The Beginning and the End: Images of the Universe
Transcript

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The Beginning and the End: Images of the Universe

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Introduction: Creation myths, cosmological concepts and scientific theories

The beginning and the end: Creation and Last Judgment, or Big Bang and gravitational collapse? Science has gradually explained away many of the phenomena of the universe that have been the cause of spiritual faith in one form or another of most of humankind. But explanations of the beginning and the end - of mankind, the planet and the universe - are still being sought. Interpretations have been attempted since time immemorial by sages, philosophers, theologians and scientists, and artists too have attempted the expression, in visual terms, of these great mysteries.

Creation myths accompanied by literary and philosophical discussion abound, linked to the thirst for knowledge about how it all started and where we came from? (not to mention ‘where are we going’?). The concept of creation and explanations for it are fundamental to any culture, including our own - from primitive myths to complex philosophical argument. There are almost as many creation myths as there are civilisations, varying from classical mythology, to the vast range of sagas from ethnic groups of all continents - to specifically religious expositions. Writings on creation mythology exist from all periods, whether primary sources or more recent explanations and expositions of these. Owing to the enormous breadth of the topic, the current paper will concentrate on examples from the European, Mediterranean and Western traditions - including a number of wider examples for comparative purposes. However, with the exception of Judao-Christian images of Genesis, books on creation myths seldom include contemporary visual images. Within the European heritage, views varied from the classical philosophers such as Plato and Aristotle, to the Judaic Christian explanation as outlined in Genesis 1, as well as early tribal myths. But actual visual images or expressions of the various theories are not as common as might be expected.

By the same token - ideas and theories about ‘the end’ are common place in mythological and religious thinking but few texts (from the ancient classics to cultural mythology and religious tracts) have any associated visual images. Similarly, books on modern scientific theory of the beginning and end are commonplace - but, again, few are illustrated. Only in specific areas, such as medieval versions of the Judaic Christian views, are there numerous illustrations - of the Creation and Last Judgment, as described in the Book of Genesis and the Book of Revelation.

The intention here is to attempt to focus on visual images, rather than either literary, philosophical or scientific explanations, and spanning a broad period, from ancient times to the present day, and looking at related visual images in context – as theological/philosophical or scientific images and the relation between such themes – to consider whether modern scientific images of the beginning and end are any different in essence from ancient spiritual, or medieval religious drawings. Or whether they aim in basically the same way to explain in visual terms what might otherwise be explained in words or scientific diagrams. The audience for the images is also significant where experts, theologians or scientists would attempt to communicate ideas to the wider uninitiated masses - or whether images were, in some cases, more clearly directed at fellow experts, those ‘in the know’.

Looking at, and ‘collecting’ visual images of the beginning and end over some years, it soon became apparent that, like scientific theories, they fell into certain groups or categories - whether aesthetic interpretations or scientific drawings that have over time acquired artwork status. These can be grouped either historically or thematically - such as the depiction together of the ‘beginning and the end’; ancient historical examples from Babylonia and Egypt; the classical Greek and Roman world – but also thematically, such as creation out of nothing or out of chaos; astronomical or narrative interpretations; and completely abstract images.

It is worth surveying the development of such images over time, particularly with regard to any features of particular astronomical or scientific significance. Artists may address the eternal problems of the beginning and the end through visual interpretations rather than scientific solutions, but in many cases such examples are really the attempt at scientific drawings rather than ‘artistic interpretations’ in the modern sense. There is often a fine line to be drawn between what may be viewed as a scientific diagram and an ‘art work’, since many scientific diagrams achieve artistic status over time, even though they were rarely intended as such (for example Renaissance diagrams of the system of the universe). ‘Technical’ diagrams used to elucidate theoretical concepts may not always be distinguishable from artistic or more popular interpretations. It might even be possible that modern scientific diagrams will achieve artwork status at some point in the future. As visual expressions of scientific theory such modern diagrams are really no different from drawings by Copernicus or Galileo. Where modern cosmology attempts explanations, earlier visual interpretations were often simply attributable to the existence of one or more deities.

A thematic rather than chronological approach to visual images of ‘the beginning’ and ‘the end’ demonstrates
certain common themes and approaches, many of which, although ancient in origin also have some correspondence with modern scientific theory. For example, with regard to ‘the beginning’, over time there is a clear change in view from the beginning of the universe, the planet and mankind as virtually contemporaneous, to current knowledge about vastly different time scales. Visual images of the beginning of the universe may be grouped according to various categories such as: the universe as emerging from chaos, or created ‘ex nihilo’; measured and mathematical visions; narrative versions; symbolic approaches (such as use of the egg motif); completely abstract versions; and those with a more strictly scientific or astronomical approach.

