DIALOGUE

DIALOGUE: A Journal of Mormon Thought is an independent national quarterly established to express Mormon culture and examine the relevance of religion to secular life. It is edited by Latter-day Saints who wish to bring their faith into dialogue with human experience as a whole and to foster artistic and scholarly achievement based on their cultural heritage. The Journal encourages a variety of viewpoints; although every effort is made to insure accurate scholarship and responsible judgment, the views expressed are those of the individual authors and are not necessarily those of the Mormon Church or of the editors.

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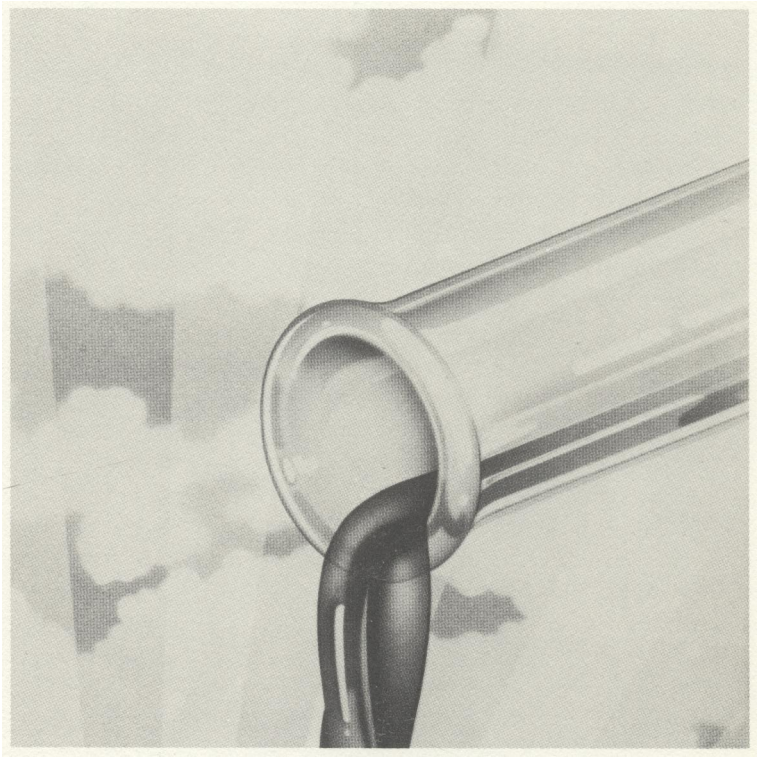


Science, Religion and Man

Robert Rees

> Nature and Nature's laws lay hid in night.
> God said, *Let Newton be!* and all was light.
> —Alexander Pope

The divergence of science and religion is essentially a modern phenomenon. Until the 18th century, theology was considered the queen of the sciences and scientists considered that their discoveries allowed them "to think God's thoughts after Him." Then increasingly sophisticated scientific methods led to discoveries that were in conflict with religion, creating a rent that until this day has not been mended.

Western religion, increasingly narrowed and dogmatized through the centuries, did to science what it had done to everything else that threatened its power and position—called it demonic and tried to cast it out. But science was one demon that would not stay exorcised, and once free from religion it grew in power and pride until it became a religion itself, a status it enjoys in much of contemporary society. Science wields nearly as much power today as the church did during the Middle Ages. And it has misused that power at times as much as the church misused its power. The devotion of science to the military in our day rivals the devotion of the Christian Crusaders to the idea of the Holy Grail—and with results

that are equally devastating. As Richard Eberhardt says, modern man "can kill as Cain could, but with multitudinous will,/no further advanced than in his ancient furies."

Today man's scientific knowledge and technical ability are expanding the frontiers of discovery in every aspect of life—from the black holes and exploding stars of outer space to the dark caves and bursting lights of inner space. And yet our existence on the earth hasn't been as perilous since the sea rose up to sweep away Noah's ark. Just as we are on the verge of creating a better world and exploring new worlds, we are destroying the world around us. As we explore the silent wilderness of space and the primal sounds of the psyche, we are wasting the precious wilderness of our lovely little planet.

