

Starting Science From God

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An 8-week guided reading course

Introduction and Overview

Welcome and introductions.

These 8 weeks are to explore a new way of looking at the connections between science and religion. The sessions are based on my book *Starting Science From God*, a chapter or two at a time. The book describes many ideas and some new ones, and (regrettably) it is not a holiday read. We will find that frequent informal discussion of backgrounds and of applications will make it easier to follow. I therefore ask you to raise questions sooner rather than later, if anything is puzzling.

My aim is to make stronger *connections* between science and theism, and hence with religion. Many people want, rather, a *separation* because that makes life easier. But I (as a physicist) want to see the detailed logical and causal connections, and to describe them accurately not as mere analogies or extrapolations. I will be treating theism as if it were a scientific theory. The first chapter, this week, discusses how we might get started.

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Preview

To understand the book and its overall ideas, however, a preview is useful:

My religious aim is to see the God of theism as producing the world by continually generating it. God is not only at a distance and just decides natural laws, but rather the life of God is needed for all spiritual, mental and physical processes. These three, we will see, are the successive stages of operation of the life and power of God, and really do exist. (A big leap for a physicist, but I claim this carefully!)

In order to do this, we have first to start thinking clearly about God: the creator and source of everything. We are not going to leave God as clouded in metaphor or in thought only, but use our rationality to think clearly about him and how he creates. This will be the subject next Sunday: a synopsis of the needed ideas is listed on page 3:

1. God is love which is unselfish and cannot love only itself.
2. God is wisdom as well as love and thereby also power and action.
3. God is life itself: the source of all dispositions to will, think and act.
4. Everything in the world is a kind of image of God: minds and also natural objects.
5. The dispositions of an object are those derivatives of divine power that accord with what is actual about that object.

The result might not be exactly science or religion as we perhaps have known them, as they may become slightly different when they are joined. We should discuss each week the relation between the new ideas and your own existing ideas about science and religion, to see what is good.

We will find we can describe, I hope, a God of love who exists and does things. That there are existing spiritual and mental things (despite modern materialism). That all things (God, spiritual, mental and physical) are linked together in networks of causes and effects, but that still we are not 'all one' and we do not each 'create our own reality'. That physics as known today might be approximately the end result of these networks of causes coming from God.

Reading Schedule

Week 1:	Preface and Chapter 1	Introduction
Week 2:	Chapters 4 and 5	Substances and Generative Levels
Week 3:	Chapters 7 - 11 and 3.3	Starting with a God of Love
Week 4:	Chapters 12, 14 and 15	A God of Life, Wisdom and Action
Week 5:	Chapters 17, 18 and 3.1	Spiritual, Mental and Physical
Preparatory	Chapters 19 and 20	The Theistic Universe
Week 6:	Chapters 22, 25 and 27	Mind and its connections
Week 7:	Chapters 24 and 26	Physics and evolution
Week 8:	Chapters 23, 28 and 29	Spirit and its connections

Note that chapter 25, on mind-body connections, does use Chapter 24.

Chapter 2 reviews some history of ideas,
Chapter 13 concerns infinity, and
Chapter 16 concerns time and eternity.
Discussion, if desired, can also concern these.

1. Unifying Science and Theism

Summary points for Week 1

Modern Naturalism and Science

1. Tries to allow only physical explanations
 - Looks for mechanisms
 - Does *not* rely on anything about God
2. But has big difficulties still:
 - Cannot yet explain minds & consciousness
 - Cannot yet explain origin of life & its informational basis.
3. So, it is a 'Promissory Materialism'
 - But: how long should we wait? 50 or 500 years?
4. Thus: we should try alternatives now!
 - Should make new theories of mind, etc.
 - To compete with existing science research programs

Requirements of Science

1. Should accept the best explanation of observations and experiments
2. But: science still needs overall theory:
 - Theory to explain how to observe
 - Theory to explain how causes operate
3. Science should not prejudge its starting point:
 - The conclusion about 'what exists' should depend on results of investigations
4. So: different 'overall theories' should be allowed.

Perhaps Science and Religion do Not Overlap?

