A Designed Universe
被設計出來的宇宙

Since Darwin's Origin of Species (1859), many have felt "survival of the fittest" is the source of apparent design in nature rather than God. Yet recently serious objections have been raised against the ability of evolution to explain either the origin of life or its diversity. (1) Consequently, the force of design as evidence for a supernatural alternative is strengthened

自從達爾文的《物種起源》（1859）一書問世以來，許多人把大自然中明顯存在的設計的原因歸咎於“適者生存”，而不是上帝。然而最近出現了一些非常嚴肅的觀點，認為進化論既沒有能力解釋生命起源，也無法解釋生命的多樣性。(1) 因此，設計是超自然的選項的證據，這個論點的說服力得到加強。

In any case, biological evolution can hardly explain design in the nonliving part of nature. And it is just here that recent advances in science have uncovered far more evidence of design than was known in Darwin's time or even in the 1970s. Let us consider some of this evidence.

無論如何,生物進化論幾乎無法解釋自然界無生命物中為何存在著設計。正是在這個領域，最近的科學發展揭示了更多設計的證據，遠比達爾文時代甚至1970年代人們所知道的證據為多。讓我們來看看其中的一些證據。

The Right Chemistry
最合宜的化學

All life on earth depends on the cooperation of many complex biochemicals, each containing thousands or even millions of atoms. These include DNA and RNA, which store and transmit information by which living cells operate; and proteins, which provide structural material and speed up chemical reactions so that plants and animals can respond quickly to external changes. These molecules are enormously complex and detailed structures carrying on particular, specialized tasks. Such organization presents a serious challenge to the idea that life arose by chance rather than design, but that is not our subject here. (2)

地球上所有的生命都依賴多重複雜的生物化學物質之間的彼此合作，這每一種生物化學物質都包含著數以千計甚至百萬計的微粒。這其中包含DNA（去氧核糖核酸）和RNA（核糖核酸），它們存儲並傳遞資訊，靠著這些資訊，活細胞才能運作；這其中也包含蛋白質，它的功能是提供結構性材料，加速化學反應，使得植物和動物對外在的變化作出快速的反應。這些分子非常複雜，並具有詳盡的結構來從事具體的專門的使命。這類組織結構對生命出自隨機而非設計這一觀點提出嚴肅的挑戰，但這不是我們此處要談的主題。(2)

On a much simpler level, such chemicals as carbon, phosphorus and water suggest that life didn't

just happen. Carbon is the only element in existence which forms chains of almost unlimited length, needed for DNA, RNA and protein. All the carbon in our universe apparently formed inside stars and was scattered over space as stars exploded. Yet by two coordinated "quirks" carbon is a common element rather than a very rare one. Carbon is formed by combining three helium nuclei; the element beryllium (two heliums) is so unstable inside stars that one almost needs a triple helium collision to get carbon. It happens that the temperature inside stars is right at a "resonance" for carbon, an energy level at which these nuclei stick together unusually well. If this resonance energy were only 4% lower, carbon would be very rare. On the other hand, carbon easily combines with another helium nucleus to form oxygen. But it just so happens that the energy of the combination is just above an oxygen resonance, which is thus out of reach. If this resonance were only 1/2% higher, nearly all carbon would convert to oxygen. In either case, carbon would be very rare and life itself rare or nonexistent. (3)

從一個非常簡化的層面上看，像碳，磷，水這類化學物質提示，生命不可能自然而然產生出來。DNA，RNA和蛋白質都需要長度幾乎無限的鏈，而碳是所有元素中唯一可以形成這種鏈的元素。在我們所處的宇宙當中，所有的碳元素顯然都產生於星體之內，在星體爆炸後散溢於空中。但由於兩個彼此配搭的“巧合，”碳成為一個非常普通的而非極為稀有的元素。碳由三個氦核聯合而組成；鈹元素（由兩個氦組成）在星體內非常不穩定，以至於需要三個氦撞擊才能得到碳。碰巧星體內的溫度正合適形成碳所需的“共振”，其能量大小使氦核超乎尋常地穩定地粘在一起。如果共振能量低 4% 的話，碳就會成為稀有元素。另一方面，碳很容易與另一個氦核組合形成氧。然而，碰巧的是，碳氦結合的能量恰恰高過氧共振，使得它不可能發生。如果氧共振能量高 0.5% 的話，幾乎所有的碳都轉化成為氧了。上述兩種情形中任何一種發生的話，碳都會成為稀有元素，進而生命本身就變得稀有甚至不存在。(3)