What we need is a new alliance between science and religion based on mutual trust and a recognition by each of the uniqueness of the other's contribution to man's life. When either science or religion acts as if it has exclusive rights in the domain of truth, it is a guarantee that truth will not be served. Scientists who play God, or priests who speak of God as if, in Thoreau's term, "they enjoy a monopoly on the subject," are not acting in God's or man's best interest.

It is imperative that science and religion abandon their present peaceful but fragile co-existence in favor of a co-operative alliance. This need not happen by obscuring the differences between science and religion or in pretending that those differences do not exist. Although each offers different ways of pursuing and perceiving truth, they have more in common than most realize. For example, each requires faith, intuition and imagination to be truly effective. Recognizing their differences and building on their commonality science and religion can make a synthesis that centers on man and that serves man. It is only in such a cooperative venture that we can hope to survive our scientific knowledge.

Latter-day Saints may have a unique contribution to make to a humanistic synthesis of science and religion. We believe that the Spirit of the Lord which was poured out in rich abundance beginning with the Renaissance and which culminated in the revelations of the Restoration heralded not only a renewal of man's spiritual hope but of his material hope as well—that the modern explosion of scientific and technologic knowledge is also an evidence of God's grace: He reveals both spiritual and material knowledge for our blessing. That Joseph Smith understood this well is seen not only in his declaration that spirit is nothing more than refined matter but in his famous observation that a religion which cannot save a people temporally cannot hope to save them spiritually.

Mormonism's concept of God as an exalted man has profound implications, for if God was once a man as we are then he obviously progressed from partial scientific and religious knowledge to complete knowledge, just as we are promised we may: "He that keepeth his commandments receiveth truth and light, until he is glorified in truth and knoweth all things" (D & C 93:28); and, "He that receiveth my Father receiveth my Father's kingdom; therefore all that my Father hath shall be given unto him" (D & C 84:38).

Thus, though we now understand neither the mysteries of light nor the mysteries of the atonement, we someday will—or at least can through our righteousness and the exercise of our intelligence. Through the epistemology of exaltation we will come to know all science and all religion and know they are one. To apply some lines from T. S. Eliot's "Little Gidding":

We shall not cease from exploration
And the end of our exploring
Will be to arrive where we started
And know the place for the first time. . .

Mormonism's understanding of man as a potential god who through his free agency can progress eternally can also help in the unification of science and religion. Such a concept focuses on man as a co-creator with God, one who, working with and learning from God, can change his life and his world in a positive way. According to Brigham Young, the real test of our lives here is to see whether we will learn to use knowledge and power as God does. Mormons see God as the ultimate scientist: He knows all laws of the Universe and operates through and by those laws. This is why, as Duane Jeffrey states elsewhere in this issue, "Mormonism [has] a basis for synthesis [of science and religion] that exists in few if any other Western religions."

Mormonism's avowed commitment to and vigilant quest of truth could also help bring science and religion together. But this commitment must first be manifest in the Church before it can be manifest in the world, and this means that Mormons must be more willing to open their hearts and minds to discern and accept truth—even when it goes against cherished myths and traditions. This is what President John Taylor meant when he said, "Our religion . . . embraces every principle of truth and intelligence pertaining to us as moral, intellectual, mortal and immortal beings, pertaining to this world and the world that is to come. We are open to truth of every kind, no matter whence it comes, where it originates, or who believes it."

Our belief that all truth can be circumscribed into one great whole should help us realize that the conflict between science and religion, though real and often of earth-shaking proportions, is after all only a temporary conflict caused by the fact that we now see through a glass darkly. Although our partial understanding of both science and religion prevents our seeing how they are unified, in our deepest selves we undoubtedly sense this unity. As Ihab Hassan has said, "Perhaps this is where science and prophesy meet: in deep fictions of the mind, still locked in emblems of our sleep."