Similarly, analysis or description of ‘the end’ varies from an emphasis on the end of mankind and the planet, or the end of universe itself, which contrasts sharply with the change in view of the beginning. While ‘the beginning’ appears now to be more commonly concerned with the beginning of the universe (the planet and humanity having subsided into insignificance), it seems that concern with ‘the end’ still focuses on end of mankind and the planet – albeit for reasons of destruction of the planet through mankind’s own treatment of the habitat. The end of the universe is scarcely raised as a possibility.

The Beginning and the End are not depicted together very often. One of the most succinct visual expressions, in one place, of the beginning and the end of the universe is Michelangelo’s work in the Sistine Chapel in Rome. The Creation with the Separation of Light and Dark on the Ceiling (1508-12) and the Last Judgment on the altar wall (1536-41) provide a stupendous interpretation, in one place, of the great cosmic themes.

In the beginning God created the heaven and the earth. And the earth was without form, and void; and darkness was upon the face of the deep (Genesis 1 – dating back to c 900 BC)

The beginning and the end are also depicted together in the great stained glass east window at York Minster (1405-08) - demonstrating the significance of these events in the Christian faith in the largest expanse of medieval stained glass in the world. The figure of God the father in the summit of the window holds an open book inscribed ‘Ego sum Alpha et Omega’ – the first and the last, the beginning and end of all things. Beneath, a series of images illustrate scenes from Genesis and the Book of Revelation. The overall theme of both these examples, the Sistine Chapel and York Minster is really ‘the beginning and the end’ which seldom appears illustrated in one space. The traditional symbolism of Alpha-Omega as the beginning and end - is also demonstrated by examples from the 4th century onwards (catacombs, S Apollinare).

We can also mention here the astronomical paintings on the vault of the Cathedral Our Lady the Virgin in Antwerp which couple with the Last Judgment over the west door – scenes that would have been familiar to Sir Thomas Gresham.

Comparison of ‘composite’ images can also be made, for example, with diagrams in modern popular space books, used to explain in simplified visual terms, the latest scientific theory (J and M Gribbin, Time and Space, Eyewitness, Doring Kindersley, directed at a popular non-specialist audience, including children).

**Early Texts and Images**

Common features may be shared, whether it is in ancient or primitive myths or different modern scientific theories. The ‘beginning’ was, in many cultures, taken to indicate the beginning of the universe, of time, of the planet and of mankind which were often regarded as somewhat synonymous in time. Beginning with a state of chaos and indeterminate matter, ‘the beginning’ is most frequently viewed as precipitated by the action of a superior being (supreme creator deity), usually depicted as omniscient and omnipotent, as having existed alone prior to the world’s creation, and as having had a plan in creating the world, who, out of boredom or pique decides to create not only the major part or parts of the universe (usually either ex nihilo, out of chaos, or from the various body parts of an adversary) but also the human race. In a particular category of generic creation myths, creation is normally either conscious deliberate and orderly or, for example, may result from a specific occurrence such as the death (by violence in battle) followed by dismemberment of a principal being human or superhuman resulting in the formation of the universe from pieces of body. In other examples, the world emerges gradually through stages, in so-called ‘emergence myths’ with order assigned to the primordial chaos by parental figures such as sky and earth.

The aim is often to create a perfect world which is however (as in the Adam and Eve story) thwarted by the creatures created. A ‘blame culture’ is used to account for awkward presence of evil in a supposedly perfect creation. Hence creation has been the subject for theological speculation and argument, but astronomical or cosmological aspects are often key, to a greater or lesser extent, even though not all creation myths are specifically astronomical or cosmological.

