

Music Order

Service 20121125

Adrian Worsfold

<Start 10:36 for 11:00 am start [24:21]>

01 Vangelis Albedo [04:27]

02 Vangelis Sword of Orion [01:59]

03 SF 147 Leaving of Lismore write alt [03:19]

04 Fotheringay The Sea [05:31]

05 Vangelis Cosmos Stars [09:00]

06 SF 003 Salley Gardens write alt [03:17]

07 SF 147 Leaving of Lismore alt [02:45]

08 ReynoldsMalvina God bless the Grass [02:02] <listen>

09 HL 207 Mountain Alone write alt [02:57]

10 Fairport Convention Celtic Moon extracts [01:32] <collection>

11 SF 048 Maccabaeus 03 [03:19]

12 Trees Snails Lament [04:39]

13 PriorMaddy Solo [04:56]

14 DennySandy Who Knows Where the Time Goes [05:37]

15 Vangelis Pulstar [05:51]

16 Vangelis To The Unknown Man [09:12]

17 Pink Floyd Keep Talking live [07:41]

Service 20121125 Adrian Worsfold

[Light the Chalice] From afar, what we have lit is a pale yellow dot. But this dot, if there was nothing else but darkness, would be still seen for mile upon mile. What it represents, then, stays with us; its hope will always be so long as it burns.

Here are some words from Carl Sagan in his book *Pale Blue Dot: A Vision of the Human Future in Space*:

A religion old or new, that stressed the magnificence of the universe as revealed by modern science, might be able to draw forth reserves of reverence and awe hardly tapped by the conventional faiths. Sooner or later, such a religion will emerge.

SF 003 [Salley Gardens](#) is our first hymn. The choice of hymns today is as much determined by the music as by the content, but the first hymn arguably resonates with the theme of [Carl Sagan and Evidence-Based Thinking](#).

Above the moon earth rises
A sunlit mossy stone,
A garden that God prizes
Where life has richly grown,
An emerald selected
For us to guard with care,
An isle in space protected
by one thin reef of air.

2 The mossy stone is grieving,
Its tears are bitter rain,
The garden is unleaving
And all its harvests wain,
The emerald is clouded,
Its lustre dims and fades,
The isle of life is shrouded
In thick and stagnant haze.

O listen to the sighing
Of water, sky and land,
And hear the Spirit crying,
The future is at hand:
The moss and garden thinning
Portend a death or birth,
The end or new beginning,
For all that lives on earth.

A death if hearts now harden,
A birth if we repent
And tend and keep the garden as
God has always meant:
To sow without abusing
The soil where life is grown,
To reap without our bruising
The sunlit mossy stone.

[We pray](#) in faith, with our doubts and certainties. We seek the grace to continue in faith, with the dynamic that offers hope and the mystery that generates love. We commune with this world and all upon it, in our thoughts and in our silence. When faith is weak, we look for reassurance and not

presumption. So let us pray in a right mind, in tune, in harmony, and in the rest. Let us listen to the inner voice, to discover the purpose of our being, and thus the direction of human salvation. In so doing, let us be self-sacrificial and forgiving, and to avoid temptation. We seek right thoughts for the everyday, that our words may be good and our zeal purified. Let us find the grace to understand our weaknesses and our strengths in the pursuit of wisdom.

In this holy arena is the place to develop forgiveness in the heart. We do know when we commit an offence: if not before, or if not during, then afterwards. Hindsight still requires an apology. But, if remaining in ignorance, let the conscience discover the displeasure it should feel towards a self-conviction that is the grounding for repentance. We are sorry for our offences and seek forgiveness; if they do not forgive we must still take the scorn and come to some sort of peace. To those who have offended us we give forgiveness for their peace of mind. We need to learn both how we give and receive forgiveness, for this is the way that guilt can be replaced with the road to happiness and joy and social peace.

Let us be thankful for our existence. Carl Sagan said [*Cosmos*]: "Every one of us is, in the cosmic perspective, precious. If a human disagrees with you, let him live. In a hundred billion galaxies, you will not find another."

In this universe, our globe is but a tiny speck, but on this speck of a world is everything there ever has been and possibly ever will be for us the human creation. Some mathematicians can see that from the simplest of rules comes an outbreak of complexity and interaction that regenerates, holds us, and gives us life. Molecules and their building, chemicals and their interactions, biology with its workings and conscious perceptions, creates life in systematic interaction. Although everything changes, and each of us is but a blink in the transitory eye, we experience enough of consistency and stability to be thankful: because, even though we grow and decay, we can say that this experience of living itself has been worth it, and for this we can surely give thanks.

