

THE CREATIONS

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INTRODUCTION:

After a careful review of available religious sources in reference to the CREATIONS, including The Translator's Handbooks for Genesis and especially the writings of Joseph Smith, along with various scientific journals, an entirely different picture of the CREATION emerges. Science flourishes when there are baffling new problems to be solved, and it stagnates when the problems are relative few. Questioning, after all, is the essence of science." (Morris p. 19) But science is found lacking when it ignores the truths of revelation. At least THREE CREATIONAL EPISODES are clearly indicated by Joseph Smith. . At 3:15 PM, the 7th of April 1843, Joseph "commenced speaking on the subject of the dead--relative to the death of elder King Follet who was crushed in a well, by the falling of a tub of rock on him." (Ehat p. 340) This has become known as the King Follet Discourse, (KFD) it is one of the most seminal discourses given by the Prophet. This study on the CREATIONS is meant to be comprehensive, but it is not exhaustive. It is an initial attempt to collate the accounts found in the King Follet Discourse with other available information to arrive at a picture of what transpired in the Cosmos or Universe. With some documentation and a little discussion the three CREATIONS will be outlined with the intent that it will be clear enough so that others might clarify the points discussed, should they be inclined to do so.

THE FIRST CREATION

A six column Comparisons of Original Notes and Amalgamations of the King Follet Discourse was prepared by Donald Q. Cannon and Larry E. Dahl in 1983. It is this Amalgamation that we will refer to in the treatment that follows. I will also draw on data compiled and used in the astronomy classes I teach. "To understand the process of science you must appreciate the difference between information and knowledge [and revelation]. Put succinctly, information is a body of facts, whereas knowledge is the understanding of what those facts mean. We live in an era when it is easy to be inundated by facts." (O'Dell p. 161) Revelation is the final fulcrum on which a balance is achieved. References to the Universe as outlined in the doctrines left by Joseph will also be used. Our objective is to see where the present available teachings of Joseph and the available facts of science lead us, anticipating there will be a future revision.

The CREATIONS are

all about man and his ultimate destiny. In fact they begin with a personage called Man of Holiness. (Moses 7:34) "The Church does set up...the doctrine that there are found in the Universe personal individual intelligences. Each of these is characterized by possession of a will...These intelligences have the power to operate upon the other contents of the universe...The whole story of the universe may be told in the actions of personal intelligences on matter and energy...The distinction between a personal intelligence and the operations of it must be clearly drawn. God the Supreme Intelligence is a personal intelligence. His influence...extends throughout the universe." (Widtsoe pp. 190-193) "The contents of the universe are indestructible...the personal intelligences of the universe are also indestructible ...man, one of these personal intelligences, is eternal, everlasting." (Widtsoe pp.192-195; D&C 29:31. 32:76; 12, 13; 49:17; Moses 3:5-7) "Man was also in the beginning with God. Intelligence, or the light of truth, was not created or made, neither indeed can be." (D&C 93:29. The most lengthy discussions of these doctrines are developed by Roberts in his books: *The Atonement* and *The Dispensations*, (B.H. Roberts) and summarized by Madsen (Madsen p. 24-28) McConkie seemed to have differing thoughts, but no one championed his ideas. President Spencer W. Kimball seems to have shed light on the subject by seeming to summarize that the numerous worlds indicated in Moses 1: 33, and an immensity of worlds in Moses 7:30, the so called Enoch Numbers by saying: "God has taken these intelligences and given to them spirit bodies and given them instruction and training." (Kimball p. 32) Elder Scott has mentioned in a devotional at BYU Ricks, in 2004 and in conference since then that "your Intelligence was given a spirit body" connecting clearly with the foregoing.

THE IMMENSITY OF THE UNIVERSE

The number of earthly creations described by God to Enoch can lead to a Delirium of Immensity. (Moses 7:30) First one has to number the particles of the earth. Today we have that number. One gets the total particles of the earth by dividing the mass of the earth by the mass of the hydrogen atom or the proton, which is the basic building block of all elements, and from which all matter of this physical mortal portion of the universe is constructed. NASA in its equations for all matters of gravity and space application uses the number of 10 to the 52nd, the total protons that make up the total mass of the earth. But this minimum number has to be increased by millions of earths like this one, (Moses 7:30), which expands the basic number to about 10 to the 62nd. But this would be merely the beginning of God's creations, for his "curtain stretches out still." (Moses 7:30) One would need the same number of suns, one for each world, and the same amount of moons, one for each world, but the number would not include the stars of the galaxies... Would these combined numbers even approach the "them" referred to by President Kimball. (Kimball p. 32). Also required would be 3,500 to 10,000 additional close by stars because each system has a 'heaven' for seasons and light. What about all the other background stars?

This does not account for all of the stars in all their variety that do not serve or function in a given system except to provide a

stellar environment. One can compare this with the declaration by science at its present stage of development that there is not much more than 10 to the 25th total stars estimated in the known Universe. The disparity of these numbers is so great as to suggest that science is in kindergarten and needs to advance to the first grade at least. But this is not the only area in which they are deficient, there are others.

Science now concludes that in our galaxy alone, some 5 million civilizations 'turned on' during the past 5 billion years. The search for Extra Terrestrial Intelligence (SETI) began in 1982; the Drake Equation discussed in 1992 for expected worlds like our own is still operational. (Shostak p. 115) Such systems are confined to the restricted "habitable zone" in each galaxy. A zone where there is about one star in each four square light years not so close as to create interference. The closest star to the earth is Proxima Centauri, about 4.2 light years away. (Frances p. 248) Finding other systems, earth-sun-moon and stars, beyond what we now know of the Universe is a great challenge. Because earth's temporal existence is much shorter than the life time of the Sun, could the sun be recycled and used over again for another earth when ours becomes Celestial?

Current equipment planned for the next two decades (Seife pp. 241-247) will not change the minimum number by very much. None of the new instruments will penetrate into the geography of the Universe which includes Celestial, Terrestrial, Telesstial, and Kingdoms of no glory, nor the regions of Intelligencies or Higher Kingdoms. (D&C 130-10) There has been little discussion on the Geography of the Universe, but Mormon doctrine is explicit. They know much more than all other peoples about the geography of the Universe. Science is restricted to a concept that does not yet allow for such dimensions. D&C 76, 84, 88) To contemplate the immensity of the Universe is quite thrilling!

Everything except the region inhabited by Intelligences has been organized or created by the Father or those he has delegated creational activity to, such as Jesus and Michael, et al. al. (Moses 1:32-33) The geography or place of the Intelligences has been there forever. (D&C 93:29) At some point in time did the Father and the Son, and perhaps a few others, decided to see what else was in the Universe and in their activity did they come to know all there is to know and learned all the Laws of the Universe, and recognized the vast opportunities that were there for man?

UNIVERSAL LAW

"Personal intelligences, or intelligent personalities, are among the indestructible units of the universe.

The essential part of man has always existed...Personal Intelligences were subject to the unchanging relationships, the laws of the universe. These laws could be used, but never abrogated by intelligent beings...The whole story of man's life (or existence) from the time of the "beginning," may be told in terms of man's active relationship to eternal universal law." (Widtsøe p. 197) Concerning his Omnipotence: "Not even God may place himself beyond the boundary of space: nor on the outside of duration. Nor is it conceivable to human thought that he can create space, or annihilate matter. ...God is Omniscient up to the point that further progress in knowledge is impossible to him...all knowledge that is, all that exists, God knows. ...he is the All-knowing One, because he knows all that is known." (Roberts p. 70; Abraham 3:19)

When the great physicist Stephen Hawking was asked whether or not he believed in God, he replied "by saying that the laws of science [and religion] determine the evolution of the universe and that God may or may not have created those laws, but he cannot intervene, or else they wouldn't be laws." (Cohen p. 8)

GOD THE HIGHEST INTELLIGENCE

"The foremost intelligence in the universe is God, Him whom we address in our prayers as Father. (D&C 20:17; D&C 76:92; 93:121: 32; 88:40; 109:77) ...God the highest intelligence, possesses supreme knowledge and power. All there is to know he knows. [Roberts, p. 70, Abraham 3:19] Indeed we have reason to believe that His knowledge is the sum of the knowledge possessed by all existing personal intelligences, and His power the sum of the powers of such personal beings." (Widtsøe p. 198) President Hinkley says there is One Universe, and Father is the ruler of that Universe. (Ensign July 2006)

"The gradation from the lowest to the highest of the personal intelligences in the universe appears to be continuous." (Widtsøe p. 199) Their status is certainly dependent on the exercise or lack of the use of free will. Among the vast community of intelligences, some stood out with particularity. Two of them, now known as Elohim and Jehovah, persisted in an effort to gain conquest over the laws of the Universe. "In 'the beginning' which transcends our understanding, God [the Father] undoubtedly exercised his will vigorously, and thus gained experience of the forces lying about him. ...by persistent efforts of will, his recognition of Universal Laws became greater until he attained at last a conquest over the universe which...seems absolutely complete...through self-effort, the inherent and innate powers of God have been developed to a God-like degree. Thus, He ...became God...His intelligence is as the sum of all other intelligences. ..His Godhood, however is the product of simple obedience to the laws of the universe." (Widtsøe p. 25, Abraham 3:19) "God offered to help some of the waiting intelligent beings secure the knowledge that he had already gained [Was one of these Mother in Heaven?] in such a manner that they need not traverse the road that he had

traversed, but might find other and perhaps simpler opportunities of universal existence. He devised plans of progression...A lone God in the universe cannot find great joy in his power." (Widtsoe p. 27)

Were these "some" the "some" President Kimball referred to?

Were we among the watching and waiting Intelligences? It seems that at least two individuals, perhaps more, had left the world of Intelligences and set out to gain conquest over all the laws of the Universe. At a certain point, one of that group, now known as the FATHER, initiated creational activities and brought some of the first and essential initial worlds into existence. (Cannon p. 33) This would have been the FIRST CREATION.

THE FIRST SPIRIT WORLD-THE FIRST UN-MORTAL WORLD-THE FIRST MORTAL WORLD-THE FIRST CELESTIAL WORLD

First, wasn't there a need for a WORLD OF SPIRIT or a place where Father got his spirit body? Next, wouldn't there need to have been created an UNMORTAL WORLD in preparation for Father to partake of a substance that would render that world and Himself mortal? Was there another way? Did Father become mortal by a similar process future Adams and Eves become mortal? Or was there another process? Didn't Father resurrect himself and wouldn't that resurrection have glorified him and the FIRST MORTAL WORLD? Wouldn't this have then been the first CELESTIAL WORLD where spirits could be born into? Is this where Christ was born and became the First Spirit Man born under this Plan? What else did Father have to do to prepare that Celestial World for inhabitants that He himself would procreate? To what extent did he experiment? Did He learn by some process that the elements had to be watched in order that they would obey? (Abraham 4:18) Was He a lone God in the Universe at that time? (Widtsoe p. 27) Did he then help another Intelligence through the same process as he had followed or one nearly the same? In the Proclamation on Family given to the church by the First Presidency didn't they stipulate that Gender is Eternal? Contrary to MacDonald, there was male and female. (MacDonald p. 1) Does this mean a female intelligence was following the success of this Supreme Being and then joined him in an eternal relationship? To accomplish this was there prepared for Her a second SPIRIT WORLD, and then a second UN-MORTAL WORLD, and then a second MORTAL WORLD? Did they end up with two celestial worlds? Did they prepare or select one of these for their next step in the bringing forth through procreation the spirits bodies for Intelligences that had been waiting? Of Course, Christ was the first. "I was in the beginning with the Father [and the Mother], and am the Firstborn." (D&C 93:21; Roberts, pp. 7-11) Was this where we were all nurtured and prepared for a short Mortal Life to finish the process by which we would become immortal and have life eternal like them? Isn't this what primary children are taught? (Moses 1:38-39; D&C 93:29) Did Father establish the geography in which all of this happened? Did he prepare Celestial Space and set up his Kingdom?