1. Opposing view: 'non-overlapping magisteria' (NOMA)
 - Science = 'what is' and
 - Religion = 'what should be'
 - Protects religion from science & vice versa
2. But NOMA has serious defects:
 - If we are to know God or even about God, then God must influence us.
 - Religion & theism do talk of what is!
 - How we live. Human nature (soul?). Religious history (revelations, incarnation), etc.
3. There *are* overlaps between science and theism!

Try to make 'Theistic Science'

1. Start from postulate that There Is a God
 - In contrast to naturalism's "no need for God".

2. Clarify the basic postulates of theism
 - No paradoxes allowed.
 - Keep a rational consistency!
3. Should be non-reductionist:
 - Do not make minds 'nothing but' the brain.
4. Make predictions to compare with experiments
 - Supported if predictions are confirmed

So we try taking Theism like a scientific theory

1. Theism has empirical consequences
2. It can be tested, and so could be scientific.
3. Explore theism as an alternative to naturalism

Some Scientific Objections to Theism

1. If God were allowed as an explanation in science, then 'anything goes'.
 - The explanation of 'God did it' could be used for any event whatsoever, however regular or irregular and however comprehensible or incomprehensible.
2. *Reply:* God is not some arbitrary and capricious old man who can do what he likes.

Allowing a Scientific Theism

- The previous reasons for opposing theism in science arise from misunderstandings about the nature of God.
- We already know that there are considerable regularities in the world, so we should instead explain the source, nature and reasons for those regularities.
- That source, for example, might be the constancy and eternity of the love and wisdom of God.

2. Substances and Generative Levels

Summary points for Week 2

Chapter 4 - We need a better idea of 'substance'

- Realistic basis need for all kinds of things
- The power/propensity/dispositions of objects
- Concept of mental substance

Substance, Form, and Dynamics

There are three categories of terms in science:

- formal terms about the structure & static properties of what exists now
- existential terms about what exists, what is. Is it unknown?
- dynamical terms about what would happen, in new or hypothetical conditions.
 - Only by dynamics can we make predictions.

Form	Existence	Dynamics
shape, number, form, relation, configuration, function, field, oscillation, wave, flow, vibration point, length, area, volume, amplitude, vector, matrix, Hilbert space, ratios, probability, relative frequency.	particle, material, matter, corpuscle, body, fluid, ether, substance, actuality, reality, world, universe.	cause, propensity, power, disposition, capability, energy (kinetic and potential), mass, charge, field coupling, force, pressure, momentum, impetus, elasticity/rigidity.
Mathematics	Ontology	Science of Causes

New idea: 'Dynamic substance'

- Try to derive 'existence' from 'dynamics' (ontology from causes)
- Substance of a thing is its propensity (to do some thing)
- Examples: 'electromagnetic force field',
 - 'potential energy field'
 - 'matter is a form of energy'
 - quantum wave function is a 'propensity field'
 - propensity to interact, or
 - propensity to choose actual outcome
- Remember: propensities still present even if not acting
 - Do not need to know more 'existence' than this.
 - Maybe not *that* original!
 - Aristotle and Newton used something similar

Quantum Physics

- There are probabilistic (random) events.
 - From a wave function spread out in space
 - Wave function from an equation about energy

Now:

- the wave function is the form of propensity
 - The propensity for probabilistic events
 - That propensity is substance of quantum objects
- No particles, only 'waves of propensity'
- The propensity is the substance, wave is the form

Bad ideas about Quantum Physics

- Shut up and calculate (physicists)
 - No reality
- Physics just for actual outcomes, not reality (Bohr)
 - No propensity or substance
- Parallel universes (Everitt)
 - No actual outcomes
- Hidden classical particles (Bohm)
 - Quantum waves are not substances
- Selection by consciousness (Wigner)
 - Propensities are for selections. But maybe 'when'?

Mental Substances (minds)

- Works for minds too:
- Not something 'we know not what'!
- **Mental substances are the propensity for mental actions**
- That is: loves, desires, etc. **are** mental substance
- Even materialists (eg Gilbert Ryle) agree that 'minds are dispositions'.
 - but now we take them as real substances.

Bad ideas of mental substance

- Immaterial Form (Aquinas)
- Rationality (Descartes)
- Matter (materialists, physicalists)
- Information (Bohm?)
- Quantum vacuum (Laszlo)
- Consciousness (what does it do?)

Chapter 5 - Generative Levels

Better idea of 'multiple degrees' of existence?