While images of the beginning seldom appear together with expositions of ‘the end’ vast range of individual explanations of the subject may be found from ancient times to the modern day – some of these related to literary and scientific, as well religious texts, or even folk mythology, such as the Nordic tradition of the creation form the dismembered body parts of a primordial being:

· Before there was soil, or sky, or any green thing, there was only the gaping abyss ...chaos of perfect silence and darkness lay between ... elemental fire and elemental ice... the fire melted the ice, and the drops formed themselves into Ymir, the first of the godlike giants. Odin and his brothers slew Ymir, constructing...
the world from his corpse... the oceans from his blood, the soil from his skin and muscles, vegetation from his hair, clouds from his brains, and the sky from his skull... (Poetic Edda, Norse 13thC from earlier tradition)

More modern views are exemplified by quotations from Shakespeare and Milton – to Douglas Adams and Lord Rees:

- A great while ago the world began, With hey, ho, the wind and the rain (William Shakespeare, Twelfth Night Vi).
- First there was Chaos, the vast immeasurable abyss, Outrageous as a sea, dark, wasteful, wild (Milton, Paradise Lost).
- In the beginning the Universe was created. This has made a lot of people very angry ...widely regarded as a bad move. Douglas Adams
- Our Universe sprouted from an initial event, the ‘big bang’ or ‘fireball.’ It expanded and cooled: the intricate patter of stars and galaxies we see around us emerged thousands of millions of years later: on at least one planet around at least one star, atoms have assembled into creatures complex enough to ponder how they evolved. Martin Rees, Before the Beginning 1997.

It is difficult to assess which might be the earliest surviving visual image of the creation but Babylonian views must figure amongst the earliest. The oldest examples to be accompanied by written texts seem to be Babylonian cylinder seals, showing the rising of the sun-god – in line with the descriptions in the Babylonian creation myth the Enuma Elish, dating to 1800-1600BC whose opening lines describe how:

- When the sky above was not named/And the earth beneath did not yet bear a name/...And chaos, the mother of them both/Their waters were mingled together ...

Related images survive, such as the depiction of the sun god (Shamash) rising on the horizon, as on a Babylonian seal cylinder in the British Museum, c 2,300 BC. The eight pointed star of Venus-Ishtar is shown with the crescent of the moon on the boundary stone. There seems little doubt that this explanation was popular in Mesopotamia for thousands of years and that a form of it fed into the Genesis myth where astronomical symbolism is key in the form of, for example, the separation of light from dark and the creation of sun moon and stars on the fourth day.

In Egyptian art, astronomical symbols are again included as images of the creation are represented by cosmic events such as the separation of the earth and sky, depicted in in many funerary papyri. These demonstrate the commonly held Egyptian creation myth of the sky goddess Nut arched over the earth god (Geb). The vault of the heavens was often seen as formed by the body of Nut with the stars and planets suspended and the rising sun from out of the darkness of the primordial waters seemed re-enacted every day. A later Egyptian example, the so-called Shabaka stone (c 710 BC) bears an account of the creation of the world in which the god Ptah plays a decisive role (The text has been damaged by later use as a mill stone).

**Greece and Rome**

It was the ancient Greeks who really first gave scientific form to the view of creation by entering into rational methods of philosophy as part of their world view and as a basis for its understanding. Creation myths were widely addressed in specific detail by ancient Greek writers and philosophers, and many of these fall into two basic categories - those emphasising creation from the ‘primordial waters’ and those laying an emphasis on creation as the bringing of order to some form of pre-existing chaos. The Homeric creation myths of the 6th to 7th century BC, stated that all originated in the primordial water, and Okeanos was the genesis or begetter of all (Ilad XIV 246). Hesiod’s Theogony (dating from the 7th century BC) gave a detailed account of the evolution out of Chaos, beginning with an account that chaos was ‘first of all’ and next ‘appeared the father Sky (Ouranos) and Mother Earth (Gaia)’:

- She [Gaia the Earth] lay with Ouranos and bare deep-swirling Okeanos [primordial waters] (Hesiod, Theogony, Greek 7thC BC)

Hesiod is also the source for narratives describing Prometheus and how he formed men in the likeness of the gods – giving them fire as well. In classical Greece, more sophisticated concepts were developed particularly by Plato in his Timaeus. Although still owing much to earlier myths, Plato’s cosmology is far more sophisticated. In Timaeus (1 28B), he discusses ‘The whole heaven ... or the cosmos ... whether it has always been, without a beginning – or whether it came into being ...’. Matters are taken a step further as Plato discusses the purpose of creation and the cosmos is more philosophically derived as having been generated from the combination of necessity and reason, rather than by chance (Timaeus 48A-B). Such theories and interpretations exerted enormous influence in the ancient world – and subsequently in the Christian period, but there are few if any visual images.

