Lunch (BYO) together
- 01:30-03:00 Electricity & evil, EMR, sensitivity & safety, resonance, rhythms, robotics, and life
- 03:00-03:30 Break tea/coffee
- 03:30-04:00 Eurythmy exercises and tools for balancing technical work
- 04:00-05:00 Artificial intelligence, artificial soul; consciousness soul development, a path to “future Jupiter” and concluding remarks

DEALING WITH OUR DOUBLE

- Shortly before we are born **another being indwells us**; in the terminology we use today we would call this an ahrimanic being. It is just as much in us as is our own soul. [page 56, 57] (*this is our **Ahrimanic Double***)
- How will we learn to **convert evil into good**? We will need a lot of help, and that help will come from an ever-present source of spiritual power that we have at our disposal: **we have only to ask for it!** [pg. 163]
- But something even more significant will occur for the development of the fifth post-Atlantean period when human souls recognize that **in Christ they have the I-helper they need** to transform the forces of evil into good. [pg. 165]

Note: no discussion of fairness!