When the CELESTIAL WORLD was completed and readied, and an eternal relationship between FATHER and MOTHER was established, who was the first born into that world? Wasn't it Christ? He was the First Spirit Man, The First Born of All Creatures, the Elder

brother of all others who followed in the Family of God. (D&C 93:21)

"Christ is greater than any and all others...by His seniority as the oldest or firstborn...his unique status in the flesh as the offspring of a mortal mother and a Immortal Father, resurrected and glorified...by His selection and foreordination as the one and only Redeemer and Savior...and his transcendent sinlessness." (Clark pp. 33-34) Christ

is the son of One Father, and the Son of two Mothers. (Franzmann p. 48) "The great and glorious plan of His redemption [included in the Plan]; the sacrifice prepared, the atonement wrought out in the mind and purpose of God, even in the person of the Son." (Dahl p. 55) Was that when Christ realized his was going to be an essential, necessary, eternal contribution?

THE EGYPTIAN GRAMMAR BOOK

The Egyptian Grammar Book refers to the FATHER five times, in a progressive manner as he achieves recognition, Exaltation and Glory through his persistence. He is called Ahlish. "The name of the FIRST BEING: supreme intelligence." (Smith p 17) Later as he gained knowledge and power (Abraham 3:19) the name Ahlish conveyed the meaning of "Supreme Power," (Smith p. 13) but perhaps he would not have arrived at this height until his conquest over the laws of the universe had become complete. The name Ah-lish also implied "the first being clothed with SUPREME GLORY." (Smith p. 9) Which also presupposes that he had arrived at a fullness of glory. And finally, "Ah-lish. The first being-supreme intelligence; supreme power; supreme glory; supreme Justice; supreme mercy without beginning of life or end of life comprehending all things, seeing all things-the invisible and eternal godhead." (Smith p. 3) All of these refer to God the Father as we now know him. "He formulated in his own mind a Plan. The plan of salvation is founded on love." (Widtsøe p. 202) Was he following some body's else's plan? Isn't God, alone, the author of the Plan? "God is the Author of the full plan!" (Widtsøe p. 202) He saw fit to initiate laws and a Plan to fulfill his purpose: "Behold this is my work and my glory—to bring to pass the immortality and eternal life of man." (Moses 1:39) In his own mind Father wrought out the atonement knowing all that would be required. (Dahl p. 55) Wasn't this the PLAN OF SALVATION? (Erickson 5 Oct 2004) Once accepted as Intelligences there was no turning back.

In the beginning in the 'realm' of intelligences does it seem that at least Elohim and Jehovah among the vast host of Intelligences began to deliberately engage in the conquest over the laws of the universe, by exercising their agency and will? (Widtsøe RT p. 25) Did they separate themselves by this effort from all the other Intelligences. They "must have been engaged from the beginning, and must now be engaged in progressive development." (Widtsøe RT p. 24) Elohim "In some manner, mysterious to us, he has recognized and utilized the laws of the universe of which he is the chief intelligence." (Widtsøe p. 24, Abraham 3:19) Joseph taught: "In knowledge there is power. God has more power than all other beings, because he has greater knowledge; hence he knows how to subject all other beings to himself. He has power over all." (Sermon at Nauvoo April, 8th, 1843, HC Vol. V, p. 340) "Infinite as God is, he must have been less powerful in the past than he is today." (Widtsøe RT p. 24) Joseph said "We imagine that God was God from the beginning of all eternity. I will refute that idea." (Smith p. 29) "He was once a man like one of us, and that God himself, the Father of us all, once dwelled on an earth." (Smith p. 29) How did he become earthly? How long did he dwell on an earth? Was it only a short time? Was it only long enough to get his body and to "lay down his

body and take it up again." Didn't Adam and Eve by partaking of a certain substance as mature immortal adult individuals find themselves earthly? (TC; Cannon p. 31) "We say that God Himself is a self-existent God." (Cannon p. 49) He "had already passed through the experiences of mortal life, including death and resurrection, and was therefore a Being possessed of a perfect, immortalized body of flesh and bones, while the Son was yet unembodied." (Talmage p. 39) We know nothing of that earthly experience. But Jesus was an observer and saw the Father lay down his body and take it up again. Joseph asked "Jesus, what are you going to do? to lay down my life as my father laid down His body that I might take it up again." (Cannon p. 31) Were there other observers?

HOW GOD BECAME GOD:

Joseph Smith wanted to convey information concerning FATHER and said "it is necessary to understand the character and being of God. For I am going to tell you how God came to be God and what sort of a being He is. For we have imagined that God was God from the beginning of all eternity...he was once a man like one of us and that God himself, the father of us all, once dwelled on an earth." (Cannon p. 29)

Thus, engaged as an observer of the First Creation, Christ "saw the Father work out His kingdom with fear and trembling." (Cannon p. 33) "When worlds came rolling into existence." (Cannon p. 33). What worlds might these have been? What kind of world and existence would Father require first? Would the First World have been a Spirit World in which Father clothed his Intelligence with Spirit? (Moses 3:5) Having learned the specific laws governing spirit existence and a spirit body, did he become so adept at this process that God now seems to do it for all of his creations? (Moses 3:5) Did he learn the laws so well that when it came time to provide a spirit body for Christ, he utilized a simpler process which we now call procreation? Literally Christ was born into a Spirit world as the First Born Spirit Man. The First Born of all Creatures. (Widtsoe pp. 202-203; Clark p. 244)

Is it apparent that God has mastered all of the laws governing the creation of Spirit Bodies, and the laws governing the creation of Unmortal or non-mortal worlds followed by a Mortal World? Was not the body procreated for Adam an immortal body? (Abraham 1:3) Was Father then involved in the equivalent of the Tree of Life Episode of Adam and Eve partaking of some kind of chemistry to become a mortal being? (Talmage p. 39) In this status was he alone? Had he mastered the laws of mortality so completely that once becoming mortal he could then lay down his body and take it up again as a resurrected Celestial Being? (Cannon p. 31)

All the time Father was making such progress was there a companion and observer who was following along every detail? Eventually he would be called Jesus. "What did Jesus Christ do? [Joseph Smith asked] why I do the same things that I saw my Father do when worlds come rolling into existence. I saw the father do what? I saw the Father work out his kingdom with fear and trembling and I am doing the same too." (Cannon p. 33)
 "What did Jesus say? As the Father has power in Himself, even so the Son has power in himself. To do what? Why, what the Father did. That answer is obvious; even in a manner to lay down his body and take it up again. Jesus, what are you going to do? 'To Lay down my life as my father laid down His body that I might take it up again.'" (Cannon p. 31) Was Joseph Smith telling us here in simplicity, yet detail, about the FIRST CREATIONS?

SUMMARY

Here then, is the FIRST CREATION! This was the First Creation accomplished by God the Father to bring to pass His own immortality and glory. With fear and trembling, since there was no previous pattern to follow, he brought worlds into existence. What worlds? Didn't he need a Spirit World, and then didn't he have to clothe it with an Un-mortal type of world, a Pre-mortal world, and then didn't he finally have to bring to pass the fall to an earthly state of that world? Did he do so by partaking of some chemical element? Was this a pattern to be followed by all Adam's and Eve's forever after that? Or had he simplified the process? And by the power in himself, his self-existing power, did he take up his body and resurrect himself? By that process did he glorify the world he had created so it became a celestial world? Did this become the Celestial Kingdom, the residence of God, where Christ was born as the first Spirit Man? Wasn't Christ the first born of all creatures? (Col. 1:15) and "the beginning of the creation of God?" (Rev 3:14; D&C 93) Didn't this make Christ our Elder brother? (Roberts p. 16; Clark pp. 33-34) The one on which we were all born as spirit beings? The place where we were nurtured and prepared for earthly life? The place where Lucifer lost everything through rebellion? And Mother, what about her? "All men and women are in the similitude of the universal Father and Mother, and are literally sons and daughters of Deity." (Clark p. 244) Ancient documents confirm that anciently there was a belief in a Mother in heaven.

To begin with was Christ an intimate observer in all of this? He and the Father had learned and assimilated all of the laws of the Universe, including the knowledge that horrific losses could be the result of the wrong use of free agency. They learned that law was exorable, especially the laws required for reinstatement, one being that there is no forgiveness without the shedding of blood. (Roberts ATN p. 60, 63, 64, 78-79; 80-81; 86; 132; D&C

19:15-19; 38: 3-5; D&C 38:4-5; Heb. 9:22; 13:12) Christ had to go through an entirely different sequence of events than the Father, a different objective had to be kept in mind, the Atonement was understood from the beginning. His great plan had been put in place. (Roberts ATN pp. 106-107; 108-109) Was it Christ himself who taught the Plan and the Gospel to interested and waiting Intelligences? (JST John 1:1) Whatever, Christ made the commitment and events proceeded as scheduled. It is still on schedule.

THE PLAN

GOD IS THE AUTHOR OF THE PLAN

"God is the Author of the full plan." (Widtsoe p. 202, Erickson 5 Oct 2004) "We observe that God is the only supreme governor and independent being in whom all fullness and perfection dwell; who is omnipotent, omnipresent, and omniscient; without beginning of days or end of life." (Dahl p. 291) Great preparations for the plan had to take place. Did the entire creational sequence have to be duplicated again? Did another being have to pass through the same stages and the same steps as Father? Did the Mother in heaven finally achieve her glorified position after the finalization of the creations of this first creational activity? When her glory was attained, was there another earthly world created that then became a celestial world? Does this suggest the origin of worlds such as those occupied by angels? (D&C 130) The world glorified by God the Father permitted the sequence of events worked out in the plan that had occupied his mind (Dahl p. 55), Christ had accepted the plan, and the role he would play. "At the first organization in heaven we were all present, and saw the Savior chosen and appointed and the plan of salvation made and we sanctioned it." (Dahl p. 482) Was the first organization the one held with Intelligences present to accept the initiation of the Plan? Or is it the First Organization when THIS WORLD, the THIRD CREATION, was planned? Didn't we have to know about the plan and accept it in order to progress into the Spirit world?

When the Plan was finalized, Christ had been chosen to affect the Atonement. Was there any other at that time that could have stepped forward? The episode involving Lucifer was long after the spirit world had been peopled by spirits, and worlds without number had been created, and only when another special assembly was held in regard to the THIRD CREATION, this world, and in this council was there then a chance to change the plan, already known to all, to be re-presented to those waiting in the Spirit World, and to allow for what happened at that time? (Abraham 2: 22-28) The offer of an alternate plan was rejected. The plan for this world initiated from the beginning, proceeded on course, but here on this world there would be great loss. "The contention in Heaven was -Jesus said there would be certain souls that would not be saved; and the devil said

he would save them all, and laid his plans before the grand council, who gave their vote [again?] in favor of Jesus Christ." (Dahl p. 188) On the early worlds had they been so righteous that they were translated without any loses? (Moses 7:31)

Did Christ personally take and teach the message of the Plan to the Intelligences, some perhaps who were waiting for the message? (Smith JST John 1:1; Widtsoe RT, p. 27) Was this when most of us heard the Plan and some accepted it, committing themselves to the long process of preparation? Once you were launched in the Plan could you ever turn back if you didn't like it? Look at Lucifer's status. There is no turning back.