Finally, Mormonism, as a Christian religion, can help foster the unification of science and religion through affirming the central principle of Christ's life—love. The Christian message continually emphasizes the possibilities of new life through love. This is what Teilhard de Chardin calls "Christogenesis," the rebirth and unification of the world through Christ. Teilhard saw this as the last stage in man's evolutionary process. He says, ". . . it is above all Christ who invests Himself with the whole reality of the Universe; but at the same time it is the Universe which is illumined with all the warmth and immortality of Christ [what Mormons call "the Spirit of Christ," which is in all things]. So that finally . . . a new impulse becomes possible and is now beginning to take shape in human consciousness. Born of the psychic combination of two kinds of faith—in the transcendent action of a personal God and the innate perfectibility of a world in progress—it is an impulse, (or better, a spirit of love) that is truly evolutionary." And, one might add, revolutionary. Such a vision may seem radical to most Christians, but it is the ultimate flowering of the Mormon concept of God and man.

Letters to the Editor

reactions to dialogue's increased subscription rates

In the last issue we announced that due to spiralling paper, publication and mailing costs it was necessary to increase *Dialogue's* subscription price to $20 a year. As the letter from the Executive Committee pointed out, we raised prices reluctantly and only after many efforts to find a way to continue publication without doing so. We had faith that there were enough *Dialogue* supporters who were genuinely interested in the journal's survival and commited to sustaining an open forum in the Mormon community who would pay $20 a year. So far our faith has been more than justified.

Apparently other magazines and journals have come to the same conclusion we have concerning increased subscription rates. The March 9, 1974, issue of *Saturday Review/World* contained an editorial with the following commentary:

> The big gamble we took in starting *World* and later, in combining it with *SR*, was that we might be able to depart from conventional magazine economics by eliminating cut-rate subscription practices altogether, and by severing connections with the multiple-sales subscription agencies. Some colleagues in the magazine business tell us we are putting ourselves at a competitive disadvantage. They say readers are so conditioned to cut rates that it will be difficult to persuade them to take our magazine or to stay with it.
>
> This is not the way we see it. We are betting our professional lives that if we can publish a magazine that people will read and respect, the magazine will be sustained and will prosper.

Below are samples of the responses we have received to the increased rates.

Enclosed is my check. As a long-time *Dialogue* supporter, I feel it is a small price to continue a subscription to a journal which I enjoy so much.

In the most recent issue, I liked very much the article "Mormon World View and American Culture." It aided me with some distinctions I have often tried to make between "The Gospel," or light and truth, and "Mormon Culture," with its traditions, folklore and myths. I had begun to wonder if trying to figure out which was which was only a useless intellectual exercise, but Sorenson convinces me otherwise. I shall continue to try.

Dialogue generally leaves me with a more positive feeling about the Church, a fact which I once used to counter the argument of a fellow member that *Dialogue* was a "tool of the Devil." I don't suppose it can be all bad if it helps some of us "hang in there." Keep publishing!

Nancy Folland
Oakland, California

We will eat from our food storage for awhile, and we hope $15 will renew this wonderful *Dialogue* for us.

Mrs. Kenneth L. Duke
Durham, North Carolina

We agree with your decision, though it hurts the wallet. You have discovered that my demand for *Dialogue* is inelastic with regard to price.

By the way, I notice you have no more economists as editors. I suggest this may be unwise in these trying times . . .

Kelly J. Black Director
Center for Business and
Economic Research
California State University
Chico, California

I concur fully with your decision to sock it to those who are hard-core supporters of *Dialogue*. Those of us who find *Dialogue* to be important in our lives will be willing to pay whatever is necessary to continue the journal, and those who don't, would not buy it at half the cost. My only regret is that you have not discovered a way to separate one type of *Dialogue* reader from some of his money. I refer to the Church member who finds it socially unacceptable to have *Dialogue* found in his library, but still enjoys reading it and, therefore borrows his subscriber neighbor's copy.

Trevor C. Hughes
Logan, Utah

We suggest you start charging rent to these borrowers and forward it to us!—Ed.

Renew, please!
Dialogue is a refreshing breath of air.

Marion Russon
Concord, California

I was most disappointed to find that *Dialogue* has decided on a 100% increase in subscription rates. The regular $10 subscription was expensive for a quarterly (*BYU Studies*, as you know, is $16 for three years). I would suggest that you consider some economy measures, as the 50% of the readership below $20,000 are certainly having to do.