- Like 'dimensions' or 'planes', but better
- Examples from physics
- Examples from psychology
- General principles: generation & selection

Degrees in Galileo's experiment

- Remember how a ball rolling down a hill is accelerated by gravity (Galileo's experiment)
- Newton's second law: $F=ma$
 - So: acceleration (a) = force (F) / mass (m)
 - But: acceleration is present only if mass is there!
 - So: force = disposition to accelerate a mass (if finite mass present)
- Presence of inertial mass is occasion for motion, but not principal cause
- Multiple degrees in Newton's physics
- Ball rolling down a hill is accelerated by gravity
- Gravitational energy:
 - Force depends on the slope
 - Changes in gravitational potential energy produce the force

Two stages in Quantum Mechanics

- Propensity wave generates the actual measurement
 - according to Born's Probability Rule for $|\Psi|^2$
- Actual measurements = selections of alternate histories
- Energy operator generates the wave function,
 - according to Schrödinger's time-dependent equation
- So: 'Energy' and 'propensity waves' are two kinds of propensity
- Neither are mental propensities!

Multiple degrees in psychology

- In deliberate control of hand movements
 - Deliberate (rational) intentions (D)
 - Monitoring of moving hand, by eyes (P)
 - Control of muscles (M)

Recognizing Discrete Degrees

- Quantum mechanics:
 - Energy → Propensity → Actual Selections
- Classical physics
 - Potential energy → Forces → Acceleration
- Psychology of motor control
 - Plan → Guidance → Motor impulse → Physical act
- All these are example of **Discrete Degrees** or **Generative Levels**

Principles of 2 Discrete Degrees

Consider: $A \rightarrow B$

A generates further existence of B

Which new B is generated by A, and is selected by previous B

Twin processes of generation and selection

- Generation is from the 'higher' degree: 'principal cause'
- Selection is from the 'lower' degree: 'occasional cause'

If only two degrees like here, we have 'occasionalism':

- For God, this is philosophy of Nicolas Malebranche (1638-1715)
- An attempt to understand God-world relations.

Principles of 3 Discrete Degrees

Consider: $A \rightarrow B \rightarrow C$

A generates further existence of B, and B of C

Which new B is generated selected by previous B,

Which new C is generated selected by previous C.

Examples of 3 Discrete Degrees

- Have from quantum physics
 - A: principle / energy
 - B: distribution / form
 - C: final effect
- Just like in the mind:
 - A: desire
 - B: thinking
 - C: action

Quantum Field Theory: Propensities for Virtual Processes

- TWO linked sets each of three generative levels
 - both with (broadly) corresponding processes,
 - i.e. still in pattern 'Energy \rightarrow Wave \rightarrow Effect'.
- Virtual processes (in some way) 'generate' the terms of the Energy Operator: the Hamiltonian. (Kinetic & Potential energy)

3. Starting with a God of Love

Summary points for Week 3: Chapters 7—11 & 3.3

Chapter 7: **Plan of Approach**

- Postulate 1 *God exists.*
- Postulate 2 *God is One.*

Chapter 8: **The 'I am'**

- Postulate 3 *God is Being Itself.*

Chapter 9: **God is Not Us**

- Postulate 4 *God loves us unselfishly.*

Chapter 10: **Images of God**

- Postulate 5 *All the world, and each of its parts, is a kind of image of God.*

Chapter 11: **God is Love**

- Postulate 6 *God is Love.*

Where to begin Theism?

- 'God is an eternal, omnipotent, omniscient being who created & sustains the world'.
 - But these attributes do not have specific consequences for minds & spirit!
- We want the 'God of the Living', not just 'God of the Philosophers'.
- Better: 'Living theism':
 - God is that Person who is a necessary being, who is unselfish Love itself, Wisdom itself, and (in fact) Life itself.
 - God enlivens our world. (That is, not 'deism')

Essential Theistic Principles

- God is love which is unselfish and cannot love (only) itself.
- God is wisdom as well as love and thereby also power and action.
- God is life itself: the source of all dispositions to will, think and act.
- Everything in the world is a kind of image of God: all minds and also natural objects of all kinds.
- Our life from God derives from divine power, depending on us.