EARNING THE RIGHT TO BE BORN IN THE SPIRIT WORLD

"In the Beginning the rising intelligences progressed by gaining mastery of the surrounding forces. They learned through experience. At first their progress was slow, but gradually increased. God was there to point out the way of progress and to give direct help when needed. Meanwhile, the will of man was left undisturbed. Progress if any and the rate of progress, must be and has ever been the result of the operation of the untrammelled will" (Widtsoe p. 203)

"The time came no doubt as an earned step in progress, when through the intervention of the Lord; personal intelligences became invested with spirit bodies. Man was born as it were into the spirit world. God became the Father of our spirits.

Life in the world of personal intelligences clothed upon with spirit bodies is called the First Estate of Man. In that estate we were as sons and daughters of God. The Fatherhood of God [and the Motherhood of Mother] is made a reality under this doctrine." (Widtsoe p. 203) There we were nurtured and brought to maturity to wait for what was promised: an earthly life, a mortal body. But, had any mortal worlds for this phase of existence been created?

An account of the First Creation does not appear in any of the other stories of creation, not the accounts in Moses, Genesis, Abraham or the TC. Those accounts mostly reflect aspects of the SECOND OR THIRD CREATIONS. The TC account is only of the Third Creation, in particular, just this world.

THE SECOND CREATION

THE CREATION OF GOVERNING PLANETS AND FIRST EARTHLY WORLDS

Man was ready for the earthly existence, to be tried and tested (Abraham 3:23-26) and his destiny finalized. But there were as yet no earthly worlds. But Plans were in place for what was next. Great preparations had to be made of tremendous complexity. Therefore this CREATION will be discussed in some detail...

Always keep in mind that "It is the job of the Theorists to come up with models that match the observations, not the job of the observers to bend their data to match the models." (Gribbin p. 211) "Science is about asking questions and finding credible ways to answer them...[it is a] passion for new knowledge." (Omenn p. 1696) We are now entering into a discussion that will involve the concept of the Big Bang. "We clearly need new laws of physics to describe the behavior of matter in the vicinity of the Big Bang....Any theory of matter under such extreme conditions must take account of quantum effects on a cosmological scale. ...[We are] a long way from being able to construct a satisfactory theory to accomplish this." (Coles pp. 119-120) Science seeks "...to understand the creation of matter and energy at the initiation of the universe, the dark matter that pervades the cosmos, the dark energy that appears to be causing the expansion of the universe to accelerate, additional dimensions beyond the four of space-time." (Omenn p. 1697) But, first, here is what Joseph had to say:

"The Head One of the Gods called together the Gods and the grand councilors set in grand council at the head in yonder heavens to bring forth the world and contemplated the Creation of the WORLDS that were created at that time." (Cannon p. 39)

THE FIFTEEN GOVERNING POWERS

First there had to be governing powers set up and systems by which all the planets contemplated of an earthly and related order would be controlled and governed. "Olibish, Enish go on dosh, and Kaii ven rash, are the three grand central powers that govern all the other creations, [what are these and where are they?] which have been sought out by the most aged of all the fathers, since the beginning of the creation, by means of the Urim and Thummim: The names of the other twelve of the fixed stars are: Kolob, Limdi, Zip, Vusel, Venisti, Waive, Way oh-ox-an, Oansili, Kible, Shinefilis, flis, os." (Smith p. 24) Joseph also translated from the record of Abraham the names of all of these in Egyptian as well: "Oan isis, Flos isis, Flo ese: Abbesels, Ele ash, Subble, Slundlo, Car roam, Crash ma Kraw, obbles isim, I Zins bah, missel, Nah

mesile Ohee oop Zah, Zool !" (Smith pp. 24-25) Armed with these names, they can be sought in available Egyptian records. This is an important confirmation that the Prophet possessed Egyptian records, since these fifteen stars and their names are not found in other documents, except the astronomical records of Enoch. (Milik p. 21-22) Nothing more than what is given above is said about the first three of the central governing powers that govern all other creations. Kolob is, however, the great and main power.

KOLOB NEAREST TO WHERE GOD DWELLS

"Kolob signifies the first creation nearer to the Celestial, or the residence of God, first in government." (Smith p. 26) The residence of God is "E Beth ka- The Celestial Kingdom where God dwells." (Smith p. 29) "Kolob- it signifies first beginning to the bodies of this creation [mortal worlds, worlds with matter made up of the familiar 92 elements] the first creation, also having been appointed for the last time the last or the eldest." (Smith p. 28) Does this mean that Kolob from the beginning had job security and tenure for governing worlds of this order? None of these governing powers would have been part of any concept of the Big Bang. They preceded the onset of cycles of Big Bangs to create earthly worlds. The governing powers were created first, then came the creations of worlds of our kind, or order. Always there is order.

"Flos isis- The highest degree of light, [Is this Celestial Light ?] because its component parts are light. [It was certainly not any of the eight types of photonic light we know about in the electromagnetic spectrum]. The governing principle of light. Because God has said Let this be the centre for light, and let there be bounds that it may not pass. He has set a cloud about in the heavens, and the light of the grand governing of 15 fixed stars centre there." (Smith p. 25) Does this mean there is a central governing cluster of "Stars" and they are the nearest to where god dwells? Are they called "Stars" because they emit light of an extremely high order, but are not stars composed of hydrogen and helium that process into the elements of this order through long process of fusion? We know little about these governing stars, and nothing about their real substance. Can we conclude that they are not Celestial nor are they mortal? Are they immortal entities?

BOUNDS SET FOR LIGHT

In the creational activities at this time the grand governing or 15 fixed stars were "a center for light...and from there it is drawn by the heavenly bodies according to their portions, according to the decrees that God has set as the bounds of the ocean, that it [the light] should not pass over as a flood, so God has set the bounds of light lest it pass over and consume the

planets." (Smith p. 25) So what light is this? That light is not earthly light, nor does it seem to be Celestial. The earthly planets are explicitly differentiated from the governing stars. Celestial light would destroy all matter of this order so the earthly planets and their areas of habitation had to be protected, and God so decreed. This is an interesting provision God made in consideration of the fragile nature of earthly matter. Are these boundaries among those Christ will inform us about when he comes? (D&C 121:30-31) There will be great expectations for that day of revelation.

KOLOB THE GOVERNING POWER AND FIRST CREATION

Kolob was made the Governing Power. "Kli flossis signifies Kolob in its motion, which is swifter than the rest of the twelve fixed stars, going before being first in motion, being delegated to have power over others to regulate others in their time." (Smith p. 25) A one day rotation of Kolob is a thousand years on our world. "Kolob signifies the highest degree of power in government, pertaining to heavenly bodies [of this order]." (Smith p. 30) Kolob "signifies the wonder of Abraham the eldest [or first] of all of the stars, the greatest body of the heavenly bodies that ever was discovered by man." (Smith p. 32) Kolob "signifies the first great grand governing fixed star which is the farthest that ever has been discovered by the fathers which was discovered by Methuselah and also by Abraham." (Smith p. 34) Evidently both of these great Patriarchs, as well as others before them, discovered or learned about Kolob through the Urim and Thummim. (Erickson Aug 2006) Such knowledge surely reached back to Adam.

"Kolob signifies the first creation nearer to the Celestial, or the residence of God, first in government...[a day on Kolob] is equal to a thousand years according to the measurement of this earth or Jah-oh-eh." (Smith p. 26; Abr. 5:13) Joseph learned that "all the times of their revolutions...and set times" would be revealed. It was a long time after the Prophet Joseph enunciated these ideas before astronomers realized that everything in the universe spins with diverse revolutions. (D&C 121:31)

"Kolob- it signifies first beginning to the bodies of this creation, also having been appointed for the last time the last or the eldest." (Smith p. 28) "And the Lord said unto me: These are the governing ones; and the name of the great one is Kolob, because it is near unto me, for I am the Lord thy God: I have set this one to govern all those which belong to the same order [earthly matter] as that upon which thou standest." (Abraham 3:3) Some recent writers have erroneously concluded that the Celestial World on which God dwells orbits Kolob. (Draper p. 273-274) This would violate several scriptural

passages and much of what is in the Egyptian Alphabet and Grammar as noted.

KOLOB GOVERNING POWER OVER ALL EARTHLY CREATIONS

After the governing powers were in place could the SECOND CREATION have then followed the series of events that theorists are calling the Big Bang? At this creation, all of the space allocated to the First Big Bang, or its equivalent, to be occupied by earthly worlds would have been created by an initial, or the First Big Bang, with sequels or encores as needed. Ordinary earthly matter includes baryons, leptons, and hadrons, which make up the 92 atoms as we know them. All matter, all of the energy of the type exhibited in this order of worlds, from which all subsequent creations of this order would be organized, and the measure of time [speed of light] pertaining to this order of creation, or earthly worlds, followed after the creation of Kolob and the governing bodies. Wasn't Kolob ... set to be the governing power of all creations of this order that appeared to have been created at that time and all such creations afterwards? (Cannon p. 43)

The thrust of activities was set in motion so the processing of hydrogen by fusion by Nova Stars that through their restricted size and instability would make suns like ours, and the variety of Super Novas that would fuse hydrogen under furious fusion process and explosions into making clouds of heavy elements from which worlds like ours would be organized. All of the other objects in space were merely incidental. Worlds have been processed unceasing since then. "This ceaseless processing of the worlds is an ancient teaching." (Nibley p. 15; Apocalypse of Abraham XVII, note 7; Gen. Rab 78:1 in Nibley p. 15) But, as noted below, the world on which we stand was not organized at that time or even subsequent times. It was a later creation after a long duration of time.

More than 10 to the 65th worlds were created before this world was organized. (Moses 7:30) A special dispensation of creation was initiated for this world. Its function would be different, it would become the world on which the atonement affecting all other worlds (McConkie pp, 65-66) would be accomplished, and which would become the footstool and Chief Executive World for Jesus Christ. All events describing the present [our] universe and its contents, are not included in this creational activity, though the pattern may have been established. This world is patterned after the previous worlds, essentially after the Celestial World. (TC) The one on which we first lived?

Weren't all life forms prepared on the very first of the earthly worlds, and from that first creation, of this order, all other worlds were seeded? While what happened may be described as the First Big Bang activity, there were subsequent encores, with out number before the Third Creation, which involved just this world. The duration of a full cycle of a Big Bang and its processes may have taken 10 to the 100th years, though cycles could have been going on at the same time in different regions of space. An outline of the SECOND CREATION and its Eras of time will be provided in what follows.

THE RESIDENCE OF GOD

As mentioned, the Celestial Kingdom where God dwells, is called E beth Ka. (Smith p. 29) This is the residence of God, it is also the residence of spirit beings born there and nurtured and prepared for eventual mortal life. Isn't the CELESTIAL KINGDOM and therefore the SPIRIT WORLD for all Intelligences born into that region and given a spirit body, as part of the family of God? The result of this creational activity is summarized in the First Sentence in the Account Given in Genesis: "In the beginning, when God created the Universe." (Genesis 1:1; Reyburn p. 26) "All the ancient versions as well as many modern ones understand First verse to be an independent sentence." (Reyburn p. 27) Since this includes all the earthly worlds and the prior worlds, it must refer to the combined efforts and results and products of the FIRST CREATION, the SECOND CREATION, and THE THIRD CREATION. But the first earthly worlds for those born into the spirit world on which they would have earthly life were created in the SECOND CREATION. As noted above, the King Follett Discourse provides insights into this Creation and the Creation of worlds of this order, which have the 92 elements that make up the earthly worlds of water, stone, flesh, bone and blood. Man is made up of star dust. The earth is made up of heavy element star dust. (Altschuler Chap 5) Genesis 1:1 not only asserts a beginning but also a non-ending process of Creation!

