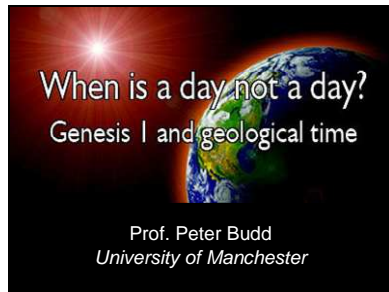


When is a day not a day? Genesis 1 and geological time

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CiS Manchester: The Manchester Science and Philosophy Group

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Whatever one thinks about the Bible.



Whatever one does or doesn't believe about its divine inspiration. One has to admit, it has a dramatic opening.



Cosmic in scale.

The origins of the whole universe, from the smallest flower to the furthest star.

Cosmic in scale, yet somehow condensed into a tiny timeframe.

Six days.

Astronomers tell us the Universe has been expanding for perhaps 14 billion years.

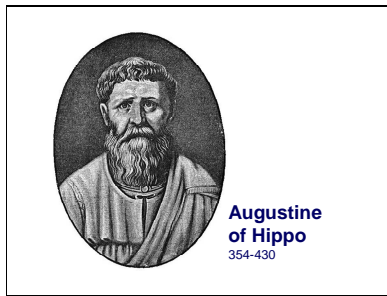
Geologists tell us the earth has been here for perhaps 4¹/₂ billion years.

Yet the Bible crams all this into just six days.

No wonder the opening chapter of Genesis has provoked so much debate over the years. Indeed, over the centuries.

For the question of how to interpret the days of Genesis 1, was around long before the rise of modern science.

One person who struggled with this, back in the late fourth and early fifth centuries, was Augustine of Hippo.



He wrote, or at least began to write, three commentaries on Genesis, as well as including large chunks on Genesis in his *Confessions*, and in his major work *Of the City of God*.

As his approach changed over time, and he expressed a variety of attitudes, we nowadays find people with wildly different opinions, all quoting Augustine in support of their particular views.

As a young man, Augustine followed a sect called Manichaeism.

They adopted a hyper-literal approach to interpretation.

And rejected bits of the Bible that used figures of speech or anthropomorphisms.

After Augustine became a Christian,

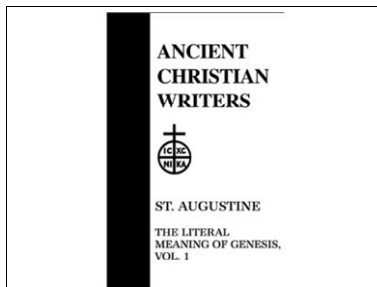
he wrote a commentary on Genesis, specifically against Manichaeism.

At that stage, he took more or less allegorical approaches to the days of Genesis 1.

Seeing them as six ages of the world.

Or even as periods in the development of a person's life.

Later, Augustine began, but never finished, a "literal" commentary on Genesis.



Much later still, he managed to complete a book on *the literal meaning of Genesis*.

Where, by "literal" he meant treating Genesis 1 as being about the origins of the universe, rather than being an allegory for the story of the church, or for the salvation of an individual, or some such.

For Augustine, "literal" did not necessarily mean taking every single word in the most literal sense.

All this illustrates that arguments about Genesis 1,

do not arise primarily from a conflict between science and faith.

Rather, they're arguments about how to approach the Bible.

About what is, and what isn't, a valid mode of interpretation.

How do you interpret the Bible?

Science, indeed, may help in sifting through different approaches.

For Science may be seen as a process for observing what God has made. (*Romans 1:20*)

Providing complementary information to what the Bible says.

Amongst Christians who believe passionately in the divine inspiration of the Bible.

Who treat the Bible as the ultimate authority in matters of faith and conduct.

Who regard the Bible as, in some sense at least, inerrant.

There's a wide spectrum of approaches to Genesis 1.

And a great deal of mutual incomprehension.

So let's briefly look at some of the ways in which people think about the days of Genesis 1.

And then suggest some principles for tackling matters like this.

And see how they apply to this particular issue.

So, how do people think about the days of Genesis 1?

Some focus on the word that's used.



Day. In Hebrew, "Yom".