Yet in giving thanks, and our desire to respond in awe, at the vastness of everything, and in all the intricacies of the very small, let us also realise the incredible chance that we are here at all. Therefore, let us seek the grace to be humble: not a false humility that denies all the gifts available, or the pretence to be humble when the will is overbearing, but a humbleness that can be seen in truth and doubt: in the expressions of faith, in the search for knowledge, and for the avoidance of tribalism and the misuse of ideologies. Let a genuine humbleness lead us away from overconfidence, for it is the meek who truly inherit the glory of the earth and heavens. Amen.

The first reading is from the Rev. Michael Dowd: Religious naturalist, evidential mystic, big history evangelist, and author of *Thank God for Evolution: How the Marriage of Science and Religion Will Transform Your Life and Our World* [(Viking 2008 / Plume 2009) See http://www.huffingtonpost.com/rev-michael-dowd/new-theists-knowers-not-believers_b_1586301.html Posted: 15/06/2012 2:51 pm]

New Theists: Knowers, Not Believers: A Manifesto for the New Theism

A new breed of theist is emerging in nearly every denomination and religion across the globe, and many of us are grateful to the New Atheists for calling us out of the closet. Just as today's crop of best-selling unbelievers are echoing what was said a hundred years ago, New Theists are re-articulating themes that ignited liberal sensibilities of the 19th and 20th centuries.

New Theists are not believers; we're evidentialists. We value scientific, historic and cross-cultural evidence over ancient texts, religious dogma or ecclesiastical authority. We also value how an evidential worldview enriches and deepens our communion with God-Reality-Life-Universe-Mystery-Wholeness.

New Theists are not supernaturalists; we're naturalists. We are inspired and motivated far more by this world and this life than by promises of a future other-world or afterlife. This does not, however, mean that we diss uplifting or transcendent experiences, or disvalue mystery. We don't. But neither do we see the mystical as divorced from the natural.

New Theists differ from traditional theists in the same way that secular Jews differ from fundamentalist Jews. Most of us do value traditional religious language and rituals, and we certainly value community. We simply no longer interpret literally any of the otherworldly or supernatural-sounding language in our scriptures, creeds and doctrines. Indeed, we interpret all mythic "night language" as one would interpret a dream: metaphorically, symbolically.

New Theists practice what might be called a "practical spirituality." Spirituality for us means the mindset, heart-space and tools that assist one in growing in integrity (i.e., in right relationship to reality) and supporting others and our species in doing the same. It also means an interpretive stance that can be counted on to deliver hope in times of confusion, solace in times of sorrow and support for handling life's inevitable challenges.

New Theists are legion; we are diverse. Many of us continue to call ourselves Christian, Jew, Muslim, Hindu or Unitarian. We may also self-identify as emergentist, evidentialist, freethinker, neo-humanist, pantheist, panentheist or some other label.

New Theists don't believe in God. We know that throughout human history the word "God" has always and everywhere been a meaning-filled interpretation, a mythic and inspiring personification of forces and realities incomprehensible in pre-scientific times.

New Theists view religion and religious language through an empirical, evidential, evolutionary lens, rather than through a theological or philosophical one. Indeed, an ability to distinguish subjective and objective reality - practical truth (that which reliably produces personal wholeness and social coherence) from factual truth (that which is measurably real) - is one of the defining characteristics of New Theists.

New Theists are religious naturalists. Crucially, we value religion and religious heritage not only as a personal preference but also for its historic role in fostering cooperation at scales far larger than our instincts alone could have achieved.

New Theists do not have a creed (we're not that organised). But if we did, it might simply be this...

Reality is our God, evidence is our scripture, integrity is our religion, and contributing toward a healthy future is our mission.

By "reality is our God" we mean that honouring and working with what is real, as evidentially and collectively discerned, and then creatively imagining what could be, is our ultimate concern and commitment.

By "evidence is our Scripture" we mean that scientific, historic and cross-cultural evidence provide a better understanding and a more authoritative map of how things are and which things matter (or what is real and what is important) than do ancient mythic writings or handed-down wisdom.

By "integrity is our religion" we mean that living in right relationship to reality and helping others and our species do the same is our great responsibility and joy.