THE THEORY OF THE BIG BANG

In what follows the different aspects of the Theory are outlined so that in early 2008, this presentation can be revised to include all that will be found during 2007. Most of what follows will also apply, in certain aspects, but not in every detail, to the THIRD CREATION. In what way could any of it apply to the FIRST CREATION? If at all? Only in the last few years could

this discussion have been made.

As this Theory is being discussed, some of the current problems associated with various aspects of its details will also be mentioned, they especially may be clarified during 2007. There is always great excitement in the field of cosmology as problems are identified and equipment is being designed that they hope will provide answers. A huge effort is in progress all the time. Details of much of what follows will no doubt change greatly.

Since 1960 the Theory of the Big Bang has provided insight into the creational activity that has led to the innumerable worlds in the immensity of the larger Universe. The theory has been modified into a number of explanatory models. The most recent appeared in 2006 in ASTRONOMY. A summary of this model will provide a knowledge of the complexity, yet show the simplicity of it all. The areas of knowledge that are still limited, or lacking, will be noted. New equipment being built to pursue the answers to all of the questions will also be mentioned. Time as we know it in this encore of the Big Bangs is underscored by the work of Hawking and Penrose. "Penrose and I, could prove that in the mathematical model of general relativity time must have a beginning in what is called the big bang." (Hawking p. 41) Prior to light coming on the scene there was no time. Time is a function for the use of man, it involves the speed and characteristics of light in this order. In the Grand Scheme of things, it is a very limited concept.

The Grand Council was called or reconvened, and included the "Grand Councilors", and a gathering of those who had persisted and persevered in the spirit world so as to be called Gods. At this meeting, the purpose was to make preparations for worlds so that spirits, maturing and training in the spirit world, could advance and fulfill the final stage of their long expectations and perseverance. As pointed out above, the fifteen governing creations, with Kolob as the eldest of these, were first created and put in place to govern all the subsequent creations. (Cannon p. 39, Smith p. 24) Then followed the sequence of events scientists loosely call the Big Bang. The Cosmic Epochs or events that followed are part of what is called the Standard Model. There are many cosmological riddles as yet unanswered and probably will remain so for many years. The next generation telescopes and detectors will allow astronomers to look back farther and farther to probe for answers to the on-going questions. The future is bright indeed.

THE GLORY AREA FOR NON-MORTAL CREATIONS

In the geography of the Universe there is the little known Creational Area near Kolob. Brigham Young called it an area of "glory." Can we assume this is where the un-mortal or non-mortal worlds are created upon which all of the Adams and Eves [which are many] are born? (Abraham 1:3) In describing the creation of

THIS WORLD, or THE THIRD CREATION, does what is said about the GLORY PLACE, also apply to all worlds? "When the earth [or any earth as far as that goes] was framed and brought into existence and man was placed upon it, it was near the throne of our Father [in the vicinity of Kolob] in heaven. And when man fell...[any Adam and Eve on any earth] the earth fell into space, and took up its abode in this planetary system, and the sun became our light...This is the glory the earth came from, and when it is glorified [Celestialized] IT WILL RETURN AGAIN UNTO THE PRESENCE OF THE FATHER." (Brigham Young, in Journal of Discourses, 17:143) Not much else is known about this place.

THE ERAS

Cosmologists separate the Big Bang into specific events, or ERAS, each being studied by specialists with meetings held each year to update each other. At the end of 2006 this is the outline which was given for the ERAS:

THE QUANTUM UNCERTAINTY OR PLANCK ERA

The theorists describe the Beginning for any encore of the Big Bang, as a Quantum Uncertainty, they call it the PLANCK ERA. . "No current theory of physics can describe what happened in the universe during this time...there was a singularity at the start of time." (Francis p. 46) It is called the Big Bang. It is uncertain as to exactly what the origin and nature of the finite original Plasma of Energy that contained all of the energy and ultimately all the matter now extant in the known universe was really like. In the portion of the universe we occupy, which was a later encore of the First creational activities, they compute there is less than 10 to the 25th stars. Did each encore from the beginning have a similar Cosmic history and content? To get the Enoch Numbers expressed above, there would have had to have been more than 10 to the 32nd additional encores, or Big Bangs. Even this would not account for the creations the Lord described as "a beginning." (Moses 7:30. These encores would not be overlapping, but occupy their own space, and have their own histories. All space is occupied by kingdoms. (D&C 88: 37) Thus boundaries would be set for each Big Bang or encore.

GRAND UNIFIED THEORY ERA

According, at first, in the Standard Model, which is what the cosmologists call the structure of ideas into which they fit their observations and define the areas of weakness, was the GRAND UNIFIED THEORY ERA, "during this era, matter and energy[and] the three fundamental forces of nature were still unified."

(Francis p. 46) The as yet un-named Plasma-energy-bundle was extremely hot, one billion degrees Kelvin, and until it expanded and cooled down sufficiently none of the major forces of matter, such as gravity, matter itself and especially the building blocks of the proton, the "up" and "down" quarks, could not decouple or separate away to form the protons; the basic building block of all matter. The "up" quarks are only 9 times as massive as the electron; the "down" quark is about 39 times the mass of the electron. These two elementary particles do not add up to much mass. For thirty years through collider and accelerator equipment they have been looking to identify the rest of the mass of the Proton, blasting the proton apart to find out what else is inside of it. Some 27 sub-atomic particles have been identified and still counting.

Earth will never receive visible light from the first three Eras before the first stars ignited because there was no light. Cosmologists are seeking to reconstruct what happened before and during that time using the Cosmic Microwave Background detectors (CMBR), which reveals tiny fluctuations in the density of the Plasma at that time. (Francis p. 50)

THE INFLATION ERA

The Second most important observation in 2006 was the glimpse of cosmic inflation provided by the Wilkinson Microwave Anisotropy Probe (WMAP). It was launched in 2001, details of its search became available in 2003, and the team working on the Probe nailed down the time when atoms first formed, less than 380,000 years after the Big Bang, and helped [make a provisional estimate] of the age for the universe: (13.7 billion years), and the universe's contents, (mysterious dark energy accounts for 74 %; dark matter, 22 %, and all ordinary matter is only 4 percent). ...estimating the first stars began shining some 400 million years after the Big Bang." (Astronomy, p. 40, January 07) New discoveries, as noted below, keep modifying some of these conclusions. Because of the early density of the early universe some stars may have ignited only one million years from the beginning.

The main INFLATION ERA was very early. This highly debated and contested point in time, the INFLATION ERA, occurred at about a hundred billionth of a yocosecond, or 10 to the minus 35 seconds. All physical theory breaks down at this point according to Hawking. All is conjecture for the first three Eras. They estimate the temperature to be 10 to the 27th Kelvins (1,800 trillion trillion degrees F. (1000 trillion trillion degrees centigrade.) The diameter would be 3×10 to the minus 27th feet, or 10 to the minus 28th meters. (Francis p. 46) But was it really that tiny? A lot of debate is going about each of these ERAS and proposed details. It may take years before new equipment permits definitive conclusions. As new discoveries are fit into the Standard Model, old data is eliminated, and new physics and mathematics are brought to bear.

"Part of the universe expanded from billions of times smaller than a proton to something between the size of a marble and a football field." (Francis p. 46) This part of the Big Bang theory is hard to swallow as it requires for a period of time a super luminous expansion. While the theory works, it violates other aspects of physical law; the reconciliation is still being worked out. The assumption that the Big Bang started with the Plasma in extremely confined space creates the problem, but assuming it occupied larger space also creates problems. Thinkers consume a lot of time trying to work out these conundrums.

THE QUARK ERA

At about a hundred millionth of a yoctosecond, (10 to the minus 32 seconds) with not much change in temperature from the Inflation Era, but with an increase in volume to 33 ft, or 10 meters, the QUARK ERA commenced. The changing Plasma would pass through three more phases in this ERA until the volume would become 10 to the 12th meters (620 million miles or one billion km), and the temperature would be 10 to the 15th Kelvins, (1,800 trillion degrees F., or 1,000 trillion degrees C.) But so far only one nanosecond, or 10 to the minus 8 seconds would have elapsed! The Quark Era is "Sometimes called the ELECTROWEAK ERA, in this period vast number of quark and antiquark pairs formed from energy and then annihilated back to energy. Gluons and other more exotic particles also appeared." (Francis p. 36) It was still not cool enough for them to decouple, stabilize and form protons.

"Particles-antiparticle pairs, including quarks-antiquarks, were still constantly forming and returning to energy. For each type of particle the temperature would eventually drop to the point where the particle 'froze out'—they could no longer form from the background pool of energy. Most free particles and antiparticles of each type were rapidly annihilated, leaving a small residue of particles. As quarks and antiquarks froze out at the end of the Quark Era, instead of being annihilated, some began grouping to form heavier particles, [in particular the proton]." (Francis p. 47) It takes two 'up' quarks and one 'down' quark to make a proton, and one 'up' quark and two 'down' quarks to make a neutron. This is basic for the construction of a proton and neutron.

Physicists at Fermi National Accelerator Laboratory in Batavia, Ill. announced November 25th 2006, in Science News Vol. 170, p. 350, that exotic particles had been identified they called Sigma-b baryons, also called bottom quarks; one of six types of quarks that are fundamental constituents of matter. Sigma-b weighs

about six times as much as protons, and may indicate heftier baryons yet to be found. The discovery was made in their lab in October in the debris produced by more than 100 trillion collisions of protons and antiprotons that had occurred in the accelerator in the past 5 years. The appearance during the cooling of the Plasma may have been short lived with the lesser relatives of the quark family taking over. Until the Plasma cooled to permit quarks to form there was no stable matter. (Cadogan pp. 170-171) "The very fabric of space-time continually undergoes violent fluctuations." (Cadogan p.172) It started that way, but it will end in a whimper.

SEPARATION OF THE ELECTROWEAK FORCES

In the next microsecond (10 to the minus 6 seconds) the Quark Era ends. "Near the end of the Quark Era, the electroweak force separated into the electromagnetic force and the weak interactions. From then on, the forces of nature and physical laws in the universe were as they are now experienced." (Francis p. 47) Gravity decoupled, and particles could form. The diameter of space occupied was now 10 to the 13th meters (620 million miles or 1 billion km) and the temperature dropped to 10 to the 15th Kelvins, (1,800 trillion degree F., or 1,000 trillion degrees C.). Francis p. 47) Quarks were becoming bound into heavier particles by gluons. Gluons, like other sub-atomic particles, help make up the mass of the Proton, but also play a significant role in the strong nuclear forces in the Protons and neutrons that hold them together, when separated by fusion or fission, you have the hydrogen or uranium bombs because so much energy is released.

THE HADRON ERA

It was not until 1909 that Rutherford discovered the proton, essentially he "had discovered the atomic 'nucleus.'" (Chown pp. 30-32) The British astronomer, Fred Hoyle, was to discover how fusion in the fiery furnaces of stars created the heavy elements, as a result of an outrageous prediction he made in 1952. (Chown pp. 174-180) So we have only been in the 'know' about such things for about a half century.

"Around the beginning of this Era, quarks and antiquarks began combining to form particles called hadrons, this is common matter. These include baryons (protons and neutrons) and antibaryons and mesons." (Francis p. 47) The diameter was expanding from 60 billion miles to 600 billion miles and the temperature was decreasing from 10 to the 13th Kelvins to 10 to the 12th Kelvins. The time consumed was from one microsecond to one millisecond.