A word which, in both English and Hebrew, can be used in various ways.

Some say that in this context, in particular in conjunction with the phrase

"And there was evening, and there was morning",

it must mean a literal, 24 hour day.

We'll come later to the question of what is implied by "literal, 24 hour day".

But even amongst those who take this view,

there are those who would apply it to God's act of creation.

and those who would apply it to God's act of revelation.

Who would say these are the days – or nights – in which God's creative act
was revealed to the person who passed it on to us.

And even among those who say the days are literal, 24 hour days

in which God performed six acts of special creation,

there are those who see this as implying a young earth,

and those who assume a large time gap between verses 2 and 3 of Genesis 1,

allowing for an old universe, an old earth.

Others point out that day – Yom – can mean any period of time. An age. An aeon. They point to Biblical passages which show that time for God is not the same as time for us.

For a thousand years in your sight
are like a day that has just gone by,
or like a watch in the night.
Psalm 90:4

With the Lord a day
is like a thousand years,
and a thousand years
are like a day.
2 Peter 3:8

Psalm 90 v. 4.

“For a thousand years in your sight are like a day that has just gone by”

And 2 Peter 3:8.

“With the Lord a day is like a thousand years, and a thousand years are like a day.”

And so they aren't concerned if God's activity takes place over what is, to us, aeons.

Other people focus on the literary style of Genesis 1.

**Poetry
or
history?**

Some say it's more like poetry than history.

In any case, what does the word “history” mean,

when what one is dealing with is, by any normal definition, prehistory.

And whilst some perceive the arrangement as chronological, others see it as topical.

They point out that the first three days involve separation.

SEPARATION

1. Light
from dark
2. Water below
from water above
3. Land + vegetation
from sea

Light from dark.

Water below from water above.

Land, with its vegetation, from sea.

Then the next three days describe the occupation of the environments thus formed.

SEPARATION	OCCUPATION
1. Light from dark	4. Lights
2. Water below from water above	5. Sea creatures and birds
3. Land + vegetation from sea	6. Land animals

Lights.
Sea creatures and birds.
Land animals.

There's a wide spectrum of approaches to Genesis 1.

**How do you
interpret
the Bible?**

You can probably add to the modes of interpretation I've mentioned.
Some people are very passionate about their particular approach.
Are convinced their interpretation is the only reasonable interpretation.
We can all find ourselves locked into a certain way of thinking.
And be baffled as to why others can't see what seems obvious to us.

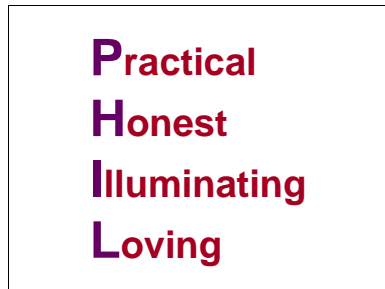
So, how do we tackle questions like this?
Questions which can provoke strong reactions.
Which incite fervent arguments.
But which are hardly essential to the Christian faith.
It's a core Christian belief that there is a creator God.
A God who made us, who knows us, who loves us.
But the process, or perhaps lack of process, in creation.
That, surely, falls into the category of what the Apostle Paul calls
"disputable matters" (Romans 14:1)

Accept him whose faith is weak,
without passing judgment on
disputable matters.
Romans 14:1

Matters about which people may argue vehemently,
but which do not really impact on core beliefs.

Can we find a way past the emotional responses, to assess, as objectively as possible, the different ways of thinking about such matters?
If there is any forum for doing that, this surely should be it.
So, I am going tentatively to suggest some principles for tackling disputable matters.
And explore how they might apply to this particular issue.

The principles I'm going to suggest may be summarised as:

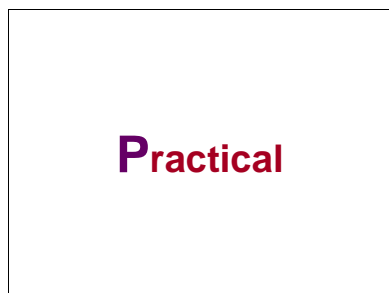


Practical – Honest – Illuminating – Loving.

P. H. I. L.

You could say this is a PHILosophy for tackling disputes.