Religious Support for Postulates

- **Love**: "God is Love" 1 John 4:8
- **Wisdom**: "the Lord gives wisdom, and from his mouth come knowledge and understanding" Proverbs 2:6
- **Life**: "the Father has life in himself" John 5:26
- **Image of God**: "God created man in his own image" Genesis 1:27
- **Our life is from God**: "The free gift of God is eternal life" Romans 6:23

Consequence 1: We either are God, or depend on God for existence

- God is Being itself (Postulate 3)
- We (as individuals) have being (as, we exist).
 - Therefore, our being *either* is, *or* depends on (derives from), God (Being itself).

Which?

Consequence 2: God is Not Us

1. God is love which is unselfish
2. Unselfish loves cannot love itself.

Therefore, we must be distinct from God.

- That is: We are separate from God in some way: God is not us.
 - So: not 'pantheism', when everything is a part of God

A Problem for God:

- a) God is inner nature of all existence, and
 - b) God cannot love himself,
- What is he to do? Can there be a separate being to love?

(see next week)

Consequence 3: Every active thing is (some) image of God

- All the world, and each of its parts, is a kind of image of God
- We are images to greater or lesser extents, depending on our nature and actions.

(more details next week)

Consequence 4: Adjusting Religion (Section 3.3)

- God is a being composed entirely of Love, and, moreover, a completely unselfish love.
 - Anger, jealousy, exclusiveness and selfishness are completely foreign.
- But God is often portrayed as angry or jealous!
 - He permitted early religions to be more external and behavior-based.
 - Why?
- **Proposal:** it is *our* variation which lead to God having varying appearances to us.
- Psychology (to be confirmed):
 - When *we* are angry, *then* God appears angry with us.
 - We can choose to become *less* an image of God.
- Matt. 5:45: "He causes his sun to rise on the evil and the good, and sends rain on the righteous and the unrighteous".
- Like the sun rising & setting to make day and night. Does the sun vary, or the earth?

4. A God of Love, Wisdom and Action

Summary points for Week 4: Chapters 12, 14, 15 and 16.1

Chapter 12: **God is Life Itself**

- **Postulate 7** *God is Life Itself.*
- **Postulate 8** *We all live from God's life, as if from ourselves.*
- **Postulate 9** *Our actions (what we actually do) are our own.*
- **Postulate 10** *The life we have from God is in accordance with what we have actually done*

Chapter 14: **God is Wisdom and Action**

- **Postulate 12** *God is Wisdom Itself.*
- **Postulate 13** *God contains proceeding Actions.*

Chapter 15: **God is Transcendent and Immanent**

- **Postulate 14** *God exists eternally.*

Life and Life Itself

- The 'life of an object' is the most original generative disposition that gives rise to its capacities and actions.
- God is Life Itself: The original source of all powers, capacities and dispositions of objects and persons.

How do we live?

- Our being and life depends on God. How?
 - Our actions are our own
- The life we have is derived from God in accordance with what we have already done.
 - So we can choose when to act
 - As then we enjoy our actions
- Causes of events:
 - Our previous actions are the occasional causes
 - God's life is the principal cause (the source)

We live 'as if' from ourselves

- Our life depends on God.
- But still, when we act, we feel as if we are the source of our own actions.
- Afterwards, we may reflect and recognize the true source.
- This is in order that we enjoy our life.

Wisdom from God

Our ability to see truth arises from 'clear light of wisdom' from God.
This is like how we see things in the clear light of the Sun:

- Sunlight reflects from objects ~ Divine wisdom illuminates ideas
- Reflected colored light enters our eyes ~ Our understanding receives 'colored' thoughts
- We see the object ~ We understand the truth of the idea

Understanding ideas is like receiving the forms of things.

So: thoughts are like the specific 'forms' or 'shapes' in which love exists. As with God too.

God Reaches Out

- God's actions can continue into the world, like reaching out
- If these actions have life itself, then they are divine, and part of God.
- Not unchangeable (that is, not immutable), but still part of God

God is Love, Wisdom and Action

- God is love which is unselfish and cannot love only itself.
- God is wisdom as well as love
- God is thereby also power and action.

This is a kind of trinity within God as a person:

1. Love is the substance
2. Wisdom is the form
3. Action is the resulting act

Love and Wisdom are the same forever (eternal). The actions may vary.