"After one microsecond, the universe had cooled enough for quarks and antiquarks to combine in twos and threes to form heavier particles in a process called quark confinement, "up" and "down" quarks combined with gluons to make protons and neutrons." (Francis p. 47)

Each proton has two "up" quarks each with a plus $\frac{2}{3}$ rd charge, and

one "down" quark with a minus $\frac{1}{3}$ rd charge, giving a proton a plus 1 charge. A neutron has two 'down quarks' each with a minus $\frac{1}{3}$ rd charge, and one "up" quark with a plus $\frac{2}{3}$ charge, thus canceling the charge so the neutron is a no charge particle.

For all atoms larger than Hydrogen neutrons are needed for stability and chemical behavior. Elements of the same proton number but with a different number of neutrons are called isotopes. All elements have isotopes. "Electrons and Protons make up the Baryons of the universe. The baryon number per photon is... about one part in 1,000 million...About 87 % of the nuclear particles in the present universe are protons, so the number of electrons is close to the total number of nuclear particles." (Weinberg p. 97)

If you are following closely, God has built into all creations a great simplicity. Whatever you total up, there is sufficient matter to only account for 10 to the 25th stars in our encore, and most likely that was the figure each of all previous encores or 'Big Bangs.' Whereas the Enoch number requires 10 to the 40th times more than this amount just for our local encore or universe alone. Does this reflect the total actual amount in each encore as well? That is why the present Big Bang is only an encore in a much larger history that has already become history.

THE LEPTON ERA

"During this era, leptons (electrons, neutrinos, and their antiparticles) were very numerous. By its end, the electrons annihilated with positrons (anti-electrons)." (Francis p. 47)

The Diameter was now increasing from 600 billion miles to 10 light years (1 light-year is 5.88 trillion miles).

The temperature was declining from 10 to the 12th Kelvins to 10 to the 10th Kelvins leading to the NUCLEOSYNTHESIS ERA that followed.

"It was April 29, 1949. The Berkely Synchrotron had been turned up...with a throw of the switch, a powerful beam of electrons ...plunged through a platinum plate and exited as a flurry of X-rays, penetrating deeply into a block of carbon. There, as X-rays looped past millions of carbon nuclei

each X-ray photon vanished and spawned a single pair of particles. Photographs recorded this hailstorm of new matter born from the seed of light. Over 20 million particles each hour flashed into existence out of the cloak of nothingness." (Odenwald p. 223) Like the baby born in a manger, a serious threshold had been crossed. Then, on "September 21, 1955, the first proton-antiproton pairs tumbled into existence at Berkely's new Bevatron machine. In time, physicist learned how to separate the fleeting pairs of particles to create a new form of matter." (Odenwald p. 223)

They found out when you "collide two heavy nuclei together, the protons of the new nucleus formed this way create an electric field around them so intense the Void [seemingly empty space] becomes unstable as a rain cloud. Jack Greenberg at Yale and Walter Greiner at Johann Wolfgang Goethe University did this in 1982 with uranium atoms. For just a few moments, the Void released a few droplets of quantum rain...a veritable cloudburst of particles." (Odenwald p. 227) With new equipment now being built the mystery of matter and the universe will be further elucidated. The effort is to find out how God did it and does it.

THE NUCLEOSYNTHESIS ERA

Some "Neutrons gradually converted into protons as the universe cooled, but when there was about one neutron for every seven protons, most remaining neutrons combined with protons to make helium nuclei, each with two protons and two neutrons." (Francis p. 47) Now there were atoms. There were two intervening steps involving heavy hydrogen, first deuterium with two neutrons, and then tritium with three neutrons, these are heavy hydrogen, in the fusion process energy was released. Most of the hydrogen in the Universe was created at this time and the subsequent Eras. Except for the decay of neutrons to protons, few processes are going on at this time that creates hydrogen. In our present universe the total Hydrogen is being reduced as it fuses into Helium and heavier elements. It was not until there were sufficient quantities of heavy elements fused by cycles of Supernova explosions, and at least seven generations were required to get cloud of sufficient heavy elements, which, when desired, could they then be organized into our earth . (Arnett pp. 501-515) The Supernova Ia stars are the main source of the heavy elements. Very large supernova up to 150 times the mass of our sun results frequently in black holes that play an important role in the mass and balance of a galaxy. Most galaxies have a black hole; a law [the 2 % law] has been found that governs the mass of the galaxy and the mass of its black hole. There is a monster in the center of our galaxy. (Melia pp. 143-146) Black holes formed early, they are abundant and of all sizes.

"The first quasars are known to have a central black holes [in the early Big Bang] that are larger than a billion solar masses within a region the size of a solar system. Because assembling such a massive black hole should take billions of years astronomers have had difficulty explaining the presence of quasars in the early (billion-year-old) [cores of galaxies in the] universe. Volonteri and Rees have modeled the growth of the first supermassive black holes including the competing effects of gas

accretion and the dynamics of black holes mergers in their calculations. ...The authors thus frame a Darwinian natural selection scenario for black hole growth in the very young universe." This results from and in the "highest density regions where gas accretion was optimal." (Astrophysics Journal 650, 669; 2006; Science vol. 314, 17 November 2006) This could mean that civilizations may have turned on at the rate of 5 billion per galaxy one billion years into the Big Bang cycle. The Enoch Numbers suggest something like this occurred.

Every earth inhabited by spirit beings with an earthly body is scheduled to become a Celestial Kingdom. This world on which God told Moses "that among all the workmanship of mine hands there has not been so great wickedness as among the brethren, (Moses 76:36) obeys a Celestial Law and will be glorified. (D&C 88:25) A full cycle of creation, or an encore, finite as it is, will still take 10 to the 100th years to complete. All earths will depart to the Celestial geography when their cycle is complete.

THE DECLINE OF THE UNIVERSE OR AN ENCORE

By 10 to the 23rd years most of the galaxies will have lost their stars through evaporations. By the time 10 to the 45th years have passed, protons in the universe will have decayed, only evaporating black holes will remain and by 10 to the 100th years all of the black holes will have disappeared, and all matter will be reduced to a few distended photons and stray particles. At this point the full size of the current universe or encore will have been reached. Elsewhere other Big Bangs will have been going through a similar history. They will not encroach on each other, their boundaries having been set. (D&C 121:32) Black holes lose energy through spin, gravity waves, magnetic waves, etc.

THE OPAQUE ERA-OR DARK AGES

"During this relatively lengthy era, the ocean of matter particles (comprising mainly electrons, protons, and helium nuclei) were in a continual state of interaction with photons (radiant energy), making the universe "foggy". (Francis page 47) The Diameter of the universe would have increased to more than 10,000 light years, about 10 per cent of the diameter of our visible galaxy. The temperature would have been cooling toward 3,000 degrees Kelvin.

"For the first nearly 250,000 years [down from 380,000] as

the universe continued to expand and cool, it remained too hot and energetic for atoms to form, so electrons momentarily met with protons or helium nuclei, then were quickly split apart by photons, which were themselves trapped in a process of continued collision with the free electrons. This constant scattering meant that the photons could travel hardly any distance in a straight line. "If an observer could have seen it at that time, the universe would have resembled a dense fog." (Francis p. 47) Some call this period the "Dark Ages."

"The Cosmic Dark Ages ended once the universe's neutral hydrogen was completely reionized, [by taking on an electron neutralizing their charge], by the first stars and galaxies. The Luminous period that followed holds almost as many questions as the Dark Ages. ...the Dark Ages ended and the stars ignited [with all the varieties of light]...with the formation of the first galaxies dust absorbed starlight and re-emitted infrared radiation. ...light from this process created a 'cosmic infrared background' (CMB) ...the infrared radiation traces early protogalaxies...[showing] how the universe's structure evolved. Scheduled for a 2013 launch, the James Webb Space Telescope-Hubble's' infrared successor-will look back to early galaxy formation." (Kruesi p. 16)

"Each cosmic Epoch [Era] blends into the next because direct cutoffs are difficult to observe...next generation telescopes and detectors will allow astronomers to look back ...to probe the main question: How did structures form." (Nadis pp. 16-17)

BALANCE OF ELEMENTS:

"At the end of the Opaque Era, many more free protons existed than helium nuclei, or other atomic nuclei. The scene was set for the first atoms to form, when they did about nine hydrogen atoms were made for each helium atom. A few lithium and deuterium (heavy hydrogen atoms) atoms also formed" (Francis p. 47) About 90 % of the matter in the [excluding dark matter which we don't know what it is] universe was hydrogen and slightly less than 10 % was helium. The diameter was expanding to 100 million light years, and the temperature had cooled to 3,000 degrees Kelvin. Some 250,000 years had passed. Protons and atomic nuclei began to capture electrons, forming the first atoms. Electrons were now bound up in atoms, so they no longer scattered photons. Matter and radiation then become "decoupled," and the photons were released to travel through the universe as radiation. Thus, the First Light. Light as we know it in the universe is white light, only one of the more than eight types of photons in the Electromagnetic light spectrum. Newton only passed white light, or photons, from 4000 to 7000 angstroms, through his prism. We do not see the other light photons with the naked eyes. Within the last few decades detectors for all of the varieties of light have been devised, so we can detect and "see" what is going on in the universe. However, none of the photons of light is "Celestial light." There is no Celestial matter nor Celestial light in our present universe except as it serves the purposes of divine beings. "More than 90 percent of the entire mass within the visible universe [over the entire electromagnetic spectrum] is made of material visible to telescopes and detecting instruments, [the rest is dark matter or energy] The gravitational

pull of this "dark matter" therefore determines the motion of stars in galaxies, of galaxies in clusters of galaxies, and indeed of the universe itself." (Krauss p. xxii) Recent work now has identified "dark matter" localities in and around galaxies, and Exotic Dark Mater Candidates are being identified. (Krauss p. 236)

With the advent of light, time began. In this present universe we measure time by the speed of light. Hawking calls what was there before light appeared as No-time. But "What then is time? If no one asks me, I know what it is. If I wish to explain what it is to him who asks me, I do not know." So said St. Augustine in the fifth century. (Harrison p. 138) Physical activities, such as the spin of the earth, the moon around the earth, the earth around the sun, the sun around the galaxy, can all be reversed, and nothing much would change, but break an egg, or change the arrow of time in regard to organic material, and things are irreversible. Time will have a stop. (D&C 84:100; 88:110; 132:7) Time is linear for some things in this universe; you cannot go back and start over. Lucifer found this out.

THE MATTER OR ATOM ERA:

"At the start of our present era, photons were free to travel through the universe. Most electrons were bound to atoms until the first stars formed, reheating matter." (Francis p. 47) Our present instruments have brought us thus far, the new instruments will take us farther. During this year the first galaxies observed, are distorted and deformed they show up on the Hubble Ultra Deep Field photos. The early galaxies found by the Hubble Deep Field were in place at least one billion years after the Opaque Era. The Hubble Ultra Deep Field identified galaxies at about 800 million light years or so in age. The gap here will be investigated by new equipment to be launched within five years. From 250,000 years to 600 million years the Dark Ages ended, says Lick Observatory's Richard Ellis. The First Stars appeared, then clustering of Stars resulted in the First Galaxies, and from there to the First Super clusters and so on to the present, all of this emerging from the work of Andrew Bunker, University of Exeter using the W.M. Keck telescopes. But did it take up to 15 [?] billion years before sufficient cycles of nova and Supernova la stars had blasted away to form sufficient heavy elements from which earths could form in each encore. Did the density of the early stages permit acceleration in heavy element generation? Civilizations could have turned on in the early portion of each encore because of high density. In the First Big Bang, the first worlds to be inhabited may have turned on within one billion years of the fiery beginning, after the Council decreed such creations should begin. But of course, perhaps the Council could speed things up!