First: **Practical.**



I suggest that the questions which really matter are the practical questions.

The questions which influence our everyday lives and relationships.

There are many questions it'd be nice to know the answer to.

That stimulate the intellect.

But ultimately, the ones that matter are the ones that make a difference to the way we live.

I say this, in part, because I'm an experimental scientist.

Now, science involves both theory and experiment.

I use theory to help understand and interpret my experimental results.

To make predictions.

But a theory that doesn't link to what can be observed and measured, is of no use at all.

As an experimental scientist, I'm interested in what's practical, what's useful.

The questions which really matter are the practical questions.

I say this as an experimental scientist.

But when dealing with the Bible, there's another reason for saying this.

If one is going to claim that the Bible is an authority,

then surely one has to look to the Bible to determine "an authority on what?"

If one really believes in the Bible, then surely it must set the agenda,
and we should be careful about forcing our own questions on it.
So, does the Bible give a statement of its own purpose?
I suggest it does, in 2 Timothy 3:17.
Now, I have often heard people quote 2 Timothy 3:16

All Scripture is God-breathed
and is useful for teaching,
rebuking, correcting and
training in righteousness,

“All Scripture is God-breathed and is useful for teaching, rebuking, correcting and
training in righteousness,”

But all too often they miss off the end of the sentence. 2 Timothy 3:17.

All Scripture is God-breathed
and is useful for teaching,
rebuking, correcting and
training in righteousness,
so that the man of God may be
thoroughly equipped for
every good work.
2 Timothy 3:16,17

“so that the man of God may be thoroughly equipped for every good work.”

So that...

A clear statement of purpose.

...thoroughly equipped for every good work.

Surely, this says that the Bible is first and foremost intended to be practical.

The questions which really matter are the practical questions.

So, when we look at the days of Genesis 1,

What are the **practical** lessons the Bible itself draws.

Well the six days of activity in Genesis 1, are followed by a day of rest.

This introduces a healthy pattern of life.

The concept of Sabbath.

For in six days the LORD made
the heavens and the earth,
the sea, and all that is in them,
but he rested on the seventh day.
Therefore the LORD blessed the
Sabbath day and made it holy.
Exodus 20:11

For the people, a day of rest each week. (Exodus 20:11; 31:17)
But also, for the land, a year of rest after six years of productivity. (Leviticus 25:4)

But in the seventh year the land
is to have a sabbath of rest,
a sabbath to the LORD.
Leviticus 25:4

And, after seven times seven years – in the fiftieth year – a jubilee. (Leviticus 25:10)

When land and property are returned, and slaves are freed.

Now, the practicality of having a weekend,

is something that has pretty much universally been taken on board.

It's such a good idea, everyone accepts it.

Working indefinitely without a break isn't good for us.

The ideas of rest for land, and of jubilee, have not always been followed.

But are highly relevant to current environmental, economic, social and political issues.

Although we haven't time to explore all that today.

The point is that the Bible itself uses Genesis 1 to introduce some very practical lessons.

Developed in the context of a particular nomadic tribe.

And elaborated in the teachings and actions of Jesus.

Who showed the Sabbath was not about legalistic adherence to rules.

The Sabbath was made for man,
not man for the Sabbath.
Mark 2:27

But intended for human benefit. (Mark 2:27)

However, even if the primary lessons of Genesis 1 are practical lessons,

that doesn't mean it doesn't also answer more esoteric questions.

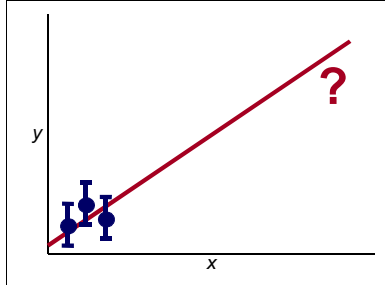
So what about other questions people get het up about?

That brings us to our second principle: **Honest.**

Honest

By which I mean, being honest with the evidence.

As a Professor of Chemistry,
I often have to warn my students about the dangers of overinterpreting the evidence.



It's so tempting, when you have a little data, to extrapolate, to infer,
much more than is really justified.