Phosphorus is unique among the elements in forming compounds (ATP, ADP) which can store large amounts of energy. Without these compounds, there would be no higher animal life, since such an efficient method of energy storage is needed for mobility. Yet only phosphorus, of all the elements, has this capability. It looks like phosphorus was designed for this purpose.

磷是所有元素中很獨特一種元素，它可以形成存儲大量能量的化合物（比如：三磷酸腺苷，二磷酸腺苷）。沒有這些化合物，就不會有更高等的生命，因為這等高效的能量存儲方法是生命運動所必需的。然而，在所有元素中，只有磷元素具有這種本領。磷似乎是特別為了這個目的而設計的。

Water is at least as unusual as carbon or phosphorus. Its molecule (two hydrogens and one oxygen) is lighter than molecules of nitrogen or oxygen, and thus should be a gas at temperatures suitable for life. However, water forms combinations of two or three water molecules loosely joined together, so that actually it is a liquid at these temperatures. As a liquid it is the basic fluid of animal blood, tree sap and cell plasma. Yet when water evaporates, it no longer forms combinations. This allows it to diffuse in the atmosphere so it doesn't stifle life by lying on the earth's surface as an unbreathable gas.

水至少和碳與磷一樣不同尋常。它的分子（兩個氫和一個氧）比氮分子和氧分子都輕，所以在適合生命存在的溫度下應當是氣體狀態才對。但是，水是由鬆散結合在一起的兩個或三個水分子組合而成，這樣使得它在通常溫度下處在液體狀態。作為液體，它是動物的血液，樹木的體液，和細胞的漿液中最基本的液體。然而當水蒸發時，它不再能形成組合。這使得它擴散在大氣中，不至於集結在地的表面，形成使生物無法呼吸的氣體，導致生命窒息。

Water is also a universal solvent, dissolving the necessary solid chemicals so they can circulate in the bloodstream, plant sap, and living cells. All other liquids which can dissolve a comparable number of chemicals are highly corrosive and deadly to living things.

水還是一種普遍的溶劑，溶解某些必要的固體化學物，使得他們可以在動物血液中，植物體液中，和細胞漿液中迴圈流動。所有其它溶劑，如果能夠溶解的化學物和水一樣多，那麼這些溶劑通常都具有高腐蝕性，對生物是致命的。

Water is unusual in being able to absorb a large amount of heat for a given change in temperature. As a result it moderates the climate of the earth and helps stabilize the body temperature of animals. Like few other substances, it expands rather than contracting on freezing. This prevents oceans and lakes from freezing to the bottom (killing marine life), and it aids in the formation of soil by splitting up rocks. Truly water is a most amazing substance. Together with the thirsty traveler on a hot day, the chemist can say, "There's nothing like it!" (4)

水還具有非凡的能力來吸收因溫度變化而產生的大量熱量。所以，它能調節地球的氣候，有助於穩定動物的體溫。很少有其它的物質象它那樣，凝固時體積膨脹而不是收縮。這一特徵防止了海洋和湖泊的結冰下沉（從而導致海洋生物死亡），幫助裂解岩石，形成土壤。水確實是最令人驚歎的物質。在炎熱的天氣裡，乾渴的旅行者會贊同化學家的話：“沒有其它的物質象它那樣偉大”(4)