Accordingly, here are my suggestions:

1. Eliminate entirely all awards, trips, and other expenses not directly associated with publishing the journal.

2. If non-slick covers and pages would be less expensive, use them.

3. Conserve space by eliminating large blank spaces, unnecessary drawings and photographs and oversize headings.

4. Since *Dialogue* began publishing, *BYU Studies* has improved in content. Perhaps they will reciprocate by suggesting how they economize.

5. Perhaps you can obtain more volunteer services if you suggest it to the readership.

Bruce G. Rogers
New Carrollton, Maryland

Thank you for your suggestions. We are constantly looking for ways to economize. In response to your specific suggestions:
1. Dialogue awards are paid for entirely from grants from the Silver Foundation made specifically for that purpose. The editor makes one or two trips a year to meet with the editorial staff, solicit manuscripts and raise funds.
2. According to our publisher, non-slick covers are the same price as slick ones. Our paper has always been of the non-slick variety.
3. While there might be some economizing by using every available inch of space for print, we feel that the aesthetic appeal of Dialogue *is worth the small cost of space for art and photography — and occasional silent space.*
4. BYU Studies *enjoys a number of advantages that* Dialogue *does not: it is subsidized by the University (and therefore the Church), it is printed at the BYU Press, and it is publicized and promoted through official publications.*
5. Almost all of our services—editorial, artistic, etc. are volunteer. In eight years Dialogue *has paid for only one manuscript ($12 for a poem) and has never paid for any art or design work.*—Ed.

I am counting on you *not* to compromise the quality of this magazine—even of you are reduced to only one or two issues a year.

W. Roy Rackley
Portland, Oregon

I am very pleased that you are continuing the publication of *Dialogue*. I enjoy it very much.

The new subscription rate is reasonable and I hope it finally solves the publication's financial problems.

Thanks for all the work of everyone concerned for such a fine magazine that serves your fellow saints so well. You are anxiously engaged in a good cause, and I appreciate it.

Jan Worley
San Jose, California

I say in my heart, "I give not because I have not, but if I had, I would give." (Mosiah 4:24)

Would you please renew the subscription of a financially struggling law student with a wife and infant for $10 because he cannot afford $20? Those who are subject to extreme hardships need Dialogue to lift their spirits more than others.

Thank you.

A. Smith
Salt Lake City, Utah

Sure. "Charity suffereth long, and is kind" (1 Cor. 13:4)—Ed.

Editors:
The information given to you regarding my financial status was inaccurate. In point of fact, I am one of those unfortunate individuals for whom a $20.00 annual subscription rate poses an extreme hardship. I have enclosed my check for $100 which represents a $10.00 annual subscription rate and a $90.00 tax deductible contribution.

Wesley G. Howell, Jr.
Los Angeles, California

sisters of the church unite!....

The Mormon Sisters of Greater Boston are happy to announce the birth of *Exponent II*, a quarterly newspaper for Mormon women.

Exponent II will be a forum for frank talk. We stand for Mormonism and feminism and cheer on our sisters in a variety of virtuous lives.

We hope to share news about the activities of individuals and groups throughout the Church. We invite articles of all kinds.

Let us hear from you with $2.50 (for a

charter annual subscription), letters, articles and donations (soon to be tax-deductible).

Claudia L. Bushman, Editor
Exponent II
Box 37
Arlington, Mass. 02174

archeology and the book of mormon

The issue of *Dialogue* with my article arrived and I have been deluged with letters from angry readers. It reminds me of the time that I wrote a review of *One Fold and One Shepherd* by Thomas S. Ferguson. I was accused of being anti-Mormon by the believers and of being too kind to the Mormons by the non-believers. This made me think that after all I might have been fair to both sides. One reader has accused me of being theologically unsophisticated but this was not the purport of my article. I simply wanted to point out that even a sympathetic and knowledgeable outsider fails to be convinced by the so-called evidence put forward by over-zealous, would-be archaeologists. Those believers who think that the outside world is going to be bowled over by irrefutable archaeological evidence are deluding themselves I am afraid. To paraphrase a famous saying, "Render unto science what belongs to science, and unto religion what belongs to religion."