By "contributing toward a healthy future is our mission" we mean that working with people of all backgrounds and beliefs in service of a vibrant future for

planet Earth and all its gloriously diverse species is our divine calling and privilege.

Why call ourselves "theists" at all if we're not supernatural, otherworldly believers?

Simply this...

All theological "isms" (e.g., theism, deism, pantheism, atheism) came into being long before we had an evolutionary understanding of emergence. Accordingly, all such concepts are outdated and unnecessarily divisive if they are not redefined and reinterpreted in an evolutionary context. Other terms that have been offered, in addition to "New Theist," include "evolutionary theist," "naturalistic theist," "religious humanist," "post-theist," "mytheist" and "creatheist" (pronounced variously, and humorously, as "crea-theist" or "cree-atheist").

Whatever our differences, New Theists are evidentialists who honour the evolutionary significance of religion, value traditional inspirational language, and are committed to living upstanding moral lives in service of a thriving future for humanity and the larger body of life.

We view this as Religion 2.0

[SF 147 Leaving of Lismore](#) This hymn has a traditional Scottish tune played traditionally, words by our own Glaswegian Lyanne Mitchell.

Spirit of earth, root, stone and tree,
Water of life, flowing in me,
Keeping me stable, nourishing me,
O fill me with living energy!

[Chorus]

*Spirit of nature, healing and free,
Spirit of love, expanding in me,
Spirit of life, breathe deeply in me,
Inspire me with living energy!*

Spirit of love, softly draw near,
Open my heart, lessen my fear,
Sing of compassion, help me to hear,
O fill me with loving energy!

[Chorus]

Spirit of live, you are my song,
Sing in my soul, all my life long,
Gladden and guide me, keep me from wrong,
O fill me with sacred energy!

[Chorus]

The **second reading** comes from http://www.bigskyastroclub.org/pale_blue_dot.html.

The photo ... was taken by Voyager 1 in 1990 as it sailed away from Earth, more than 4 billion miles in the distance. Having completed its primary mission, Voyager at that time was on its way out of the Solar System, on a trajectory of approximately 32 degrees above the plane of the Solar System. Ground Control issued a command that directed the distant space craft to turn around and, looking back, take photos of each of the planets it had visited. From Voyager's vast distance, the Earth was captured as a infinitesimal point of light..., actually smaller than a single pixel of the photo. The image was taken with a narrow angle camera lens, with the Sun quite close to the field of view. Quite by accident, the Earth was captured in one of the scattered light rays caused by taking the image at an angle so close to the Sun. Dr. Sagan was quite moved by this image of our tiny world. Here is ... an excerpt from the late Dr. Sagan's talk:

"We succeeded in taking that picture [from deep space], and, if you look at it, you see a dot. That's here. That's home. That's us. On it, everyone you ever heard of, every human being who ever lived, lived out their lives. The aggregate of all our joys and sufferings, thousands of confident religions, ideologies and economic doctrines, every hunter and forager, every hero and coward, every creator and destroyer of civilizations, every king and peasant, every young couple in love, every hopeful child, every mother and father, every inventor and explorer, every teacher of morals, every corrupt politician, every superstar, every supreme leader, every saint and sinner in the history of our species, lived there on a mote of dust, suspended in a sunbeam.

The earth is a very small stage in a vast cosmic arena. Think of the rivers of blood spilled by all those generals and emperors so that in glory and in triumph they could become the momentary masters of a fraction of a dot. Think of the endless cruelties visited by the inhabitants of one corner of the dot on scarcely distinguishable inhabitants of some other corner of the dot. How frequent their misunderstandings, how eager they are to kill one another, how fervent their hatreds. Our posturings, our imagined self-importance, the delusion that we have some privileged position in the universe, are challenged by this point of pale light. Our planet is a lonely speck in the great enveloping cosmic dark. In our obscurity - in all this vastness - there is no hint that help will come from elsewhere to save us from ourselves. It is up to us. It's been said that astronomy is a humbling, and I might add, a character-building experience. To my mind, there is perhaps no better demonstration of

the folly of human conceits than this distant image of our tiny world. To me, it underscores our responsibility to deal more kindly and compassionately with one another and to preserve and cherish that pale blue dot, the only home we've ever known." [Sagan, Carl (1997), *Pale Blue Dot: A Vision of the Human Future in Space*, reprint, New York: random House, pp. xv–xvi]

Our [prayers](#) of thanks are not over:

We are thankful for the talents that are spread across humanity. There are talents we have that we enjoy, and there are talents of others that we also enjoy. In that dual reception we are thankful for the talent of music, in ourselves and others, that expresses what words alone cannot say, and for all the made songs that delight. We are thankful too for scientists, whose experimental play when children became careful experiments as adults. They show true human creativity and expand our understanding beyond the immediate. With the technologists, we have come to enjoy the fruits of discovery and invention, particularly the vital power of electricity. From the scientist comes searching and wonder, and let us be thankful for the scientist an technologist guided by the highest values of ethical responsibility.