The Right Environment
最合宜的環境

The earth's environment is unique in the solar system and at least very rare in our galaxy. The temperature varies substantially from pole to equator, summer to winter, and from the Dead Sea to Mt. Everest. Yet it exceeds the boiling point of water only near volcanoes and geysers. Temperatures below freezing are more common, yet our oceans never freeze up completely even in arctic regions. By contrast, the temperature on Venus, our nearest neighbor sunward, is about 900 degrees Fahrenheit. On Mars, the planet just beyond us, it barely gets above freezing even in midsummer at the equator. Earth alone has the right temperature range for life: warm enough for water to be liquid, cool enough that complex life molecules are not destroyed.

地球的環境在太陽系中是獨一無二的，在我們的銀河系中也至少是非常罕見的。極地和赤道之間，夏季與冬季之間，死海與珠穆朗瑪峰之間，溫度的差異非常之大。除了在靠近火山和間歇噴泉的地方, 但很少有超過水的沸點溫度的。溫度低於冰點的地方倒是比較普遍，但是我們的海洋，即便在北極地區，從來都不會全部結冰。相對地，金星是在朝太陽的方向離我們最近的鄰居，其上的溫度可達華氏 900 度。火星是我們另一側的緊鄰，它的溫度在仲夏的赤道上也才剛剛超過冰點。只有地球具有適合生命的溫度範圍：足夠暖和，使水處在液體狀態；也足夠寒冷，使複雜的生命分子不至於被毀滅。

A substantial amount of water is needed to support life, though a few organisms have techniques for living in arid conditions. For the earth as a whole (center to surface), the fraction of water is small. But this is all concentrated at the surface, so that our globe is two-thirds covered by water at an average depth of three miles. The water on Venus and Mars is infinitesimal by contrast.

維持生命需要大量的水，儘管有少數幾種有機體具有在乾燥狀態下存活的技巧。地球作為一個整體（從地心到地表），水只占了一小部分。但水卻集中在地球的表面，以至於我們的地球表面三分之二被水所覆蓋，平均的覆蓋深度是三英里。相反，在金星和火星上，水是微乎其微的。

Earth has the right atmosphere. If there were a few percent less oxygen, animals would not have enough to breathe. If there were a few percent more, plant life would burn up. Mars and Venus have virtually no free oxygen, so necessary to most kinds of life.

地球擁有合適的大氣。如果氧氣的百分比稍微低幾點的話，動物就沒有足夠的氧氣呼吸。如果氧氣的百分比稍微高幾點的話，植物生命會燃盡。事實上在火星與金星上沒有絕大多數生命種類所必需的無償的氧氣。

Earth's gravity is just right. If the earth were only one-fourth as massive, the atmospheric pressure would be too small for life. If the earth were twice as massive, its atmosphere would work like a greenhouse in summer, raising the temperature enough to kill us all.

地球的重量也恰到好處。如果地球的重量只有四分之一，那麼大氣的壓力對生物就會太小。如果地球的重量是兩倍大，那麼它的大氣在夏季會象一個溫室，溫度升高到足以把我們都殺死。

Earth has the right kind of sun. A sun only 20% larger would burn up its fuel in just four billion years. By now, such a sun would have expanded into its "red giant" stage, and the earth would have burned up in the sun's atmosphere. On the other hand, if our sun were only 20% smaller, it would not produce enough blue light for plants to make sugar and oxygen efficiently. Both sugar and oxygen are needed by animals, and they can produce neither themselves. (5)

地球擁有合適的太陽。如果太陽大 20%，它會在40億年中燃盡它的所有燃料。若是這樣，那麼到現在，這個太陽已經膨脹進入到它的“紅巨星”的階段了，而地球也已經在太陽的大氣層中被燃燒淨盡了。另一方面，如果我們的太陽小 20%，它就不能夠產生足夠的藍光，讓植物產生足夠的糖和氧。糖和氧對動物是必需的，而且是他們自身是無法產生的。(5)