We receive and re-use life (see also Section 16.1)

- We choose when to act (freedom!)
 - so we enjoy our actions
- This requires us to receive, retain, reuse life
- This requires in us 'separate containers' for love, and wisdom and means to action.
 - These are then combined when we choose.
- We have reception from love flowing in. This is 'inflow' or 'influx'
- This is the source of all love, thought, power and action in the world.

Images of God (applying Chapter 10 again to anticipate Section 17.1)

- All the world, and each of its parts, is a kind of image of God
 - We are images to greater or lesser extents, depending on our nature and actions.
- Now also:
 - What is unified and continuous in God, is imaged as discrete distributions
 - There are in us distinct images from God of Love, Wisdom and Action.

5. Spiritual, Mental and Physical

Summary points for Week 5: Chapters 17, 18 and 3.2

Chapter 17: **We are Composite, as Spiritual, Mental and Physical**

- **Postulate 15** *What is unified and continuous in God, is imaged as discrete distributions.*

Chapter 18: **We are Sustained by Influx From God, Directly and Indirectly**

- Combining God with the three created realms gives a set of four generative levels.
- **Postulate 16** *The relations between created realms is an image of the relation between God and creation.*
- **Postulate 17** *Whenever love acts by means of wisdom, that action is a conscious action. There is consciousness of the production of the result and also of the delight that arises from the achievement of that production.*

Chapter 3.2: **A Way Forward: Changes to science**

- Scientists should consider the possibility of as-yet-undiscovered dependencies of physical processes on such things as our individual minds or even on the transcendent mind of God.

Images of God (applying Chapter 10 again to anticipate Section 17.1)

- What is unified and continuous in God, is imaged as discrete distributions
- There are *in us* distinct images from God of Love, Wisdom and Action.

Realms

- The *spiritual realm* contains the separate **loves** in creation, including desires, loves, affections, motivations, purposes, dispositions, etc.
- The *mental realm* contains the separate carriers of **wisdom**, including thoughts, ideas, understandings, rationality, plans, ideologies, beliefs, etc.
- The *physical realm* deals with all the separate final **actions** and effects, including the entire sets of things we know from external observations and physics.

Three kinds of reception

1. **Spiritual**, to contain the separate loves in creation.
 2. **Mental**, to contain the separate carriers of wisdom.
 3. **Physical**, to deal with separate final actions & effects.
- The spiritual and mental, together, are often call 'mind'.

Our *human spiritual* is the *container* for the spiritual loves that we receive from God.
Our *human mental* is the *container* for the love of wisdom that we receive from God.

Generative relations between 3 receptions

God, with the three created receptions, gives a set of four *generative levels*.

God ∋ Spiritual ∋ Mental ∋ Physical

- **God** generates first the spiritual realm, where there are containing-substances which appropriate and retain love.
- **Spiritual** (of loves) acts by producing new thoughts in the mental realm, where there are containing-substances which appropriate and retain ideas.
- **Mental** (of ideas) acts, in conjunction with the loves from the spiritual, by producing new effects in the final physical realm
- **Physical** (of actions) is the final effect of the chain and is the 'bottom line' or termination of all the processes.

Selecting relations between 3 receptions

Lower levels *select* what can occur:

God ∽ Spiritual ∽ Mental ∽ Physical

- Particular existing **spiritual** containing-substances select which loves from God *can* be appropriated and retained
- Particular existing **mental** containing-substances select which ideas generated by the spiritual realm *can* be appropriated and retained.
- Particular existing **physical** containing-substances select which actions generated by spiritual and mental realms *can* have permanent physical effects.

5B. Preparation

Summary points for Week 6 preparation: Chapters 19 and 20

Please also read (as preparation for later weeks):

Chapter 19: to find the sub-parts of the spiritual, mental and physical realms,

Chapter 20: a review of the kind of universe now to be expected.

God is Equally Present in All Subparts (Chapter 19)

- God is the same everywhere, at all scales in space and at all degrees and stages of generation.
- Same pattern of love/wisdom/effects can be applied at each of the these 3 created generative levels
- This produces sub-levels.
- Three levels give nine sub-levels (an ennead)

Enneads in general form:

Sub-levels: Table 19.2

Sub-sub-sub-levels in the Physical: Table 19.4

(these will be explained in more recognizable detail later)

Dynamic Existence

Everything has substance and form (physical, mental, spiritual, even God): [Section 20.1]

- 'No process without structure, no structure without substance, no substance without power, no power without process'

Time is 'normal', not strange just for spirituality: [Section 16.3]

- Past is definite
- Future is not yet existing (only as form, maybe)
- Present is the conscious point of becoming
- Maybe God can know forms for future things, but not their substance. Future substances do not exist.