Michael D. Coe
Department of Anthropology,
Yale University

Dialogue is growing brave in allowing someone to address an issue so sensitive as the historical claims of The Book of Mormon. For too long we were told that the question of whether or not the archaeological record supported or refuted the claims of the Book of Mormon could not be asked because (1) no one who was an authority on American archaeology of the period claimed by the Book knew anything of the Book of Mormon and (2) no one who knew the Book of Mormon was competent enough in the archaeology of the period to talk authoritatively about it.

How did you convince Michael Coe, *the* authority on the archaeology of America in the period of which the Book of Mormon purports to be a record, to take time from his other commitments to bother to comment on it? It is a testimony of Coe's generous feeling toward Mormons, if not toward our Book, that he took the book seriously enough to read it before rejecting it.

Ian Montague
Paris, France

May I make one small correction in Michael Coe's interesting and challenging article, "Mormons and Archeology: An Outside View," in the last issue.

Prof. Coe places the event of the "nonsensical" Zelph, the white Lamanite, at Spring Hill, Missouri, and thereby confuses it with the equally nonsensical (from his point of view) nephite altar and the whole Adam-ondi-Ahman problem. While we do not know much about either problem or locale, we do know that the proper setting of the Zelph story was on top of a mound on the west bank of the Illinois river, probably in Pike Co., Ill., while everything connected with Spring Hill and Adam-ondi-Ahman is in Daviess Co., Missouri.

In case any of your readers wish further light and knowledge regarding these two places and problems they might read Lawrence O. Anderson's, "Joseph Smith: A Student of American Antiquities," *The University Archaeological Society Newsletter* (January 30, 1963, pp. 1-6; published at BYU), and Robert J. Matthews, "Adam-ondi-Ahman," *BYU Studies*, 13 (Autumn, 1972), 27-35.

Stanley B. Kimball
Department of Historical Studies
Southern Illinois University
Edwardsville

continuing dialogue on the "negro question"

My gift subscription to *Dialogue* began with the recent arrival of Volume 8, No. 1. Its motif, the Negro and the Church, was particularly apropos, for my current inactive status was caused, in part, by "the Negro question." Therefore, I devoured the various articles voraciously. I found Bush's panoply of Church history impeccably researched and objectively stated, but it did not assuage my own philosophical questions. Thomasson's effort was only that. Nibley's apologia was a mixed bag that left me mixed up. It was not until I got to "The Mormon Cross" that I felt empathy. (Mr. England understands my dilemma; he is writing to *me*.) England's article is built around a curious framework that even he says "sounds like a cop-out," but his final paragraph (p. 85) left me with a satisfied feeling. There *are* things that all Mormons, jack and non-jack, can do. More than ever before, let us get on with the task.

If your Spring, 1973, issue is indicative of the general quality of *Dialogue*, then I look forward to the day when I can extend my gift subscription with a paid one.

Lon Rand
San Rafael, California

I would very much like to express my appreciation for your efforts. Since joining the

Church, your journal has been one of the most valued of our periodicals. The "Negro Doctrine" issue, in particular, has helped me feel less alone in believing that some of the questions are not entirely heretical and the answers not so simple.

Michael E. Johnson
Pittsburgh, Pennsylvania

from borrower to booster

Please sign me up for a year's enlightenment and challenge through a subscription to *Dialogue*. You have become my friend and support through several "student" years of borrowing from friends and relatives. Now that I can afford my own subscription, I send my money with delight, hoping I can support you more in the near future.

Thank you for sharing with me the great minds and spirits who follow Christ.

Ann F. Florence
Denver, Colorado

the pressures of orthodoxy

The price is stiff, but I can make the sacrifice. My closest friend, with whom I am ideologically compatible, lives in Iowa. Thus *Dialogue* is my only contact with fresh thinking. While "other" views may only be disparaged out West where the Saints are strong, they are positively heretical in the mission field. Missionary work must not be jeopardized, or new members in any way upset.

My wife and I are the only life-long members in Stroudsburg. All the rest are converts of less than ten years, most of only a few years or months. While this is refreshing in a certain way, nevertheless, the pressures of orthodoxy are intense. The Mormon stereotype is not automatic without a well-established model. It has to be created. And this is the overwhelming goal of the Church organization.

I appreciate the journal. Please keep it coming.