We pray some [intercessions](#).

We pray for people of faith, that faith does not mean delusion, but instead means an attitude and guidance of trust. We pray for our Unitarian communities of different kinds, including those in Transylvania undergoing great social change and a questioning that is coming from rural depopulation. This is the third of the main periods of freedom enjoyed by our cousins in Rumania, and yet the one that is proving the most challenging. We consider of the Church of England where its fundamentalists and traditionalists have exercised a blocking minority in just one of its three houses of synod, and has shattered the hopes of many of its active members and the ability of women to occupy positions of leadership. We contrast this inequality with Newington Green Unitarians being the first church in London to be licensed for Civil Partnerships on religious premises.

We pray for the world, and think yet again of the ongoing tension in the Middle East in the region of Israel/ Palestine. We are thankful that Egypt under new and we hope more democratic leadership retains and indeed improves its ability to facilitate negotiations. Again we consider the place of Iran and the danger of a clock-ticking towards conflict. We remember our friend Jasmin in Iran. We hope that the tensions in China from corruption and widespread online cynicism can be resolved without recourse to greater repression. Closer to home we think of, again, the social cost of a sluggish

economy, and also the care and rights of children in an atmosphere of growing concern about the recent past in various institutions.

We think of those who are ill or face medical intervention, particularly Bernard. [Silence]

Carl Sagan said [*Billions and Billions: Thoughts on Life and Death at the Brink of the Millennium*, (Random House, 1997)]: "I would love to believe that when I die I will live again, that some thinking, feeling, remembering part of me will continue. But as much as I want to believe that, and despite the ancient and worldwide cultural traditions that assert an afterlife, I know of nothing to suggest that it is more than wishful thinking." Nevertheless, we who are alive can think about those who have died, including the forebears of this congregation, and those who died in conflicts long ago. [Silence] Amen.

We are going to [listen to some music](#) now, but you might like to open your hymn book at HL 253 if you'd like to follow the words. *God Bless the Grass* by Malvina Reynolds, and she sings it.

[HL 207 Mountain Alone](#) This is quite a strange hymn.

In the branches of the forest,
In the petals of the marigold,
On the shoulder of the mountain,
In the vastness of the sea;
You will find a brooding sadness
Over all the ancient watershed:
You will see it written plainly
On the wind and in the sand.

In the green world of the forest,
In the stillness of the tide-land pool,
There is fear and there is trembling
For a certain stranger there;
Now he walks upon the mountain
Like a warlock of the countryside,
And he spoils the ancient meadow,
Laying waste the forest green.

There's a blight upon the mountain,
There's a sickness in the evening sky,
And we ask the age-old question:
Can we purge us of this sin?
Can we save this little nestling
From the venom of the cankerworm?
Can we clear the look anguist
From the soft eyes of the doe?

In the thunder, new commandments
Sound a warning through the wilderness:

Let the forest be untainted,
Let the streams be undefiled;
Let the waters of the river,
As they flow down to the ocean,
Be as sweet as in old days,
When the mountain stood alone!

Sermon: It was always said that the French value their intellectuals and we British never have, but if you were to ask who are our leading and best known thinkers of the moment the selective and populist answers might well come back as Professors Richard Dawkins, Stephen Hawking, Roger Penrose, Jim Al Khalili, Marcus du Sautoy (Simonyi Professor for the Public Understanding of Science), Brian Cox, Alice Roberts, and maybe Mick Aston the archaeologist and Ronald Hutton the historian. On a second level you might get people like David Attenborough, Patrick Moore and presenters like Dan Snow...