To get the same coverage and exposure of galaxies and Comic objects, throughout the present encore, or our universe, as that revealed on the first Hubble photos, it would

take about one million years of constant imaging of the heavens to accomplish.
(Astronomy, April 2005 p. 60)

It was about 1999 that "an age for the Universe of 13.4 plus or minus 1.6 billion years." (Gribbin BT, p. 224) was stipulated, to be modified as the next six years of work continued to make discoveries. By 2006 it varies from 14 to 16 Billion years. (Coles pp. 84-86) and they are still working on it. Hints are now that it may be 17.6 Billion years.

Close to home great events are observable. The closest nebula to the earth is the Orion Nebula less than 13,000 light years away. (Francis p. 229) There, "in an imaginary cube with sides three light years long would contain thousands of stars, each one, on average, less than a third of a light year from its nearest neighbor." (Gribbin p. 196) Most of these stars are very young, not even a million years old. Orion is a birthing area for new stars like our sun. These are in the right position in the ring around the galaxy of the habitable zone, so many of them could become suns for future worlds. There are more than 150 such birthing areas in the Galaxy. Not far from the Orion birthing area is the Horse Head nebula, it is opaque matter, it is the birthing areas of giant stars and heavy elements, the birthing area for earths. On "earth microbes less than about half a millionth of a meter in diameter...is also just the size of the particles of dust that have been detected in interstellar clouds." (Gribbin p. 6) One recently discovered hydrogen cloud is large enough in mass that when it collapses to form stars it could form up to fifty galaxies the size of our own. Our Own Galaxy is part of a Local Cluster of 46 galaxies and counting, seven were added to the count by Cambridge University Astronomers during 2006. It is, however, only a small cluster, the Virgo Cluster 55 million lights years away has more than 4,000 galaxies the size of ours and 40,000 others of various smaller sizes. That's a Cluster as Dundee would say. (Astronomy Nov. 25, Vol. 170, 2006) These discoveries were listed as the 4th most important for 2006.

Current intense work is in progress to define the mysterious cosmic push that's tearing apart the universe by revving up about 5 billion years ago and became active some 9 billion years ago which will prohibit "gravity's tendency to pull things together."
(Science News November 18, Vol. 170, 2006) These observations established the universe as Flat. Gravity can never pull matter back to start it all over.

Recently they have recognized Massive Compact Halo Objects (MACHOS) because of their gravitational effects, but the recognition of dark matter and dark energy without knowing when they appeared on the scene or really what they are, has led to a torment of failure to be able to explain these two fundamental elements. The search for these two elements is the fundamental task facing astrophysicist today. (Hooper 2006) Hopper outlines the difficult notion of dark energy, a phenomenon that could explain the expanding universe and determine its fate.

AREAS BEING STUDIED

As tedious as the foregoing has been, presented in order to get a picture of the Big Bang, before discussing the THIRD CREATION, lets look at a little more of the areas being investigated in the Standard Model of the Big Bang Theory. By 1960 the basics of the Theory were outlined. Much of it still does not have the dignity of being factual. New progress is reported each week, books quickly become out of date. For the next two decades there will be one or more new discoveries and changes in the theory each week. But it is evident they are not getting very close to what the Great Joseph knew, or what is found in Mormon scriptures.

"The effort to understand the universe is one of the very few things that lifts human life a little above the level of farce, and gives it some of the grade of tragedy." (Weinberg p. 155) The Gospel gives absolute truths and life eternal dignity.

EXPANSION OR INFLATION:

Once the fifteen governing bodies were in place, the order was given by the Council of the Gods for the creation of earthly type matter to commence. The bundle of energy or the Plasma then expanded rapidly. In this earliest period of extremely rapid growth, the observable universe expanded by a factor of 10 to the 30th or more, in 10 to the minus 33rd seconds. (Nadis p. 36) "For all its successes, however, inflationary cosmology remains a theory. Because it deals with such small distances, early cosmic times, and high energies, it lies beyond the reach of laboratory study." (Frank p. 11; Codogan pp. 7-10) By 1921 the great Hubble knew there were galaxies beyond our own, and that the universe was expanding. Even though Kant the German Philosopher and astronomer had suggested this as early as 1755, confirmation awaited the seminal work of Hubble in 1929. The scientific community then took notice. One particular person was greatly interested so much so that in 1931 Einstein visited Hubble and pronounced his acceptance. With more data in a 1931 paper, most skeptics were brought to bay. (Goldsmith p. 37-38) The picture of our universe has been growing in detail since then, but Joseph outlined it very neatly in his revelations less than 100 years earlier.

DECOUPLING:

Temperature was the big factor. As the universe expanded and cooled, matter and radiation unmixed, or decoupled, about 250-380,000 years after the Big Bang. Gravity was the first force to decouple after which it began to play its role. Quantum Physics began to contribute as sub atomic particles formed. Until there were "up" and "down" quarks, the basic building blocks of protons and neutrons, there was no matter then as we now know it. Once the quarks cooled and could associate in matter, most of the protons in the universe were created along with helium. Somewhere in this unmixing and cooling, the 22 % of the universe that is considered to be Dark Matter emerges, mainly detected by gravitational effects. (Nadis p. 17) Add an electron to the proton and the atom we now call hydrogen was formed. Radiation assaulted the hydrogen atoms, packets of energy moved the electrons into alternate orbits, and this was not a comfort zone, so they throw off the excess energy and drop back to their comfort zone thus releasing photons. The eight varieties of light all are expressed by their frequency or oscillation that determines the type and energy of photons they generate.

Photons were free to travel unimpeded through space for the rest of cosmic history. Filling every sector of the space into which matter was expanding, and in every direction, the Cosmic Microwave Background radiation created a pattern now discernable by special equipment (WMAP). With the nuclear forces inside the protons and the processing of neutrons by decaying protons, fusion could and did occur, heavy elements were being generated, gravity acted in a more energetic manner than now because so much mass was in close proximity. The original density was immense, as the expansion continued, the density decreased. The universe is becoming less dense all the time. But by the end of the 1970's many urgent problems with the model loomed.

CAUSALTY PROBLEMS:

By using the CMB they could measure the properties of the early universe in different regions. They could extract the temperature of the cosmic plasma with great precision. But to their astonishment the temperature of the Cosmic Microwave Background (CMB) remained the same to one part in 10,000. Hadn't everything started as a chaotic, expanding plasma? Certainly some part of the plasma would have ended up with slightly different conditions, but no matter which direction they looked it remained the same. (Frank p. 7, COSMOS) "Points on opposite sides of the sky were too far apart when the CMB photons were created says" Sean Carroll, an astrophysicist at the University of Chicago. A light signal could not bridge their separation in the time between the Big Bang and the moment of decoupling. This became the root of the cause-and-effect dilemma, still unresolved. If light didn't have time to make it from one region to the other then the different regions couldn't know about each other. A rational cosmology demands this be resolved. Or there is a lot of the universe we will never see.

FLATNESS PROBLEM

Physicists and Cosmologists from Einstein to the present argued about whether the universe was curved, saddle shaped or flat. Recent observations confirm the universe is flat, a condition that means parallel lines will never converge. The measure of the universe's density is the Omega value, if Omega equals 1, the universe is flat. The shape of the universe is linked to the universe's energy content. Astrophysicists want a theory that naturally leads to Omega equaling 1. The evidence is compelling that the Universe is flat, essentially meaning it will not be recycled by the pull of gravity and starts all over again. Rather in a time of about 10 to the 100th years the universe will be reduced to a few energy packets and stray photons. It will have run its course. Thus, the time cycle of a Big Bang is about 10 to the 100th years. Encores would probably have a similar time limit. To create other worlds, an encore of parallel events would be required. Our universe is flat and has a finite history. But it simply does not account for very much of the total creations expressed by the Enoch numbers. So encores of Big Bangs have been happening at an astonishing rate in space without ever overlapping. The Mormon concept of the geography of the Universe clearly permits this. Cosmologists haven't gotten their minds around this yet. Mormons are going to enjoy this unique status for a long time.

MAGNETIC MONOPOLE PROBLEM:

Particles are negative and others are positive. The proton is positive, the electron is negative. These separate polarities are called electric monopoles. Every magnetic field comes with both north and south poles, even the earth. In the struggle to refine the Standard Model, the nature of matter demands that magnetic monopoles must have been created during the original quantum uncertainty, certainly when the decoupling took place. If so, where have all the magnetic monopoles gone? Or how do you modify the theory? By the development of Inflationary Cosmology, (Frank p. 9, Cosmos) Alan Guth, a physicist at the Massachusetts Institute of Technology, in 1981 championed this approach, using tools fashioned out of Grand Unification Theories, (GUTS) but in the process it developed its own problems. So is there more to the cosmos than we can see? What about the rest of it? The Enoch numbers tell us there is a lot more cosmos out there than anyone has imagined.

INFLATION ERA THEORIES

All inflation theories, and there are many, grab a speck of space and blow it up to a factor of about 10 to the 50th says Mario Livo. What you get is multiverse concepts. Where will that go? Pervasive efforts are in progress to explain the universe. How did God do it? That is what science is all about. The decay of the energy of a 'false vacuum' energy field, by nature unstable, into a real vacuum, for an extremely limited time, created the energy necessary for the Inflationary concepts to be processed, thus building on the framework of particle physics and GUTS, bringing cosmology and physics into a coherent whole, though not without problems. But, did something like this really happen? Something did happen, we can't describe it clearly yet. The very meaning of cosmos and cosmology and particle physics is being stretched. For all its success, the Big Bang and its attendant Theories remain just that, theories. A theory does not have the dignity of being a fact. "Cosmic inflation plugged gaping holes in the Big Bang theory-and turned our universe into one of many." (Frank 6-10)

In a non-inflationary universe, "then the empty universe would be somewhat more than 20 billion years old." (Morris p. 86) But with an "inflationary expansion would be about 15 billion years." Morris p. 86) "The GUTS...predict that the proton...will eventually undergo decay into...energy at some point/" (Morris p. 87) This point defines the end of an encore or cycle of a Big Bang. It is 10 to the 100th years.