The sun cannot vary much in brightness or life will not survive. In fact, our sun's luminosity already has varied "too much" over the past four billion years, increasing in brightness by some 25%. But the creation of plant life appears to be timed just right to save the day. As the sun got hotter, plants removed carbon dioxide from the atmosphere, replacing it by oxygen at just the right rate to turn down the greenhouse effect and keep temperatures in the range safe for life. (6)

太陽的亮度也不可以變化太多，否則生命無法存活。事實上，我們的太陽發光度在過去的40億年中已經變化的“太多”了，其亮度增加了 25%左右。但植物生命創造的時間點再恰當不過，剛好可以滿足當天的需求。當太陽變得越來越熱時，植物卻從大氣中除去了二氧化碳氣，代之以比例適度的氧氣，剛好可以降低溫室效應，保持了讓生命安全的溫度範圍。(6)

This performance by the plants only worked because the earth was at the right distance from the sun. If it had been 5% closer, the greenhouse effect would have been too strong early in earth history, the plants would never have gotten started, and earth would now be a furnace like Venus. But if the earth had been only 1% further from the sun, the cooler temperatures about two billion years ago would have produced a runaway ice age, and the earth would now be like Antarctica everywhere. (7)

植物的這一作為有效，是因為地球與太陽之間的距離恰到好處。二者之間的距離若近 5%，在地球歷史的幼年期，溫室效應會太強，生物還來不及開始工作，地球就已經象金星般成為一個火爐了。如果地球與太陽之間的距離遠哪怕1%，那麼20億年前地球上較低的溫度早就產生了一個無法控制的冰河期，地球到現在都還會處處象南極一樣。(7)

The Right Universe
合適的宇宙

Not only do we live in a universe having the right chemistry to support life, and on a planet with the right environment for life, the basic forces in our universe are just right. Without the precise balance which exists among these forces, life would be impossible anywhere in our universe.

我們居住在其中的宇宙具有最合適的化學來支援生命，我們居住在其上的星球具有最適合生命的環境，在我們的宇宙中幾種基本的作用力對生命也是最合適的。若沒有這幾種力之間的精確的平衡，生命在我們的宇宙中任何地方都不可能。

There are just four basic forces presently known to mankind: gravity, electromagnetism, and the

strong and weak nuclear forces. The balances between these forces are precise, making possible life as we know it. Consider the delicate balance between gravity and the expansion speed of our universe. Since the 1920s it has been known that our universe is expanding, apparently from an event known as the "big bang" which occurred some 15 to 20 billion years ago. Whether our universe will expand forever or eventually collapse is still debated among cosmologists. In either case, the actual density of matter in our universe is within a factor of 10 of the so-called critical density, the point of exact balance between permanent expansion and eventual contraction. But to be so close to this critical density after some 20 billion years of expansion, there must have been precise tuning in the earliest moments of the big bang. At 10 to the -43 seconds after the big bang, for instance -- the so-called Planck time -- the density must have been equal to the critical density to one part in 10 to the 60th. If it had been ever so slightly higher, the universe would have collapsed quickly and there would have been no opportunity for life to form. On the other hand, had the density been ever so slightly smaller, the universe would have expanded rapidly and no galaxies, stars or planets would have formed. Again, no life. Thus life is the result of fine tuning the density of matter-energy at the Planck time to one part in 10 to the 60! (8)