They are predominantly scientists of one sort or another. And Richard Dawkins, Jim Al Khalili, Brian Cox, Marcus Du Sautoy and now Stephen Hawking are all public atheists, who promote what Brian Cox has called "evidence-based thinking". They are all communicators, and many explain their science and maths in terms of the history of maths and science. The one exception is the Pagan Ronald Hutton, but he is rigorous when it comes to the business of doing history, including the actual history of Paganism itself as well as their very opposites, the Calvinists who initiated congregations such as ours.

Of course there is one other British leading intellectual, and that would be the outgoing Archbishop of Canterbury, Rowan Williams. But then he does not present his views very well, and to understand them does take some theological knowledge. His emphasis would be a story to guide your life, whichever story that is, though he obviously thinks his religion as a story delivers more than others. He is a multiculturalist, so that he will intend to understand those who follow the Quran or Bhagavad Gita and so on. But the question is to what does all this intend: for him it is about life-purpose and something to do with a connection between that life and eternity.

Rowan Williams is an example of someone who inherits and uses a fixed tradition of institutionalised rituals and doctrines and tries to make of these corridors of thinking to arrive at ethical outcomes. Since he has become more institutionalised, the means of thinking have become all the more restricted and limited in outcome and, arguably, less ethical.

Evidence based thinking is a much closer, limited concept, but it is one that does lead to a sense of reflection and awe. There is a scientific tradition, and indeed the stories of maths, biology, astrophysics and chemistry can be told. But these are paradigms of thought that can be overturned by evidence, and it is as such evidence from the bottom up that changes a paradigm of explanation. So the mechanical physics of Isaac Newton have been replaced by the relativity of Albert Einstein and the quantum physics of Werner Heisenberg and Erwin Schrodinger, with powerful mathematical support provided by the likes of Paul Dirac.

From such principles comes ideas such as the beauty of equations – neat and often brief equations that are fundamentals of reality, and vast fractal-like explosions of patterns and beauty. Inconsistencies in the early universe have led through gravity to life giving galaxies throughout vast space.

It is quite wrong to think that someone like Dawkins and Cox are acultural or limited in outlook to a sort of hardline scientism or atheism. After all, Cox was a member of D.Ream the pop group, creators of *Things Can Only Get Better* used by the Labour Party in 1997. The reflective and expansive sense of this approach goes back to the guru of contemporary astro-physics, and this is the late Professor Carl Sagan (November 9/11/1934 to 20/12/1996). He is, of all of them, the foundational humanist and atheist who translated astro-physics into a philosophy of life and a vision for the future.

Now as an individual I've been someone in both camps. I should be clear that I have never been substantially in the Rowan Williams type camp. My otherwise similarly postmodern and multicultural position was not as conservative regarding the whole tradition or examination of its details as a given. I was more liberal because I was more selective. Rowan Williams is not a liberal in this sense, because he takes a whole tradition as a grand narrative and he examines its detail as a given. He does this because the whole is consistent with its parts. Instead, I was happy to discard what had to be rejected. My multiculturalism was not a simple examination of other packages of religion, either, even with the empathy of Rowan Williams, but rather a use of them and again in a more selective manner.

And behind the postmodernism was a realist core. In essence, for me, religion is a story but based on exchange and gift. The exchange is that you give something of yourself materially as a person, and hope to receive something spiritually either in exchange or as a gift. That gift received can be a wider vision, a sense of connection with humanity and the evolved world, or simply a connection and involvement with others. The story of Christianity is a

story of exchange and gift on several levels, whether crucifixion and resurrection, or healing, or giving yourself up for a more heavenly vision. And exchange is very human and grounded, because our social lives are exchange based. We talk and gain conversation, we give money and receive goods to at least that value, we have sex but make love, we make time for others and gain friends, we make an effort to come to a church for spiritual benefit. It is on that realism, that social anthropology, that the theology of story is hung. But, for me, if parts of the story are damaging then they should be discarded, and other stories can be co-opted; thus I was always a humanist, a liberal Christian and a Western Buddhist even when Anglican.

But when Anglican I tried very hard to adopt the given story in the postmodern sense, and it gradually failed. The God thing never achieved even what is called by some 'real absence' - it was always non-realism, that is 'God' is a human-made ideal. Parts such as the doctrinal finality of Jesus were given up. I agreed with forebears like Francis William Newman, a Unitarian of vision in the later nineteenth century, who preached against the moral superiority of Jesus. History cannot demonstrate such superiority. So what I had was left as a theory of exchange with gift, and sufficient. The tradition gradually became unhooked; the postmodern aspect was being shed, bit by bit.