And as experimental scientists,

we know that every experiment involves a degree of uncertainty.

We try to minimise it, but we can't avoid it.

We take it into account.

That's why, as scientists, we tend to be cautious in what we write.

We use phrases like "this suggests that...", or "this is consistent with the idea that..."

We avoid phrases like "this proves that...", except in a very specific mathematical context.

We're open to new evidence that may show we're wrong.

In Genesis 1, we have limited data.

A compact story which, I believe, says a great deal about God, the Universe, and us.

But not necessarily everything.

Of course, when we're looking for answers to our questions,

it's tempting to go beyond the evidence,

it's tempting to speculate.

And there's nothing wrong with speculation.

It's fun to speculate.

So long as we remember that's what it is – speculation.

The problem comes when speculation transmutes into dogma.

When people claim Biblical authority for inferences that go beyond the Biblical evidence.

To me, that's not being honest with the Bible.

So, when someone says "The Bible says..."

It's always a good idea to check exactly what the Bible does say.

To recognise the limits of the available data.

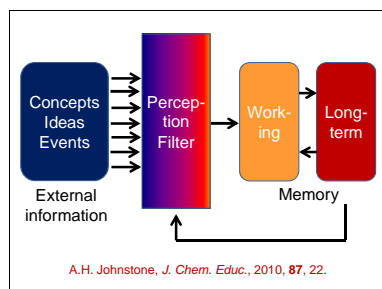
To separate what the Bible actually says, from inference, speculation and opinion.

And separating evidence from inference brings us to our next principle: **Illuminating.**

Illuminating

By which I mean, shining a light on the underlying causes of an argument.
Exposing hidden assumptions.

As a Professor of Chemistry, one of the most depressing things is marking exams.
That's when you realise how little you've got across.
You think this year you've found a way to explain something so clearly,
no-one could possibly misunderstand.
Then you see the answers to the exam questions!
The problem is what educationalists sometimes call our "perception filter".



We're continually bombarded with information: concepts, ideas, happenings.
We can't take it all in, we have to filter most of it out.
We have to select what interests us, what makes sense to us, what's important to us.
And reject the rest.
What we select – our "perception filter" – depends on what we think we already know.
On our presuppositions. On our beliefs.
And so, until we're willing to challenge our presuppositions,
we'll always see certain things in certain ways.
The simple fact is, however carefully I've prepared this talk,
what some of you think I'm saying,
will be completely different to what I think I'm saying.
Because what we perceive is based in part on our own presuppositions.

So what presuppositions might people bring to Genesis 1?
Well, if we're talking about days, we're talking about time.

**What is
time?**

And how we read the passage will depend on the assumptions we make
– assumptions we may not even realise we’re making –
about the nature of time.

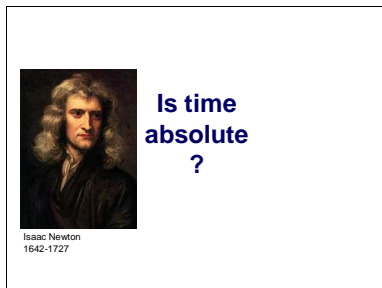
And about how God relates to time.

Someone who thinks of God creating in time, will see things very differently,
to someone who thinks of God as creating time.

So, to shine a light on this issue, we really need to ask questions like “What is time?”

Physics has things to say about time.

For physicists, a revolution occurred near the beginning of the last century.

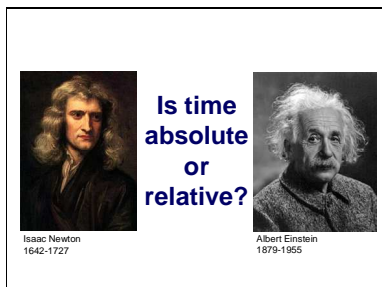


Previously, going back to Newton, it was commonly assumed that time was absolute.

That the flow of time was exactly the same for everyone and everything, wherever.

As if there were some master clock somewhere, relentlessly ticking away.

Then a young patent clerk named Albert Einstein published some revolutionary ideas.