FIRST STARS

The first stars "were massive, they lived fast and died young." (Jayawardhana p. 19) The period of time, however short or long, between the time the Plasma began to expand and cool, but before the first luminous sources turned on, is called the Dark Ages. All ordinary matter beginning with hydrogen has convenient observational signatures. Neutral Hydrogen's 21 centimeter line is about all they have for these early phases. Ger de Bruyn of ASTRON, Netherlands Foundation for Research in Astronomy, is looking for events of the first luminous moments in the Universe. A whole new field has been born, says MIT's Migue Morales, with the Low-Frequency Array (LOFAR) to begin its search in 2007. In the Netherlands: the Primeval Structure Telescope (PAST), and in China new equipment, and the Mileura Widefield Array (MWA) in Australia which began preliminary work in 2005, are all straining for facts. They are looking for events in the first 200 Million years after the Big Bang. Present equipment gives information on Quasars, one billion years after the Bang, now they want to construct events much earlier. The Wilkinson Microwave Anisotropy Probe (WMAP) provided the results of work announced in 2003 that there was a period 100 million to 400 million years after the Bang when re-ionization took place and matter as we know it was established. Until then there could be no stars, and little or no light as we know it. The Sloan Survey, seeking to map the entire sky, suggests that less than 10 per cent of the universes' hydrogen was still neutral 900 million years after the Bang, according to Harvard's Abraham Loeb and University Melbourne's Stuart Wythe. (Nadis p. 13)

The astronomer will be seeking to find and detect hydrogen clumps in the nascent universe only 2300 light years across, a resolution roughly 1000 times better than the maps of the WMAP results. Gravity comes into play along lines presented in the 1924 Einstein principles of clotting, and compacting. Primitive neutral hydrogen is heated above the CMB temperature by the first stars, but before re-ionization, the gas will emit detectable 21 cm radiation, to fine tune the Standard Model. The ultimate goal is "d-D tomography" using the 21 cm radiation. With the First Stars there soon followed the First Galaxies. It will not be until 2020 that the Square Kilometer Array (SKA) will be operational. It will have 10 times the collecting area of LOFAR mentioned above. It will collect data on structure, formation, inflation, dark matters, dark energy, and other cosmic riddles. "The European Southern Observatory (ESO) has set its sights on building the largest telescope in history, a 42-meter behemoth named the European Extremely Large Telescope (E-ELT) ...The [nearly 1 Billion dollar] instrument could be ready in 2017. ...U.S. astronomers re embarking on a smaller Thirty Meter Telescope (TMT), due to be completed in 2016."(Schilling p. 1671) So our picture of the Cosmos will change. How close will this come to Joseph's visions? The Gods set the pattern and it is followed throughout the entire universe. The planned 2008 revision of the Big Bang aspects of this SECOND CREATION will involve most of what was discussed above.

Now we will discuss the THIRD CREATION, the creation that involved just our earth. Was it a special creation filled with divine purposes and extremely important consequences? The main event in this creation was the accomplishment of the ATONEMENT. B.H. Roberts' book: *The Atonement* is by far the best treatment of the subject. (Roberts Aton.) As noted above, you cannot reconcile the following account of the THIRD CREATION with those given in Genesis, Moses, and Abraham, but you can correlate it with the TC account. You would have to make the suggested verse changes in Genesis and then realize the THIRD CREATION has a different sequence of events for the first three days.

THE THIRD CREATION:

The THIRD CREATION is the one in which we now live. The product of this Creation is this particular World in this unique encore of the Big Bangs that have been going on for an uncertain eternity of time. No other worlds were created in this Creation! Just one. The one we are on. We will not repeat the Big Bang discussion. A slightly different outline of the Big Bang than the one given above provides a more geologically related approach, (Luhr pp. 24-41) it takes the history through cosmic time to the geological present. This CREATION compares with that given in the TC. Much of what was discussed under the SECOND CREATION applies for the most part to this CREATION, with certain modifications as noted below.

This THIRD CREATION

is identified in the King Follett Discourse (KFD): "In the Beginning the Head of the Gods called a council of the Gods. The Gods came together and concocted a scheme to create THIS WORLD and the inhabitants." (Cannon p. 43) Here the emphasis is on the creation of "THIS world and its inhabitants." The SECOND CREATION describes the creation of Kolob, the governing bodies, then the First Big Bang cycle, and then all the worlds created at that time and up to the time when this world was to be created, and perhaps includes worlds beyond this world. (Moses 1:35) The quote from the KFD also seems to indicate that special inhabitants would be considered for this world. Wasn't so?

This was a particular Council and it was called to create THIS WORLD, for many reasons it was special. Realizing there would ultimately be questions about this creation, as well as many other doctrines, the Lord revealed to the Prophet Joseph while he was in Liberty Jail, (HC 3:289-300) the great expectations that the valiant would want to receive answers that would include: "A time to come in the which nothing shall be withheld, whether there be one God or many gods, they shall be manifest. All thrones and dominions principalities and powers shall be revealed and set forth upon all who have endured valiantly for the gospel of Jesus Christ. And also, if there be bounds set to the heavens or to the seas, or to the dry land, or to the sun, moon, or stars. All the times of their revolutions, all the appointed days, months, and years, and all the days of their days, months, and years, and all their glories, laws, and set times, shall be revealed in the days of the dispensation of the fullness of times. According to that which was ordained in the midst of the Council of the Eternal God of all other gods before this world was." (D&C 121:28-32) Whatever patterns that might be discovered by efforts in all the scientific fields, they will in the end be modified or confirmed by the revelation of all revelations that will answer all the questions. But the Lord did indicate that some things "shall be revealed in the days of this dispensation of the fullness of times!" We are in those days, and some things we are learning certainly will qualify for some of these data. When we learn all of what is to come, one will be pleased to see how close one came to the realities to be revealed. Until then one works within the knowledge that can be ferreted out from what is available, but with the expectation the revelations will come that will straighten out all matters and answer all questions. The more knowledge ones obtains in this lifetime gives very solid advantages in the world to come. (D&C 130:19)

THE FOOTSTOOL OF CHRIST

Of all the innumerable galaxies, this galaxy was selected for this particular creation Of all the worlds created or to be created, there would be none like this world, which would be destined to be the 'operational footstool' of Jesus Christ for all eternities to come, (1 Ne. 17:39; D&C 38:17; Moses 6:9; Abr. 2:7) and the one on which HE, the SAVIOR, would come, personally, to effect the Atonement which would affect all

of the created worlds "that careen in the heavens so broad." (Millennial Star, vol. 4, pp. 49-55; McConkie p. 65-66) Michael and many of the noble and great ones would also come to this earth. (Abr. 3:22-23)
Born in these last days aren't you one of the noble ones?

In this encore of the Big Bang our Galaxy was in place before 11 billion years ago. (Luhr p. 25) From a modest cloud of hydrogen containing the mass of less than 100 trillion stars the size of our sun, the 46 galaxies of our Local Group formed. Did it take 3 billion years for the cloud to collapse under gravity? Did it take another 3 billion years for the disk formed by this collapse to spin and gather in clots of hydrogen which formed stars? How long did it take for the monster black hole with the mass of 2.6 million Suns in the center of our Galaxy to form and set up the controlling gravity for our galaxy? (Melia p. 105) How many billions of years did it take for six generations of Nova stars to create the final star we call our Sun? How many billions of years did it take for seven generations of immense Supernova stars to generate clouds of heavy elements that could be available, (Arnett p. 422) when the Father of the Gods would say: "yonder is matter unorganized, go down and organize another world, this one? These are areas the theorists are working on. Due to the density of the early Universe, or this encore, it may not have taken so much time. Otherwise some think it may have taken up to 15 billion years to reach the point when some one with authority could start commanding a heavy element cloud to form into a world. But does time really matter?

Regardless of the time it had taken, these preparatory creational activities preceded the FIRST DAY of the THIRD CREATION. Everything was in place 11 billion years ago. (Luhr pp. 24-25) Supernova Stars were going through the required cycles to provide the cloud of unorganized heavy elements, all of the elements necessary for the organization of earth and the life forms intended to inhabit it and their itinerary on the earth, merely awaited the commands of authority. All of this just to serve the purposes of an earthly life of only six millennium. An earth was formed. "Yonder is matter unorganized, let us go down and organize it into a world." (Abraham 4:1) The Gods did not have to repeat all of the immense preparations or detail summarized for the Second Creation, they only had to go to a place in the galaxy where there were clouds of unorganized heavy elemental matter prepared by the previous activities and organize an earth. (Abraham 3:24: TC) This was not a creation ex nihilo, or out of nothing. (Cannon p. 44) And don't forget the un-mortal or non-mortal world was added to the spiritual world in that 'place' Brigham called place of 'glory'. All was ready for the creating of this particular world all other preambles had been accomplished.

STRUCTURING THE EARTH

THE FIRST DAY

Our un-named galaxy with its clouds of heavy elements was in place about 11 billion years ago "as Science presently considers time." (Luhr, p. 22) The previous and preparatory tasks of the Big Bang sequences were already accomplished or continued to be accomplished, when "They, that is the Gods, organized and formed the heavens and the earth." (Abr. 4:1, Luhr p. 25) They took matter 'unorganized' and organized it on the FIRST DAY into this world, utilizing the laws they knew, including the laws of gravity and Einstein's 1924 law of coalescing. It would still be some 6 billion years before the earth would come up dry and be ready for differentiation. No duration of time is given for this FIRST DAY, the time it took can only be conjectured. How much of the available 6 billion years would it take to assemble the heavy element cloud into a world? Some estimates will be mentioned in what follows. So the earth was formed and patterned after earths that had preceded it.

THE SECOND DAY:

On the SECOND DAY (TC and Abr. 4:6-8) the organizational activities resulted in what is called differentiation. (Howell, p. 81) The earth, organized into a spherical form from the cloud or clouds of heavy elements on the First Day, now, under the influence of gravity heated up, the earth was mostly molten. The heavy elements accumulated in the center of the earth, forming a solid core at a depth of 3,200 miles, mostly of iron and nickel. Around the solid core there formed a liquid core, at a depth of 1800 miles. The molten liquid core is slowly cooling and will harden. The spin of the solid core inside the liquid core forms the magnetic field and other critical aspects of the earth. (Luhr pp. 26-27, 54-57) When the liquid core solidifies the earth will lose its magnetic field. The implications of this are apparent. Then the lower mantel, middle and upper mantel formed, and finally the Conrad Layer, or Crust of the earth with all the light phase lower-temperature-melting elements, completed the process of differentiation. As the earth cooled, those elements that were in liquid or gaseous form at the temperatures near the surface, concentrated in the continental rocks, crust or Conrad layer. Here most of the valuable elements and minerals accumulated. The differentiation was finalized with the oceanic waters and atmosphere. (Abraham 4:7, 10) The original surface was eroded away; zircons from the old crust are found in Western Australia and are dated at 3.9 to 4.4 billion years. No remnants of the original crust have as yet been found, though they might be some day. The earth was beautified and prepared for man, though there was some fine tuning to be done. (TC) Waters had to be cleaned up, the atmosphere, had to be balanced.

The tasks of the SECOND DAY were finished. Present science dates this final differentiation at about 4.56 to 5 billion years ago. (Luhr, p. 22) or 4.6 billion (Coles p. 85) Once the differentiation was finished, the earth then could be prepared further for man. The first accurate age of the earth rocks 4.55 billion years, had been obtained by physicist Claire Patterson in 1956. (Luhr p. 27) But they keep on fine tuning the dates.

Day Two is a very most important part of the creational cycles for this Earth; it was the completion of the earth in its fully differentiated form, with continents, oceans, mountains and deserts, and tectonic plates that would play a role in the development of the desired features of the earth. Limited erosion could then get underway, to be accelerated when the Sun was put in place. It was necessary to separate individual atoms of the elements necessary for all forms of life from the minerals and rocks where they were located. To be used in life forms, these elements had to accumulate on land and in the aqueous areas of the earth, oceans, lakes, etc. Until there was actual life, there could be no coal or oil. Ninety percent of all the iron ores of the world were deposited by little foraminifera and fusulinidae, (Shimer p. 25) cleaning the iron out of toxic waters. At death, their tiny bodies retained the iron they had filtered out of iron enriched waters to form mats and layers of iron.. (Luhr p. 28) They were the first environmentalists and they get 'no credit'. Without the single drop of oil in the shell of fusulinidae retained at death, accumulating in porous rock formations there would have been no oil. Immense masses of plant life were required for coal. However, most coal and oil were prepared on the Fourth and Fifth days. . The earth was being prepared for man

THE THIRD DAY

THE SUN AND THE MOON

The THIRD DAY started at about 4.6 billion years ago. The two heavenly lights the, sun and the moon, were assembled for the earth. The accumulated Nova Star clouds of hydrogen and helium were assembled to make a Sun, about 4.56 billion years ago. (Luhr p. 25) About 4.2 billion years ago the sun turned on, or ignited, fusing hydrogen into helium and then into a few of the higher elements. But the Sun can only produce up to about 27 elements, and only very little of them, less than 1 %; and very few of the really heavy elements the trace elements needed for mortal life. The earth could not have originated as some theories indicate, from the sun. The sun was created to provide light of a particular character, turning on about 4.2 billion years ago.