By contrast, in Rome, Ovid’s Metamorphoses (1st century BC) presented a history from the creation attributing
the beginning for the universe ambivalently to “God, or kindler Nature” or “Whatever god it was”. He describes:

- ‘Before the seas, and this terrestrial ball, And Heav'n's high canopy, that covers all, ... Rather a rude and indigested mass: A lifeless lump, unfinish'd, and unfram'd ... and justly Chaos nam'd.’

**The Cosmic Egg**

In the Orphic myths, the cosmic egg was the source from which all was with the universal egg as the source of all things that exist – sun, moon, stars, and earth with mountains, rivers, trees, plants, animals and all living things. The theme of the egg as a visual motif of creation has continuously exerted enormous influence. Derived from a commonplace symbol (and the eternal problem of the chicken and the egg), the egg recurs over and over again as a quintessential symbol of ‘the beginning’. In Egyptian cosmology, Ptah fashioned the egg of the world, linked with the idea of the deity carving or moulding the planet or mankind out of clay, as a potter at the wheel. The egg image also occurs in Hindu art and mythology and in northern European and Norse mythology. One of the oldest Indian texts (for example the *Khandogya Upanishad*) describes how in the beginning the world was non-existent, but it turned into an egg, which eventually broke open. The *Rigveda*, a text sacred to Hindu text c. 1500-1200 BCE describes the creation:

- Then even nothingness was not, nor existence/There was no air then, nor the heavens beyond it./What covered it? Where was it? ... At first there was only darkness wrapped in darkness.

According to Hindu mythology, the two halves of the egg became the earth and sky – the basic features of the cosmos. Related mythologies include Buddhist and Chinese thought which both lay an emphasis on creation of earth and sky out of chaos. The great cosmic egg is described in the Chinese myth of P’an Ku (6th century BC) and also recurs as far afield as Tahiti. The egg as symbol of birth/beginning has continued to play a major influence on Western artists of many periods.

Salvador Dali chose an egg symbol for his creation theme in *Geopoliticus Child Watching the Birth of the New Man* which shows the first human being emerging from the egg of the planet, overshadowed by the canopy of the universe. The sculptor Brancusi also emphasised the egg as creation in many of his marble and bronze sculptures, such as his bronze, *The Beginning of the World*, 1924 which gloriﬁes this everyday object. The idea of life spilling out of the egg after some cataclysmic event, has also been used in analogies with the theory of the Big Bang. The cover illustration for Steven Weinberg’s *The First Three Minutes*, is a case in point where the artist has used an ancient symbol in order to conceptualise complex modern scientiﬁc theory. A more recent example of computer graphics gives a slightly humorous touch to the concept.

**Art historical interpretation and modern scientiﬁc theory**

Since the beginnings of modern science in the sixteenth and seventeenth centuries, scientists addressed what was previously regarded as a theological or philosophical problem. Scientiﬁc analysis of ‘the beginning’ was not really regarded as being very respectable scientiﬁcally because there simply had not been sufﬁcient theoretical and observational evidence from which to deduce the history of the early universe. For example, Archbishop James Ussher in 1658, after careful study of the chronologies in the Bible, famously calculated that universe was created on 23 October 4004 BC. Each era considers its own theory the correct one and future ages will no doubt be amused by our current estimates of 13.7 billion years ago.

This all changed however in the twentieth century, after Georges Lemaitre first noted in 1927 that an expanding universe might be traced back in time to an originating single point. With underpinning scientiﬁc data available for the first time, an intense debate grew between those who considered that the universe started with a single cataclysmic event and those who held that the universe had existed forever in a ‘steady state’ as proposed by Herman Bondi (in the 1940s). Edwin Hubble found evidence that galaxies are drifting apart at high speeds and the discovery of cosmic microwave background radiation (1964) was crucial for the Big Bang model – a term coined by Fred Hoyle in 1949 to highlight the differences between the two ideas. The idea of the Big Bang, summed up by Weinberg: ‘in the beginning there was an explosion ...’, supplanted other theories not because of change in philosophical or spiritual thinking but because of the discovery of empirical data related to increasingly accurate knowledge about the recession of distant galaxies and of radio waves filling the universe. Cosmic background radiation supports the overriding concept that the universe was created at a single instant, billions of years ago in an immense primeval ﬁreball - but where did the hot plasma come from and what made that explode? As with creation myths, there remains an almost embarrassing vagueness about the first fraction of a second - or what was there before it, or what God or some other force was doing before it, or whether the laws of physics existed before we thought of them - or even before the processes they describe occurred.