人類迄今所知的只有四種基本的作用力：重力，電磁力，強核力，和弱核力。這些力之間的平衡非常精確，才使得我們所知道的生命成為可能。讓我們來思考一下重力與我們的宇宙膨脹的速度之間的精妙平衡吧。自從 1920 年代起，人們從一個發生在150億到200億年前的被稱為“大爆炸”的事件中，已經知道宇宙明顯正在膨脹之中。我們的宇宙是否會繼續不斷膨脹下去，或是最終會崩潰，這在宇宙學學者中間還有爭論。但無論哪種情形，我們的宇宙中物質的實際密度落在與所謂的臨界密度相差在十分之一內，而臨界密度是介於永遠膨脹和最終開始收縮之間精確的平衡點。但在經歷了約200億年的膨脹之後，物質的密度與臨界密度之間如此接近，那麼在最早的大爆炸發生的時刻就必然已經有了精確的調控。在大爆炸發生後的 10^{-43} 秒，即所謂的普朗克時間，宇宙的密度必需與臨界密度之間相差不超過 10^{60} 分之一。如果那時宇宙的密度哪怕稍微高了一點點，那麼宇宙應當很快就崩潰了，因此也就沒有形成生命的機會了。另一方面，若密度稍微低一點點，那麼宇宙本當快速膨脹，不會有諸多星系，恒星，和行星的產生了。因此，也就沒有生命可言。所以，生命是宇宙中物質能量的密度在普朗克時間點被精確調准到 10^{60} 分之一！(8)

Life depends on a number of the heavier chemical elements, especially carbon, nitrogen and oxygen, but only hydrogen, helium and a few of the very lightest elements are formed in the big bang itself. The rest are formed inside stars. The strong and weak nuclear forces control how stars operate. If the strong force were weaker than it is, there would be no life. If it were only 50% weaker, not even iron and carbon would be stable. Even if the strong force were only 5% weaker, the element deuterium would not exist, and stars could not burn as they do. On the other hand, if the strong force were only 5% stronger, the diproton would be stable and stars would burn catastrophically. The strong interaction has to be just the right size to have stable stars and stable elements for life chemistry.

生命依賴好多個較重的化學元素，尤其是碳，氮，和氧，但只有氫，氦和其他幾個最輕的元素在大爆炸事件本身中產生。其餘的元素在恒星內產生。強核力與弱核力控制著星球的

運作。若強核力比現在弱的話，不會有生命。若它比現在弱 50%，連鐵和碳都不穩定。即便是強核力弱 5%，氘元素就不會存在，星體就不會象現在這樣燃燒。另一方面，如果強核力再強 5%，那麼雙質子就會穩定，星體就會災難性地燃燒。強作用力必須大小合適才能有穩定的星體以及生命賴以生存的穩定的化學元素。

The weak nuclear force is important, too. All but the lightest elements are formed inside stars as they grow old. Were it not for the weak force, these elements would remain trapped inside the stars, of no use for life. But when a star has used up its fuel, it begins to collapse, becoming very hot inside and producing large numbers of neutrinos. The neutrinos cause the star to explode and scatter its heavy elements through space. These elements later become part of the next generation of stars, forming planets which accompany such stars. As a result the earth has the heavy elements so necessary for life. If the weak force were much smaller than it is, the neutrinos would escape quietly, the star would not explode, and the heavy elements would stay inside. If the weak force were much stronger, the neutrinos themselves would not be able to escape from the star, we would again have no explosion and no heavy elements would escape. So if the weak force were much different than it is, there would be no heavy elements outside of stars.

弱核力也是重要的。除了最輕的幾種元素之外，所有化學元素都是在星體成長的過程中在其內部產生的。若沒有弱核力，這些元素將永遠藏在星體的裡頭，對生命的產生毫無作用。但當一個星體用盡了它的燃料時，它就開始崩潰，內部非常灼熱，產生大量的中微子。這些中微子促使星體發生爆炸，將其中的重元素散溢在空中。這些元素後來成為下一代星體的一部分，形成行星伴隨著這些星體。正因如此，地球才擁有生命必須的重元素。如果弱作用力比它現有的小得多，那麼中微子就會悄然逃離，星體就不會發生爆炸，重元素就會一直留在星體之內。如果弱作用力比它現有的大許多的話，中微子自己不會脫離星體，我們同樣得不到星體的爆炸和重元素的脫離。可見，如果輕作用力與它實際大小的差距很大時，在星體之外就不會有重元素。