Correspondences

- Detailed events in both of each pair of degrees.
- Successive generative influxes (from prior degree) reciprocating with sequential selections
- This alternation will repeat itself longest if the *patterns* of the constituent events are most similar in the two degrees, as then they do not get out of step.
- This gives rise to *correspondences of function* between adjacent degrees.
 - by a sort of survival of the fittest
- This is a causal explanation of correspondences.
 - They are often used in the bible to represent the spiritual by the physical.

Personal Identity

- Love is the substance of a person
- Cannot change a person without changing their loves.
- Cannot change loves, and keep the same person, without some acceptance by old loves
- The deepest love can be unchanging
- This may be used to permanently identify persons

Law and Divine Intervention

- Physical laws describe behavior of physical degrees, if no influx from spiritual or mental
 - If only physical laws, matter is 'causally closed'
- But not here: *Need influx into matter!*
 - to sustain physical processes
 - to select and contain mental & spiritual processes
 - This not 'intervention' but intended causal influx!
- Note how sustained mental and spiritual processes depend on physical selections. The physical is the needed 'bottom line' for creation.

6. Mind and its connections

Summary points for Week 6: Chapters 22, 25 and 27

Chapter 22: **Discrete Degrees in the Mind**

- The mind (as a whole) is the recipient and container of *thoughts* (degree 2)
- And *also* the *affections* and *desires* that motivate and depend on those thoughts.
- **The mind (as a whole: section 22.3) has sub-degrees 2.1, 2.2, 2.3:**
 - 2.1: Thoughts of loves The interior or ‘religious’ rational mind
 - 2.2: Thoughts of thinking The middle or ‘scientific’ rational mind
 - 2.3: Thoughts of acting. The external or ‘sensorimotor’ mind
- **Mental growth:**
 - Life as infants starts in the external mind, dealing with sensing and acting.
 - Life as young adult develops a rational mind for classes, forms and systems.
 - Life as older adult finds an inner rational that reflects on one’s loves (good or bad)
- These stages can be related to those of psychologist Jean Piaget.
- There are similar stages in emotional development as characterized by Erik Erikson.
- Probably are sub-sub-degrees (or even more details) within the above structures.
- Very many things for psychology to investigate!

Chapter 25: **Mind-body Connections**

- Simplified views (by ignoring some [sub-]degrees) correspond to known philosophies in history. For example: physicalism, non-spiritual humanism, even Buddhism.
- Science struggles to explore mind-body connections. It is clear that such connections exist, but is not clear in science which way the causes operate.
- The principles in this book of ‘Generation and Selection’ may be now applied to see how minds and bodies might be causally connected, without reducing mind to body, or reducing body to mind.
- We predict **correspondences**: *similar patterns of function* in adjacent levels when there are multiple generative levels (remember from Week 2!).
- These correspondences can help us understand one level in terms of another, as there should be similar functions in operation, even though the substances (loves or propensities are different).
- Sections 25.5 and 25.6: will discuss later, after ‘spirituality’ is outlined.

Chapter 27: **Consciousness**

- The ‘hard problem of consciousness’ is to understand how consciousness and physical things could ever be related.
- Here, we use:
Postulate 17 *Whenever love acts by means of wisdom, that action is a conscious action. There is consciousness of the production of the result and also of the delight that arises from the achievement of that production.*
- We are *not* immediately aware of the love that leads to our action, *nor* are we automatically aware of our understanding that was instrumental in selecting that particular action.
- We have to *infer* our loves, even our own loves, by collecting evidence for how we feel and how we behave in a wide variety of circumstances. We are never directly conscious at a given level of the loves operating at that level.
- Mental sensations and perceptions must be organized by the ‘Selection’ part of ‘Generation and Selection’. A sensing mind must be able to imagine all that it is capable of perceiving, so that *which* it perceives can then be *selected* by what is being looked at.
- **Awareness is not:**
 - Property of physical objects, or
 - Emerging from complex systems,
 - Causally effective, but rather the operation of mental causes.
- Awareness should be possible in animals (as desires and sensations), and even something primitive in plants.
- Awareness is not always strictly confined to our bodies. In times of stress and other adventures, external awareness is sometimes possible.