**Chaos**

Already touched on above are the contrasting theories of the creation as occurring either ‘ex nihilo’ (completely out of nothing) or from the ordering of pre-existing chaos. The idea of the ordering of chaos by some external force (deity or physics), and the concomitant beginning of time itself, begs the question of what was happening before order was brought to the chaos? Modern chaos theory deals with things that are effectively impossible to predict or control. Such concepts are also explored in visual images from medieval manuscripts to modern illustration.
The so-called Serajevo Haggadah, from Northern Spain (14th century) depicting the first days provides an interesting series of illustrations to a commentary on Genesis and Exodus. It is read from right to left and the image clearly demonstrates how the spirit hovering over the chaos or primordial waters, is followed by the very specific separation of light from dark – bringing order to pre-existing chaos.

More significant still is an example from c. 1488, by Fernando Gallego, which shows creation out of Chaos, quite clearly and specifically labelled at the bottom of the panel. The inscription indicates an allusion to pre-existing matter, as opposed to *ex nihilo*, an idea which was counter to standard Roman Catholic doctrine, established by the fourth Lateran Council in 1215 that God created all things spiritual and material out of nothing. The reference could well have been regarded as heretical at the time, *ex nihilo* being the preferred model. A later anonymous engraving of the creation of the universe form Chaos (1690) similarly reflects the concept of creation out of Chaos.

**Ex nihilo**

At a later date, the English Hermetic philosopher and astronomer Robert Fludd (1574-1637), attempted in his treatise on creation (1617) to synthesise the book of Genesis with the hermetic writings. Illustrations to the work seem imply creation *ex nihilo*, by the simple utterance of the creative ‘FIAT’ - another seems almost like a 17th century ‘Big Bang’.

**By Measurement**

By contrast with the examples emphasising the role of disorderly chaos in creation, a group of images exist which lend a more measured and scientific approach to images of Creation. From the middle ages and onwards, the idea of an underlying scientific and mathematical approach becomes emphasised, as opposed to an ad hoc tearing to pieces or eruption as the cause of creation. The idea of measurement and a world based on proportion and number relate to the idea of the Judao-Christian God as builder or architect, and the use of scientific instruments by God occurs in many notable examples such as the medieval image of God as architect or geometer from the *Bible Moralisé* (French 13th century), or the *Historia Scholastica* by Guyart des Moulins (French, 1411-12, London British Library).

According to Proverbs 8:27, God ‘set a compass on the face of the abyss’ and the images illustrated are examples of many used in Bibles where more difficult passages were allegorised in order to convey explanations to lay audiences. The depiction of the creator as architect continues into more modern times, the most famous example being William Blake’s *The Ancient of Days* (1793) where rationality and mathematics bring order. This approach contrasts with other interpretations where creation is less confined by weight, measurement and number.

**The Judao Christian astronomical tradition**

In the western world, the concept of the beginning and the end are securely bound up with the Judao-Christian religious tradition where, with the creation of sun and moon (night and day), time also comes into existence. Mankind remains a focal point of creation, and the creation of the universe, the earth and its inhabitants were deemed to be virtually contemporaneous - although it is now known, of course, that such events were in fact spread over billions of years. Visual images are particularly widespread in the Judao-Christian tradition, and here a major emphasis is often laid on the narrative aspects, rather than the symbolic, chaotic or measured approaches discussed above. Among these, the mosaics of Norman Sicily show how science and theology had not yet been separated out. The twelfth century mosaic in the Duomo in Monreale, for example, shows God creating the world from nothing with the sun, moon and stars specifically located within particular spheres - but on what is he then sitting? The overall concept is clear – that the universe had a definite and dramatic beginning and will, in turn have an equally definite end. Other more specifically astronomical examples are to be found, such as where the stars themselves feature in the manuscript of Hildegarde of Bingen, of similar date c. 1150.

**Narrative approach**

The great creation cycle at St Mark’s Cathedral, Venice, demonstrate a more narrative approach using concentric rings of illustrations of the creation of sun, moon, planet and mankind according to Genesis.

Manuscript illuminations provide further examples of a strictly narrative approach, such as the *Biblia Vulgaris Istoryata* (Venice 1471), where illustrations are presented as a narrative sequence of events. This type of ‘comic strip’ approach in illuminated manuscripts was enormously popular, as part of the objective of using paintings and illustrations as the ‘Bible of the illiterate’ in the medieval period.