Consider one more crucial balance. Gravity is much weaker than electromagnetism (by 37 powers of 10), yet gravity dominates in the realm of astronomical distances. Why is this, since both are long-distance forces? The reason is that electromagnetic charges, negative and positive, occur in equal numbers, so that at large distances they cancel each other out. But why should they occur in equal numbers? Scientists don't know. The main negative charge is the electron, a very small particle compared to the proton, the main positive charge. In modern cosmological theory, as the universe cooled down from the big bang, protons would have "frozen out" much earlier than electrons, and there is no obvious reason why the two should be equal in number. (9) In fact, the number of electrons and the number of protons left over must have been the same to much better than one part in 10 to the 37th power. If this had not happened, our universe would be dominated by electromagnetism instead of gravity, and there would be no life as we know it.

再考慮一個關鍵的平衡。重力比電磁力弱很多（相差 10^{37} 倍），但是重力在天體距離的領域中起主導性作用。既然這兩種力都是遠端作用力，那麼如何解釋這一現象呢？原因是，

因為電磁力帶著電荷，產生的負電荷和正電荷在數量上相同，所以在遠距離情境中二者彼此抵消，電磁力就不對外顯現了。但為什麼他們產生的數量相同呢？科學家們並不知道。主要的負電荷是電子，與主要的正電荷質子相比，它非常小。按照當代的宇宙學理論，大爆炸之後，隨著宇宙的逐漸冷卻，質子應當比電子更早就已經冷卻而消失掉了，二者在數量上保持相同並沒有明顯的原因。(9) 事實上，剩餘的電子數與質子數必定是相同的，二者的差異率比 10^{-37} 還要少得多。如果不是這樣的話，我們的宇宙本當受電磁力主導，而不是重力，那樣的話也就不會有我們所知道的生命了。

In summary, it appears that very slight changes in the strength or balance of these forces gives a universe which will not support any life we can imagine. What are we to make of this? The simplest explanation is that we live in a designed universe.

總之，看起來，這四種作用力中任何微小的在強度上或平衡上的變化，都會導致這個宇宙變成為不能支援我們可以想像到的任何生命。我們如何來解釋這一切呢？最簡單的解釋是，我們居住在一個被設計出來的宇宙中。

Explaining the Design
對設計的解釋

Scientists have been discussing this problem for several years now. As Stephen Hawking has pointed out, (10)

科學家們討論這個問題已經有一段時間了。正如斯蒂芬霍金斯所指出的，(10)

The odds against a universe like ours emerging out of something like the Big Bang are enormous.... I think there are clearly religious implications whenever you start to discuss the origins of the universe. There must be religious overtones. But I think most scientists prefer to shy away from the religious side of it.

對從諸如大爆炸這等事件中浮現出來的我們的宇宙，各種可能性都是有的。… 我認為無論任何時候你開始討論宇宙的起源時，都會具有明顯的宗教含義。必定會有宗教的聯想。但我認為絕大多數科學家寧肯避開這個問題的宗教層面。

In shying away from religious explanations, some have suggested that this apparent design is merely an accident of observation. Admittedly, life would be impossible unless all the factors come out just right. But if life were impossible, then we wouldn't be here ourselves to observe such a universe! Conversely, there will only be observers in a universe where all these factors work out just right. This explanation, that the order in our universe is just an accident of observation, is called the anthropic principle (more precisely, the weak anthropic principle).

為了避開宗教的解釋，有些人已經建議，這一明顯的設計只不過是觀察的意外。不可否認，

除非所有的因素都恰到好處地運作出來，否則生命是不可能的。但如果生命是不可能的，那麼我們自己也不會在這裡觀察這樣的宇宙！反過來說，只有在所有這些因素都恰到好處的運作出來的宇宙中，才會有觀察者。我們這個宇宙中存在的秩序只不過是觀察中的偶發事件，這種觀點被稱之為人擇原理（更精確地說，是弱人擇原理）。

This is certainly clever, and true in some sense. Yet it postulates that our universe is a fluke of astronomically small probability. As an explanation, it is methodologically much inferior to any other theory in which a universe such as ours would be likely. But if the God of the Bible exists, then a designed universe such as ours would be a likely result, rather than the surprise we have in an accidental universe scenario.