7. Physics and Evolution

Summary points for Week 7: Chapters 24 and 26

Chapter 24: Discrete Degrees in Nature (#3)

- The natural degree is the processing of *actions*, after spiritual *loves* acting by means of mental *thoughts*.
- This is the physical degree. Its operations are *not* conscious or mental, but *material*.
- It produces the final permanent effects, fixed in history.
- *Physics* should be able to investigate and discover about this final degree. It probably already has discovered many aspects of this degree and its parts.

Sub-degrees

Like the others, it contains three sub-degrees (3.1, 3.2, 3.3), even sub-sub-degrees.

They all have specific functions:

- 3.1 *First sub-degree*: receive loves from spiritual & mental above it.
- 3.2 *Second sub-degree*: maintain more-or-less stable physical laws and forces
- 3.3 *Third sub-degree*: produce the final actual effects as the 'ultimate bottom line'.

Physics identification of these

- 3.1 *Pregeometric processes*: making space-time
- 3.2 *Virtual processes*: quantum field theory. Bosons (e.g. Higg's boson) that make the masses and forces between particles.
- 3.3 *Actual processes*: 'ordinary' quantum mechanics

In present-day physics,

1. the pregeometric 3.1 sub-degree is much speculated upon. Nothing widely accepted.
2. the virtual 3.2 sub-degree is well determined: the Standard Model of elementary particles with Higg's boson. Its many fixed parameters are well known.
3. the actual 3.3 sub-degree is mostly determined.
The puzzle is still the 'measurement problem' in quantum mechanics.

The sub-sub-degrees of the 'actual 3.3' are clear. (see Section 5.3.1 for more details)

- 3.3.1 *Hamiltonian operator*: total *energy* is made of mass and potentials, both given by the previous (3.2) virtual processes (see Section 5.3.2). It generates:
- 3.3.2 *Schrodinger wave function*: the 'probability wave' describing fields of propensity. It generates:
- 3.3.3 *Actual selections*: the final, fixed and ultimate actions. Measurements must be an example of these.

"Energy", strictly, is only in the 'actual processes'. It includes kinetic energy, potential energy and mass-energy. In spiritual and mental degrees, love & desires are *analogous* to energy.

Chapter 26: **Evolution**

1. God cannot create self-sustaining organisms immediately: nothing else is life itself.
2. God cannot create robust theistically-sustained organisms immediately:
 - God cannot create permanent beings that are fully formed, except insofar as there are prior physical events that form the foundation and outer framework for the dispositions of the new being. What God can immediately create are physical events themselves. Everything else takes longer. There are no instant adults. (p. 161)
 - To create permanent and robust individuals, they must be developed so that, at every stage of their life, they have a substantial history of physical actions in the past and mental and spiritual lives built on that.
 - Since not even God can create history afterwards, this means that a longer and slower process of creation is needed if a race of people is to be developed who have fully-developed and long-lasting characters to be loved and to love God in return.
 - Hence some process of 'descent by modification'.

When spiritual or mental ideas are produced immediately, they do not 'have a life of their own'. Rather, they disappear again when the attention goes elsewhere, *unless* some physical effect has been produced. (Our memory must involve such effects.)

Theistically-filtered evolution:

- The very fact of discrete degrees means that plants and animals must receive specific cognitive and affective dispositions, according to their biological form.
- Even if God took *no active* involvement in the history of our earth's species (as Darwin wanted), beings will still be favored if their forms well receive mental life.
- This gives a tendency of evolution to make beings approach full mental reception.
- We hope that this is a tendency toward the human form. I think so.

Theistically-driven evolution:

- If God took *active* involvement in biological history, then he could specifically change the genetic structure of species, so that new species were born. And do this widely, to make a new population. This is *driving* the production of new species.