Attempts to combine a narrative with a more scientifically accurate approach, are to be found in more complex Renaissance examples, such as Giovanni di Paolo’s *Expulsion from Paradise*, 1445. The figure of God hovers above the universe and appears to be pointing to the earth in the process of setting it in motion. The concentric rings of the organisation of earthly and heavenly elements correspond in general terms to Dante’s vision of the ten concentric circles, but references to the scientific writings of Johannes Sacrobosco’s *Sphaera Mundi* have been convincingly argued, with allusions to the planets, zodiac and birth of Christ.

**Abstract**
By contrast with the narrative or scientific approach, more abstract or symbolic versions of the creation have also been made, from medieval to modern times. The vision of St Hildegard of Bingen demonstrates an amazing abstract expression of God’s universe but it is far removed from a modern symbolic example, such as Courbet’s *Origine du monde*, or abstract examples like Barnett Newman’s *Adam* (1951-52). Newman’s work is a symbolic reference to the first moment of creation, for the Hebrew word ‘adamah’ means red dirt, thereby indicating the creation of mankind from out of the earth/clay or from basic matter.

Similarly, examples from different cultures, such as *The Shaman’s Quest* by Ramon Medina (20th century Mexico) or the Navaho sand painting by Fred Stevens of *The whirling log* (1966) show a lively abstract approach to the eternal question of creation and the place of Mankind in the universe. Time does not allow more detailed examination of such examples.

**Modern scientific diagrams**

Looking at creation images in the context of modern science, it is important to consider how such images similarly aim to act as an accurate portrayal of factual reality for use in explanation of known theory to non-experts. Images can be used to elucidate theories to fellow experts but also, like many religious images, are really directed to be used to explain matters to the masses. The question is at what stage ‘scientific’ images used for a particular purpose may be accorded the status of art works - and whether at any stage the existence of a deity might be eliminated from the equation.

In both the steady state and big bang approaches, it is difficult to find a conclusive scientific solution because of the ever present issue of the concept of time and space before the Big Bang, and the need to enquire how any primeval gas or single atom originated – as well as the notion of some agency or cause for it. The real issue seems to be whether the physical universe (or universes ...) had a specific temporal origin, and whether science can help explain it more effectively than theology or philosophy. Even the ‘Big Bang theory’ has more recently been challenged by the concept of ‘inflation’ and multiverses and the central critical role of hot electrically charged gases. The concept that such gases had existed forever without any beginning suggests that there is no need for divine creation. ‘Creation’ seems to require some type of external agency or force, whereas ‘formation’ does not.

Visual images are still used to attempt to clarify thinking – hence their importance. In George Smoot’s popular *Wrinkles of Time*, a diagram entitled *Big Bang: Expanding and Evolving Universe* is used to explain the Big Bang theory and that the universe is expanding and evolving. Smoot also presents a *History of the Universe* showing the timescales involved. The new millennium (of the Christian era) appears to have increased popular interest in such scientific questions as the ‘beginning’ and the ‘end’ of the universe, and books on cosmology are numerous and wide ranging. Few, however, have many illustrations.

As well as scientific diagrams, artistic freedom has led to artists continuing to address the traditional problem of Creation, and serious modern art works include the *Creation of Man* by Chagall which appropriately reflects tradition by including the sun, moon and stars in the design. Cedric Sorel’s image of the *Big Bang* clearly transcends scientific interpretation alone. Summing up, many explanations of ‘the beginning’ have been expounded and recorded. Many have visual imaginings, in scientific or artistic creations, whilst others had no visual expression (Islam does not allow images of Sura XLI of the Qu’ran describing the creation of heaven, sun moon and stars). But where is the boundary between religious and philosophical explanations and scientific drawings? At what point is a scientific or theological explanatory image considered as an art work? And do the same principles apply to ‘the end’?

**The End**

As scientific knowledge of ‘the beginning’ has increased, the images themselves have undergone change. While ‘the beginning’ is now primarily concerned with the beginning of the Universe, rather than with the beginning of our solar system, planet or humanity itself, ‘the end’ appears still to focus on our own immediate world. Few people question or show concern for the end of the universe, but the end of our planet is increasingly becoming a matter of major concern, owing to the likelihood of it possibly becoming reality in the perceptible future. Our own insignificance is compounded by the realisation that we live on an ordinary planet orbiting an ordinary star in an ordinary location in an ordinary galaxy. Cosmic background radiation has provided evidence that our universe was born out of a superhot fireball some 13.7 billion years ago. The theory of evolution shows how we evolved for us to live in.