And I have moved from that position to a more evidence based thinking, with the insights of someone like Carl Sagan.

Now my long time guru Don Cupitt is also a postmodernist, whose philosophy of language means that we can never know anything beyond the relativity of the understood definitions of words. Nothing escapes this: even science is a human creation limited by words and symbols. So is mathematics. We create these, and all is cultural. But Cupitt accepts the scientific narratives and main humanist viewpoints because, he says, they work most effectively. He says that the self-critical approach is deemed the best, simply because we value it as best. This is just not good enough, I would argue - a sort of voluntarism of thought taken too far. It is *not* just about the spirit of the age.

I've argued with him about this, though occasional correspondence. He's been kind in response, sending me old and new books of his. My argument against him is this: we don't make it all up.

Here is why. In science and in social science we experiment. We set up proper research tests. And those tests very often return answers we do not want. They tell us things that contradict. The mathematics can become unsupported. The science hits a crisis - and there is a crisis between dark energy and dark matter, and the Higgs Boson has been another. These things

of detail can lead to major paradigm shifts of understanding, overturning scientific traditions. Einstein can be toppled.

It is the fact that we get results we do not like that demonstrates a necessary realism. Now you cannot do this in theology. Theology, like art, is wholly subjective. We might think we know a better painting or music tune from a less good one, but we cannot say this except through creating sets of norms and rules of production and consumption of art. Claims to the universality of what is good in music always fall down at some point. But this is what religion does too - creates rules of production and consumption. Your ability to be a church relates to *standards of role performance*, just as a story is itself dramatised.

The power of science, however, is that it works and that it delivers not what you want but what there is, and it does this through the critical examining process of evidence. But from this comes more. When indeed Carl Sagan himself instructed Voyager One in 1990, as it left the solar system, to turn around and photograph the earth, the earth was picked up as a pale blue dot. This was the beginning of a Carl Sagan piece of literature on that blue dot being where everything that was ever human has been confined, and yet where the most appalling and most visionary matters have been achieved. From that perspective we are tiny, yet from that perspective we are also great. Our planet has brought us into being. Here we have a theology derived out of science. Brian Cox's programme on the BBC talked about the *Wonders of the Universe*, and Jim Al Khalili can tell us the fantastic story of electricity that has made so much possible. An artist, Matthew Collings, presented one of the best BBC 4 programmes ever, called *Beautiful Equations* where he wondered whether the concept of artistic beauty has any relevance to the world of physics. Stephen Hawking suggested that the fundamental laws of the universe should be elegant. The BBC has linked to my *Pluralist Speaks* blog on this, the December 16th 2010 'Theology of the Beauty of Equations'!

For me, the 'story' that holds Rowan Williams is like a trap. It doesn't deliver ethically. The story is of an old culture and has become increasingly redundant. But the vision of a Carl Sagan is one that I can embrace because it matches the very small with the very large conceptually as well as actually. Truth is in there, and *really is* in there, and truth is something that is only ever problematic to the postmodernist.

Collection with [Music](#) and Notices

SF 048 Maccabaeus 03 A short lead-in, to sing in groups of four lines.

God of creation,
Primal final one,
Through our transformation
Let thy will be done.
Firm against temptation,
Modest in the sun,
May each soul and nation
See thy task begun.

Far do we seek thee,
Rarely understand
How through pain and folly
Speaks the great command.
When we cry against thee,
Fear thy forming hand,
Light us through the valley
To the promised land.

*God of creation,
Primal final one,
Through our transformation
Let thy will be done.*

God of our growing,
Pure and perfect seed,
Fructify our knowing,
Glorify our deed.
Set our purpose flowing
Free from hate and greed,
Still with thy bestowing
All our human need.

We end with **some thoughts** from Carl Sagan:

In science it often happens that scientists say, 'You know that's a really good argument; my position is mistaken,' and then they would actually change their minds and you never hear that old view from them again. They really do it. It doesn't happen as often as it should, because scientists are human and change is sometimes painful. But it happens every day. I cannot recall the last time something like that happened in politics or religion.

The nitrogen in our DNA, the calcium in our teeth, the iron in our blood, the carbon in our apple pies were made in the interiors of collapsing stars. We are made of starstuff.

For me, it is far better to grasp the Universe as it really is than to persist in delusion, however satisfying and reassuring.

[**Out music** *Trees Snails Lament* (unannounced)]