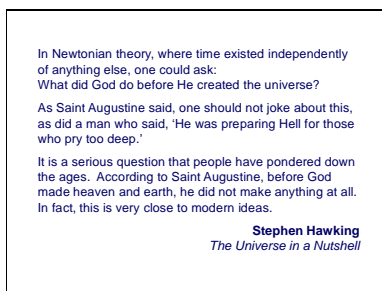
Implying that time is relative.

That time is different for observers that are moving relative to each other,

although the difference is very tiny for the situations we normally encounter.

Of course, Einstein wasn't the first person to question the nature of time.

As Stephen Hawking points out in *The Universe in a Nutshell*:



“In Newtonian theory, where time existed independently of anything else, one could ask: What did God do before He created the universe? As Saint Augustine said, one should not joke about this, as did a man who said, ‘He was preparing Hell for those who pry too deep.’ It is a serious question that people have pondered down the ages. According to Saint Augustine, before God made heaven and earth, He did not make anything at all. In fact, this is very close to modern ideas.”

**Is time
absolute
or
relative?**

Notions of absolute versus relative time may seem rather obscure. Yet what we consciously or subconsciously assume about this, inevitably influences how we think about passages like Genesis 1. If we assume time is absolute, and most people probably do if they haven’t thought about it, because that corresponds closely enough to our finite, everyday experience, then it seems to make sense to talk about a “literal, 24 hour day”, because a day is a day is a day. But if we regard time as relative, then we have to specify a day for whom or for what? If we say “a day for God”, that opens up a raft of additional questions about the temporality of God. If we say “a day for the writer of Genesis”, We have to ask about the nature of the revelation. And if we say “a day for the earth”, We introduce yet another load of assumptions.

The point is: however we approach the passage, we bring assumptions to the interpretation. And if we have a genuine desire for truth, we’ll try at least to be honest about the assumptions we make.

Personally, it seems to me the opening words of Genesis

In the beginning God created
the heavens and the earth.
Genesis 1:1

“In the beginning God created...”
are best understood if time is a property of creation.
And therefore God, as creator, transcends time.
Given that, I have difficulty with interpretations that constrain God to a human timescale.
Other than in the incarnation.
Those interpretations seem to me to belittle God.
To reduce God to something far less than I understand Him to be.
However, I recognise that amongst my fellow Christians
are those who make different assumptions, and so draw different conclusions.
And that brings us to a final principle: **loving**.

Loving

Some things are more important than being right.
When the Apostle Paul wrote to Christians in Rome about disputable matters,
he wrote this: (Romans 14:1)

Accept him whose faith is weak,
without passing judgment on
disputable matters.
Romans 14:1

“Accept him whose faith is weak, without passing judgment on disputable matters.”
The particular matters Paul discusses there include what one should or shouldn’t eat.

I am fully convinced that no food is
unclean in itself.
But if anyone regards something as
unclean, then for him it is unclean.
If your brother is distressed because
of what you eat,
you are no longer acting in love.
Romans 14:14,15

He makes it clear he’s
“fully convinced that no food is unclean in itself” (Romans 14:14)
But he goes on to say
“If your brother is distressed because of what you eat,
you are no longer acting in love.” (Romans 14:15)

Which leads Paul to say:

Let us therefore make every effort
to do what leads to peace
and to mutual edification.
Romans 14:19

“Let us therefore make every effort to do what leads to peace
and to mutual edification.” (Romans 14:19)

For those of us who call ourselves Christian, we have a responsibility to love.
That might mean biting our tongue, when well-meaning people say things we think are silly.
It certainly means being cautious how we approach disputable matters.
That doesn't mean there isn't a time and place for argument.

Argument can be positive.

It can help us clarify our thoughts; sift sense from nonsense.

But, for a Christian, arguments about disputable matters should never override love.
I may disagree with some of my fellow Christians about what a day means in Genesis.
But that doesn't mean – shouldn't mean – I can't share in fellowship with them.

Work with them. Love them.

If you came here this evening hoping for a definitive interpretation of Genesis 1,
I'll have disappointed you.

Instead, I've suggested some principles for tackling things people argue about.

Things people argue about that don't really matter.

I've suggested an approach that's
practical, honest, illuminating and loving.

But now, it's your turn.

The floor is open for questions and discussion.

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