這個觀點的確是聰明的，甚至在某種意義上是真實的。然而，它預先假設我們的宇宙是天體般小概率事件的僥倖成功。作為一種解釋，在方法論上，它比任何其他試圖解釋象我們這樣的一個宇宙何以如此的理論都要遜色許多。但是如果聖經所說的上帝是存在的，那麼象我們這樣的一個出自設計的宇宙就是一個可能的結論，而不是一幅偶然的宇宙圖畫所帶給我們的驚喜。

Not all who favor the anthropic principle are satisfied with the weak form sketched above. Some have moved into eastern mysticism, pantheism or something equally esoteric to propose a strong anthropic principle. Man himself has somehow caused the world to be just right for life and humanity to exist, whether because man is part of God, or because causes can produce effects backward in time. Such suggestions attempt to provide some adequate explanation for design, a serious defect in the weak anthropic principle. In evaluating such views, we should look at how evidence for each compares with that for the existence of the God of the Bible. To me, these views pale in comparison. (11)

並非所有贊成人擇原理的人都對上述脆弱不堪的解釋感到滿意。有些人已經進入東方神秘主義，泛神論，或類似深奧的東西，以便提出一個所謂的強人擇原理。人自己莫名其妙地使得世界適合於生命和人類存在，無論是因為人是神的一部分，或者是因為原因可以按照逆時間的順序產生結果。這些建議試圖對設計提供某種恰當的解釋，以彌補弱人擇原理的一個嚴重缺陷。要評估這類見解，我們應該仔細察看每個見解中的證據，與聖經所說的上帝存在的證據，二者比較，孰強孰弱。對我來說，這些原理與聖經相比均顯得蒼白無力。(11)

What to make of all this? I suggest we have here just one more line of evidence showing that we live in a supernaturally-created universe. Evidence of design, of a universe that had a beginning, of organization in living things far beyond what random processes can produce -- these conspire with biblical evidences to indicate that this God is the one revealed in the Bible. (12)

這一切意味著什麼？我認為在這裡我們有另外一個證據顯示，我們生活在一個超自然的被創造的宇宙當中。設計的證據，宇宙具有一個開始的證據，以及有生命中組織結構的證據，

都遠超過隨機過程能夠產生的，這一切都與聖經提供的證據不謀而合，表明這位上帝是聖經中所啟示的。(12)

But according to the Bible, God wants us to do more than just understand the world we live in. He wants us to love him with all our being, and to love our neighbor as much as we love ourselves. We all fail these continually. If we must one day stand before God to answer for how we've lived, what will we be able to say?

但按照聖經，上帝要我們不僅僅認識我們所居住的世界，還要我們全然愛他，並愛人如己。我們不斷在這些事上失敗。如果有一天我們必須站在上帝的面前，回答他我們是如何生活的，我們能說什麼呢？

In his love and mercy, God has provided a solution. Some two thousand years ago, God became man -- the author entered his own story. As Jesus of Nazareth he lived a life of complete obedience such as we never do; if we trust in him, his righteousness will be counted as ours. In a few hours on the cross, Jesus suffered such punishment as would take us forever to suffer; if we trust in him, his suffering will take the place of ours.

出於他的慈愛和憐憫，上帝已經提供了答案。大約兩千年以前，上帝成為人---故事的作者進入到他自己的故事裡面。作為拿撒勒人耶穌，他活出了一個完全順服的生命，這是我們永遠無法企及的；如果我們相信他，那麼他的義就歸算為我們的。在十字架上的那幾個小時裡，耶穌承受了我們本當承受的永遠的刑罰；如果我們相信他，那麼他的刑罰就會取代我們所當受的。

That is the kind of God that really exists. Won't you turn away from a life of empty self-gratification and find the real joy of personally knowing the God who made the universe? You can do it right now.