Did the THIRD DAY commence before 4.8 billion years ago and then 400 million years later, into the THIRD DAY, the sun and moon were configured with the earth? The moon was created about 4.5 billion years ago, three hundred million year before the Sun turned on. (Luhr p. 26) No doubt more details will be established as to ages when the future moon trips are accomplished. With the moon in place the earth assumed an axis tilt of about 24-27 degrees and seasons were established. Mars has severe problems

for most life forms because it has two moons.

At about 4.2 billion years ago, the earth now had sun light and the food chain with photosynthesis could be developed, then present conditions could commence. Photosynthesis is not a theory, it is a Law. But you have to get the Magnesium for the molecule of chlorophyll, (Elliot pp. 168-169) from solid granite, so the earth had to be eroded to yield its various elements from which the substances of life could be made. It takes more than 2,200 molecules of chlorophyll to process two photons of light to produce sugars and energy. Genesis and other accounts have plant life placed on the earth on the Third Day, before there is sun light and photosynthesis, clearly a change has to be made. At trials held as to whether or not to teach Genesis as Science and Science as Theory, the Judges often ask the plaintiffs to return the Bible to the original author and get him to revise the text. Joseph in his endowment presentations of 1842 changed the order of things. (TC) This was a huge correction.

The Moon was configured from existing matter also, from similar materials from which the earth was formed, but with enough differences that the trace elements from moon rocks differ from those of the earth to show a distinction in origin and time. The moon was also put in place, but took a long time to stabilize to its present position and function. Its function is to rule the seasons and influence the axis angle of the earth and oceanic tides. When the sun turned on the Moon was in place and rocks recovered from the Moon reflect the time of the radiation damage.

The THIRD DAY ended 2.55 billion years ago as noted below. The 1.65 billion years from the time the sun ignited until the end of the third day there was ample time for the surface rocks to be eroded and the assembly of particles and elements to be gathered for inclusion in life forms. However, this additional time was required. After the Sun ignited "it was only 70 % of its current brightness." (Birriel p. 18) It took this time for the Sun to achieve its required emission of light and heat for the earth. Also, time was required for the Moon to achieve its proper position in relationship to the earth. The Gods saw that their work was executed as planned. (Abraham 4:10-11) Plants were created on the Fourth Day that would start that important food chain cycle that required that source of energy. But until then and during the closing years of the Third day, primitive life forms that derived energy from hydrogen sulfide and other methods were in place to make their contribution. As noted, studies of ancient rocks indicate the sun was less luminous during this early period, (Birriel p. 18) but liquid water would have been available since the end of the Second day. Earth's oldest life bearing rocks, so far identified, are found in northern Canada and in southwestern Greenland, (Luhr p. 27) dating nearly 4 billion years ago and contain rounded pebbles from previous ages of erosion. By 3.2 Billion years the rocks exhibit mud cracks, ripple marks, and microfossil algae, now called stromatolites. (Birriel p. 14; Luhr p. 28) The earth was being prepared for man.

The FOURTH and FIFTH DAYS consumed 2.55 billion years. With the sun came the white light

we see with our naked eyes. The Earth was now ready for the phases and varieties of life to be added in the FOURTH and FIFTH DAYS. (TC) It had taken two days and part of a third for the creational time of an uncertain duration, to assemble the earth, and get it to the point where the sun and moon could be added. We learn from the "records found in the catacombs of Egypt, [that time] has been going on in this system (not this world) almost two thousand and five hundred and fifty five millions of years." This is 2.55 billion years. (Times and Seasons Dec. 25, 1844, p. 758) This precise and critical bit of information has given Mormon geologists and astronomers a great edge over their fellow scientists. They could predict what would be found. In 1844 the maximum age given for the earth was 25,000 years. An age in excess of 2 billion was not thought of until about 1949. Dr. LaMar Anderson, working with the moon program and its rocks recovered from its surface knew that when they were dated they would be older than 2.55 billion. He is my cousin. This 2.55 billion years starts from the time the system, earth-sun-moon, had been put together, and the system stabilized. It is also the time consumed by the FOURTH and FIFTH DAY, that would suggest a little more than a billion years for each of these days if the 2.55 billion years was equally divided.

Did the THIRD DAY consume about 3.45 billion years to accomplish the creational activities described for it? And then did the FOURTH DAY consume the next 1.55 billion years, leaving 1 billion years for the FIFTH DAY? Recent discoveries suggest this is the case. It is probably not important as to how much time each day had, it didn't seem important to Abraham either when he recorded these facts that Joseph translated; another unique and significant proof Joseph had Egyptian records and the Urim and Thummim. However it is exquisite fun to gather the data and work out the time line of the earth and follow the discoveries of so many scientist as the data changes. But the Salient fact is that time has been going on since the configuration of the moon-sun and earth on the Third day for 2.55 billion years.

The 2.55 Billion years of the FOURTH and FIFTH DAYS provided plenty of time to do what had to be done to prepare the earth with coal and oil and mineral wealth, and a beautiful fossil record to permit geologists and biologists to interpret the areas to look for the things formed in the earth, and to permit exploration geologists to have success in their work. Without the systematic sequence of stratigraphy what could be discovered?

It is remarkable indeed that the International Commission on Stratigraphy, agrees with the above summaries. (Birriel p. 18) The ICS TIME SCALE, (2006), with the oldest rock, the Cryptic at the beginning of the oldest Eon, named the Hadean. The Cryptic rocks are at the bottom or beginning of the scale. The Cryptic rocks date from 4.15 Billion years. There must be eroded remnants of the original crust that are older. Eventually some rocks will be found that will approach and age of 6 Billion years when the crust of the earth formed from the differentiating earth. Most of the older original crust had been eroded away. The early Cryptic rocks are mostly volcanic. Scientists are studying the "chemoautotrophic origin of life in a volcanic, hydrothermal setting... where bio-organic compounds by carbon fixation of catalytic transition metal precipitates" provide conditions

for the First life forms. (Huber p. 630) When found will these life forms be much older than 4.2 Billion years, but older than 4.15 Billion years of the Cryptic rocks?

The Hadean Eon ends at 3.8 billion years ago; still in day THREE. Then the Archaen Eon begins, it ends significantly at 2.5 billion years ago, about when day FOUR would begin. (Birriel p. 18) Joseph had it right the first time, it was all in publications of the Church before 1844. It has taken 162 years for science to begin to catch up with Joseph.

THE FOURTH AND FIFTH DAYS

As noted above, according to Abraham's records the FOURTH DAY begins about 2.55 billion years ago. On the FOURTH day the plants are created. Life forms not in that food web cycle were already in place. (TC) The FOURTH and FIFTH days follow essentially the outline as contained in Abraham, Genesis and Moses, but with significant variations, sequencing and details provided by the TC. If one wants to correct those records, starting with Genesis 1, following verse 10, insert or place verses 14 to 19, and then following verse 19 insert or place verses 11-13, then verse 20 will follow verse 13. The following verses will remain the same. Not one word in those verses needs to be changed, they only have to be relocated as indicated, and then the sequence is essentially correct and can be reconciled closely with science. Except for details of the First Day and Second day, this order will then conform very close to the TC account, which the Great Joseph gave the Church in 1842.

It is the activities of the FIRST DAY that differ from the general cycle for creating worlds outlined in the Big Bang. Once an encore or cycle was established most younger worlds no doubt were organized from accumulated heavy elements in vast clouds from Supernova Ia explosions and fusion processes going on throughout the life of the galaxies as confirmed by isotopes of samarium and neodymium in earth rocks coming from Super Novas. (Andreasen p. 806) The new worlds then could merely begin with the organization of matter available in clouds awaiting creational activities, or the commands of the Gods, the original master contractors..

DUST OF THE EARTH

The ten minerals that make up granite, the abundant surface rocks of the early earth, are filled with the essentials for life: Potassium, Sodium, Calcium, Iron, Phosphorus, Magnesium, fluorine, and all of the precious and trace elements required for life. In solid form granite is host to most of the elements that form the building blocks necessary for life, and industry. But these all had to be eroded out of the granite and collected in the aqueous and liquid regions of the earth. From the 'dust' eroded from the rocks, life is given an earthly tabernacle. (Genesis 2:7) Paleontologist are studying the details of what happened and what is recorded in the rocks from 4.4 billion years ago and earlier. The earth had been around, without light, for nearly 4 billion years before the Sun turned on, after it was fully differentiated about 4.6 billion years ago. Doesn't the Third Day begin with a fully differentiated earth and the completion of whatever was required to create the sun and moon, and then the three bodies were put together into a system. Then Another 1.65 billion years elapsed to the end of the Third Day. Lots of time to erode the earth.

DAYS FOUR and FIVE share 2.55 billion years, perhaps each had the time suggested by the 2006, ICS TIME SCALE, mentioned above. But there was certainly ample time for all that geologist and biologists conclude happened to create the present geological record and the sedimentary sequences throughout the world, and prepare the earth for man. The various accounts provide details of the creational activities of these days; the most useful one is the TC account. Day Four may have consumed 1.55 billion years. Were the larger animals created on the Fifth day? Geologically, most of them are not earlier than 600 million years ago. The oceans and atmosphere were balanced with the isotopes and oxygen necessary. (Kerr p. 1529) During the Fifth Day, most of what was required in the way of life forms and magmatic-hydrothermal activities for the coal, oil, and mineral wealth of the earth, was accomplished to prepare the earth for all that would be required for the presence of man, even if for only a short duration.

THE SIXTH DAY

The SIXTH DAY is of a short duration, it is the temporal existence of the earth. (D&C 77:6) It begins in the Garden of Eden, because Adam died on the DAY he took of the forbidden fruit. He lived 930 years. Hunter in his Commentary on the Pearl of Great Price, thinks he was in the Garden for 70 years, to make the "day" of 1000 years. It seems critical to include this 70 years in the calculations of Biblical Time. Not to do so may result in a 70 year error in terms of when the Messiah will come the first time, (D&C 88: 96-98) or in the early years of the Millennium, but not until after the Millennium has begun. (D&C 88:95) The Jews have an elaborate sequence of events, (Shulman p. 13) but they start with the time when Adam departed from the Garden and so may error by 70 years in their time line. This helps keep people guessing about the Second Coming.

The SIXTH DAY will last only six thousand years

then there will be a millennial day
 for a thousand years, perhaps another period or duration called the 'little
 season' after that. So the Sixth day,
 the day indicated in Section 77:6, is the time for the temporal existence of the Earth, then comes the Millennium, an
 entirely different subject. We are in the closing years of the six thousand
 years, or 'six days' of the temporal existence of the earth. All the rest of time has passed. Where we stand
 or place in the scheme of things is interesting to contemplate. How it was all
 done is something we have been able to peer into just a little, such remarkable
 things to have been experiencing the past 75 years. We have learned most of
 what we now know in such a short duration of time, most of it in the last
 decade, though our minds were alerted to all of this by the restoration of the
 Gospel. There are many questions, and
 much yet to learn. It is great fun.

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