Fear of it all ending still persists, but in a somewhat different way than before. The Judao-Christian view of ‘the end’ is based on scriptural sources and, like ‘the beginning’, possesses a long visual tradition demonstrating a wide range of approach to apocalypse, involving destruction or redemption, hell or paradise, an optimistic or pessimistic view (with the concept of the ‘end’ or Last Judgment being used as a means to impose order on the populace – disciplinary propaganda for the laity in the absence of effective judicial systems). In *The Last Three Minutes*, Paul Davies discusses whether if expansion decelerates, then the universe may ultimately contract towards a ‘big crunch’, like a ball reaching the top of its trajectory. Martin Rees also provides an explanation of the final stage of collapsing universe, and what might happen next in a scenario where there is no ‘next’, in the same way that there was no ‘before’ before the Big Bang. More recent theory even suggests that, rather than
the universe obliterating itself in one cataclysmic event (big crunch), it may truly last indefinitely in a state of eternal nothingness.

Death and destruction of the individual, rather than the cosmos, were ever present themes in the ancient world and, for example, versions of the Egyptian Book of the Dead and extensive funerary compositions survive, on the walls of tombs in the Valley of the Kings, and on private funerary papyri. As with the creation, the end, death and the underworld are alluded to in many myths, but viewed as less of a menace than in the Judao-Christian tradition. By contrast, the Book of Revelation tells of the end of everything related to a moral code that, at the end, the good shall be rewarded and the wicked punished. Issues of life after death, salvation and the immortality of the human soul are addressed in countless images of the Last Judgment in the art of Western Europe.

Typical medieval images of the end are exemplified by the Romanesque tympanum at Vezelay (1125), and a Gothic version of the theme at Bourges Cathedral (1230). Cosmic allusions are clear in the heavens being rolled out at the top of the frame. The St Sever Apocalypse has a very astronomical emphasis with a cascade of falling stars, whilst the Winchester Psalter lays emphasis on Hell mouth, located in the flat earth system beneath the Earth’s surface, with the finality of ‘the end’ achieved in a single moment by the act of the angel locking the door.

**Byzantine and Renaissance**

Byzantine examples form a particular category, owing to the emphasis on spirituality and inspirational images or icons. The Last Judgment as depicted in the dome of Christ in Chora in Constantinople provides a striking astronomical allusion to the Biblical text with the heavens (sun, moon and stars), representing the end of the universe and of time. The angel in the centre of the vault rolls up the scroll of heaven, in accordance with Revelation 6:14 ‘And the Heaven departed as a scroll when it is rolled together’. A similar approach occurs in the west, such as the inclusion of the scrolls of heaven in Giotto’s version of the **Last Judgment** at Padua. A direct astronomical reference is made to when ‘the sun shall be darkened and the moon shall not give her light, and the stars shall fall from heaven and the powers of heaven shall be shaken’ (Matthew 24:29).

More astronomical or scientific examples become evident in the later Renaissance – such as Durer’s cosmological view of the apocalyptic **Opening of the Fifth and Sixth Seal** which spectacularly illustrates the end of the universe. The intense astronomical allusions are derived from the Bible but clearly reflect sixteenth century interests in astronomy, as has also recently been argued for Michelangelo’s vision of ‘the end’, the **Last Judgment** in the Sistine Chapel which has been argued as having been influenced by Copernicus’ heliocentric cosmology.

**Later examples**

Such themes are reflected in innumerable medieval and Renaissance examples of the **Last Judgment**, but the subject becomes rarer after the seventeenth century. Gustave Doré’s vision of theocentric angelic spheres (1867) demonstrates the influence of Dante, that the end may not always spell disaster but also paradise. In the nineteenth century Blake’s view of the ‘end’ or **Last Judgment** contrasts with his vision of the beginning (1794) in being completely unmeasured and disorderly, but it remains of cosmic proportions, convulsed with writhing bodies, as the serenity of heaven is contrasted with chaos below.

The **Apocalypse** by Odillon Redon (1899) reflects the age of its creation as a dark scene of fin de siècle, with the vision of death on a pale horse. In the twentieth century, war and upheaval appears to have exerted great influence on the apocalyptic vision, almost as much as twentieth-century developments in scientific theory. While the horrors of war played their part in the formation of images of death and destruction in earlier times, it was not until the twentieth century that methods of warfare could be considered as possibly contributing to the destruction of the planet itself rather than selected inhabitants. Ludwig Meiner’s **Apocalyptic Landscape** of 1912 reflects disorder and chaos just preceding the first world war, while an abstract version unusually and specifically entitled the **Last Judgment** by Kandinsky about the same time also reflects those troubled times.