這才是那位真實存在的上帝。你願意轉離虛空的自我滿足的生活，找到因親自認識這位元創造宇宙的上帝而有的真正的喜樂嗎？

Robert C. Newman, PhD, astrophysics, Cornell
Professor, Biblical Theological Seminary

羅伯特 C. 紐曼，康奈爾大學天體物理學博士
聖經神學院教授

References
參考注釋

1．參見，例如，Michael Denton著，《進化論：一個充滿危機的理論》(*Evolution: A Theory*

in Crisis) (Bethesda, MD: Adler and Adler, 1985)；Gordon Rattray Taylor著, 《偉大的進化論奧秘》(*The Great Evolution Mystery*)(New York: Harper and Row, 1983); Charles B. Thaxton, Walter L. Bradley與Roger L. Olson合著, 《生命起源的奧秘》(*The Mystery of Life's Origin*)(New York: Philosophical Library, 1984)。

2．除了上述的書目之外，還可以參考Fred Hoyle與Chandra Wickramasinghe合著, 《出自空間的進化：宇宙創造論》(*Evolution From Space: A Theory of Cosmic Creationism*) (New York: Simon and Schuster, 1981)。

3. Fred Hoyle著,《星系，核，與類星體》(*Galaxies, Nuclei and Quasars*)(New York: Harper and Row, 1965), 147-150頁。

4. 有關這些題目的更多資料，請參考Allen Hayward著, 《上帝的本體》(*God Is*) (Nashville: Thomas Nelson, 1980)。

5. Michael Hart著, “大氣的進化” ("Atmospheric Evolution"), 出自《外星人，他們在哪裡？》 (*Extraterrestrials, Where Are They?*) Michael H. Hart與Ben Zuckerman合編 (New York: Pergamon, 1982), 156頁. 參看下麵的注釋7。

6. Owen Gingrich, “要有光：現代宇宙進化論和聖經創造論” ("Let There Be Light: Modern Cosmogony and Biblical Creation") 出自《上帝是一位創造論者嗎？》(*Is God a Creationist?*) Roland Mushat Frye編 (New York: Charles Scribner's Sons, 1983), 132-133頁。

7. Michael Hart, “關於主序星體的可居住區” ("Habitable Zones about Main Sequence Stars"), *Icarus* 37 (1979), 351-357頁. 關於這類證據的更多資料，請參見Hugh Ross著, 《上帝的指紋》(*The Fingerprint of God*)(Orange, CA: Promise, 1989).

8. 這一段所討論的大部分觀點，在P.C.W. Davies著,《偶然的宇宙》(*The Accidental Universe*) (Cambridge: Cambridge University Press, 1982)中有所討論; 更簡略的討論可以參見John Boslough著,《斯蒂芬霍金斯的宇宙》(*Stephen Hawking's Universe*) (New York: William Morrow, 1985), 第9章。

9．隨著宇宙大爆炸之後的逐漸冷卻各種基本粒子形成的相關內容，參見Steven Weinberg著,《前三分鐘》(*The First Three Minutes*) (New York: Bantam, 1979)。

10. Boslough著,《斯蒂芬霍金斯的宇宙》(*Stephen Hawking's Universe*)，121頁。

11. 參見，例如，Kenny Barfield著,《為什麼聖經最棒：基於科學的這世界的神聖著作》(*Why the Bible is Number 1: The World's Sacred Writings in the Light of Science*) (Grand Rapids: Baker, 1988)。

12. 參見，例如，John Wenham著,《復活節的奧秘》(*The Easter Enigma*) (Grand Rapids: Zondervan, 1983); Robert C. Newman編,《預言的證據》(*The Evidence of Prophecy*) (Hatfield, PA: IBRI, 1988)。