So three competing theories:

- A. **neo-Darwinian theory:** random mutations, genetic drift and recombination, natural selection (no influence from God, except perhaps through physical laws),
- B. **theistically-filtered evolution:** random mutations, drift and re-combination, so there is *both* natural *and* *theistic* selection (God gives influx by laws of discrete degrees)
- C. **theistically-driven evolution:** *preselected and* random mutations, genetic drift and recombination, along with both natural *and* *theistic* selection.

To be decided between by comparing the observed evidence with the various predictions of the several theories.

8. The Spiritual

Summary points for Week 8: Chapters 23, 28 and 29

Chapter 24: **Spiritual Discrete Degrees (#1)**

- The spiritual degree is the processing of *loves*, which then act by means of mental *thoughts* to finally give physical *actions*.
- This is a mental degree. Its operations *are* conscious, and in someone's mind.
- It initiates and intends actions.
- *Religion* should investigate and discover about this final degree.
It probably already has discovered many aspects of this degree and its parts.

The spiritual is **not**:

the whole, or the cosmos altogether, or 'the all', or elevated minds, or another physical dimension, or infinite space, or a vibration, or harmonics, or absence of time, or a fifth element, or fine physical substances, or polarities, or the 'inner', or the 'first person view'.

The spiritual **is**:

a causal discrete degree that can not be continuously transformed into the physical.
Like: end with cause+effect, or heat with light, or energy with motion, or virtual with actual processes, or desire with thoughts and actions, or soul with mind and body.

Sub-degrees

Like the others, it contains three sub-degrees (1.1, 1.2, 1.3), even sub-sub-degrees.

They all have specific functions:

- 1.1 *First sub-degree*: love of loving -- receive loves from God.
- 1.2 *Second sub-degree*: love of truth -- maintain stable spiritual truths
- 1.3 *Third sub-degree*: love of doing right -- produce the final intentions

The spiritual is our inmost love.

It appears that we develop this progressively as we grow and mature.

Heavenly states

Mostly we do *not* experience or live in this spiritual degree, only moments of grace.

When we *do*, as in mystical experiences or the deeper near-death experiences, this degree appears as heavenly: delightful, fully-awake, full of love, the happiness of our dreams.

I think the main functions of the spiritual degree are by people who have once lived on earth, but then have physically died, and now live regularly in these heavenly states.

They have some connection with us (as our ancestors) and so give us influx of loves that are good and suitable for us.

Chapter 28: **Spiritual Growth**

- Permanent spiritual development is based on what loves have deliberately entered into the actions of our lives.
- The important actions are the joint action of our own loves and our own deliberate thought.
- Such actions become part of our selves and contribute to making up what we are.

Spiritual growth is **not** only:

belief, or knowledge even of truths (wisdom), or blind obedience, or good intentions alone, or suffering, or personal imputation of the suffering of others, or elevated, expanded, rotated, vibrated (etc.) consciousness:

Stages of spiritual growth:

1. Breaking into to the 'inner rational': to 2.1 from 2.2 – first light.
2. Understanding of spiritual action, 2.13 – separating spiritual 'water' from our own.
3. Understanding of spiritual truth, 2.12. – repentance to bring out first fruits
4. Understanding of spiritual love, 2.11 – actions from illumination (not from heart)
5. Love of spiritual action, 1.3 – actions to confirm oneself in truth and good.
6. Love of spiritual truth, 1.2 – actions from insight, as image of God
7. Love of spiritual loving, 1.1 – actions from love (peacefully!)

That is, like creation in seven days.

Chapter 29: **Errors and Evils**

There are limits on Divine Omnipotence, if God is to only do what is good, and to not destroy anyone. That is, equivalently, to not destroy the inmost loves of anyone permanent.

So God cannot:

- A1. Create beings that live from themselves.
- A2. Create theistically-sustained beings suddenly *de novo*.
- A3. Remove all evil from the world existing today.
- A4. Remove all the evil loves from inside all existing persons.
- A5. Stop all persons from choosing evil, even though they still *can* do it.
- A6. Stop all persons *intending* all evil, even though they love it and still *can* do it.

The real question is:

Could God not create a world in which all persons (no matter that they evolved gradually biologically, developed gradually psychologically, and regenerated gradually spiritually)

- still never made decisions against God,
- still never entertained false thoughts or evil intentions, and
- still never desired delights that cannot come from God, and (moreover)
- never aspired to *be* gods but always knew that they were separate from God ?