Max Beckman’s **Apocalypse**, painted during the second world war in 1943 similarly reflects the age, ‘and God shall wipe away all tears from their eyes.’ The increased incidence of apocalyptic visions during the time of disasters and world wars is hardly surprising, reflecting the hope for a time when ‘there shall be no more death, neither sorrow nor crying neither shall there be any more pain.’ A view is provided past the angel through a rainbow to sun and star – the new heaven and the new earth. As in the medieval examples, concern for ‘the end’ appears to be concentrated here upon the death of individuals, rather than the end of the planet or solar system, let alone the universe as an entity.

With the increase in scientific theory and its wider dissemination, recent images appear more directly influenced by contemporary scientific theory rather than religion. As the concepts of relativity, quantum theory and the Big Bang gradually became assimilated (even if somewhat inaccurately and incoherently) into the consciousness of the masses, such theories led in turn to nuclear physics and space exploration - which could scarcely be ignored by anyone. Theory was proven real, mid century, by the explosion of the atom bomb, and cataclysmic disasters were also shown in scenes from the film 2012. Artistic expression has widely replaced figurative or representational art and the invention of abstraction was roughly synchronous with Einstein’s series of papers
on relativity culminating in 1915. As detailed mathematical description of the origin and structure of the universe became possible, such developments were reflected in art, such as the argued link between Cubism and Relativity.

Instead of fear of retribution by a deity, or the end of the universe itself, it seems there has developed a real concern with the finite nature of our planet and solar system. Articles in the popular press proliferated at the end of the millennium in 2000, showing images of destruction by asteroids, comets or by the hole in the ozone. The alignment of five major planets on 5 May 2000 (Mercury, Venus, Mars, Jupiter and Saturn and sun and moon, which will not occur again until April 2438) was significant in the attention it received in national newspapers. Dangers from asteroids are also highlighted from time to time, again demonstrating concern for ‘the end’ of the planet, not the universe. For example the 2000QW7 asteroid caused some alarm in September 2000 and provoked comparisons with previous ‘hits’ by asteroids (such as the formation of the Gulf of Mexico by asteroid impact 65 million years ago). Recent ‘near misses’ of asteroids have resulted in calls for international cooperation to detect and deal with such dangers, even though cosmic collisions are rare, due to the vast spaces involved. The eclipse of the sun in August 1999 also resulted in comparisons with ‘the end of the world’ and was the cover story of Newsweek magazine at the end of 1999, with an article focussing on a poll which indicated that 40% of American adults do believe the world will end one day in the way the Bible suggests. A stream of new books about the apocalypse appeared at the same time. Although the visual images evoke explanations and imaginings, as in previous ages, it seems unlikely that these images will achieve artistic status over time.

Paintings such as those by the American artist Adolf Schaller do have status as artworks, such as his Death of the Earth and the Sun. This is clearly influenced by scientific explanations of the life cycles of stars and the time when the sun will expand as a red giant resulting in the end of our planet. Contemporary visual images of the end seem largely placed on humanity and the immediate environment. Modern artists have used strong visual images to emphasise this message.

Current concern lies with the end of the planet, not the universe – which is neatly summed in a work by Alberto Ruggieri, showing the planet being squeezed like a metaphorical lemon. The painting by Lucio Fontana Il fine del Dio depicts a puce coloured egg, riddled with holes that harks back to the egg symbol – this time a symbol of the end not the beginning. Very controversial when sold in London in 1990, it demonstrates that there is immense concern about the end of time, the end of the planet, of the universe, and of ‘me’.

Knowledge at first available to a select few, the intelligentsia - theologians, philosophers or scientists - gradually permeates into the 'public domain' and becomes assimilated, even if imperfectly understood. This is as relevant to medieval creation cycles as to modern images where terms like relativity, quantum physics or nuclear fusion are widely bandied about. Happy endings are preferable but, to coin a word, telophobia (the fear of the end) is a concept which is of perennial concern, even if a nervousness results in some cases in frivolous treatment. The platitude that ‘the end of the world is nigh’ although clearly not 21 May 2011, probably needs to be taken seriously.

Images are used to explain complex ideas. Aesthetic qualities are, of course, something else.

Selected References