M. J. Clarke
Stroudsburg, Pennsylvania

nowhere else in the world

As I compared the pictures of the old Coalville Tabernacle with the new Coalville Stake Center, I recalled the statement of Spain's King Charles V as he viewed the great mosque in Cordoba in 1526. Inside the mosque the Spanish Christians had ripped out hundreds of the magnificent marble pillars to build a full-size cathedral of "colossal ugliness." When Charles saw it he was ashamed of the deed and exclaimed, "If I had known what you were up to, you would not have done it. For what you have made here may be found in many other places, but what you have destroyed is to be found nowhere else in the world."

Ted J. Warner
Department of History
Brigham Young University
Provo, Utah

I was impressed by three photos in your last issue. Page 33: The classic Coalville Tabernacle, a monument to pioneer thrift and devotion that was destroyed in the night, and, if reports are true, against the will of the majority. On the same page: the cattle barn-like structure built to replace the tabernacle. On Page 36: The grotesque pile of stone that appears to serve more as an advertising medium than for any other purpose.

A. Russell Croft
Ogden, Utah

looking backwards

Is the picture of the new Washington D.C. temple on page 36 of the last issue printed backwards or am I driving on the wrong side of the capital beltway when I go west past the temple site?

P. J. Bottino
Laurel, Maryland

Our error! Stay on the right side.—Ed.

platitudinous pablum

Due to some matters of neglect on my part I have received no issues of *Dialogue* since last fall or winter. In reading a library copy of the Spring, 1973, issue I was appraised of the fact that *Dialogue* editors were considering termination of publication. This news was a blow. The decision may all ready have been made, in which case this letter would be irrelevant. But here goes anyway.

I sympathize with the problems of financing, dwindling subscriptions, etc. but this publication has just been too valuable to let die! May I say that, for me personally, it has definitely been a beacon of light, a source of communion with kindred souls as I have groped for answers in trying to reconcile faith with reason.

As a long unmarried, later married (to a non-member) and still later divorced "female member" I have had my own special problems in relation to this very family-oriented, anti-"Women's lib" cuhrch. As I have struggled to overcome doubts *and* serious intellectual problems in relation to some prevalent attitudes among some Church members I have found a source of solace and hope in the articles in your magazine.

I bitterly resent being spoon-fed platitudinous pablum, resent the atmosphere that discourages any kind of independent thought and the seemingly complacent satisfaction with things as they are. *Dialogue* has been an antidote for this. I hope you are able to continue. Accordingly I am enclosing an address change, a check for renewal of my subscription and a gift subscription. Also, a promise to do recruitment work for *Dialogue*, if it is not too late.

Lula DeValve
Logan, Utah

You're just in time!—Ed.

reaching the individual

Dialogue has done so much in promoting our hope and faith in the Church by exposing us to individuals who are not afraid to express themselves.

The aim of the Church has been to "reach the individual." Dialogue has been touching our lives for five years and we thank you.

Jack and Adele Livingston
Granada Hills, California

". . . and ye that are upon the islands of the sea"

I would like you to know that I am very impressed with *Dialogue*. I am now living and quietly going crazy in Laie, Hawaii, which as you probably know, is a predominantly Mormon community. Your journal is very much appreciated here, not only by me but by many faculty members at the Church College of Hawaii, where I am teaching. Yours is an intelligent voice many of us are eager to listen and respond to. Let nothing silence that voice.

Steven Goldsberry
Laie, Hawaii

the real anti-mormon literature

The following letter was written to Samuel Taylor in regard to his widely popular NIGHTFALL AT NAUVOO.

Dear Mr. Taylor:
For several months I have been going to write you on your style. I felt we had finally raised up a worthy answer to Fawn Brodie in yourself. However, your book, *Nightfall at Nauvoo* killed the prophet and did him worse than George Q. Cannon, who sterilized him. Surely you can do better than this. You erred in the same way as John C. Bennett in his tirade on Mormonism. It seems ridiculous that 15,000 Saints would follow the prophet through thick and thin as they did if he was really as you portrayed in this book. I still have confidence in your writing and hope you could make Joseph live for us Mormons.

O. D. Perkes, M.D.
Afton, Wyoming

Samuel Taylor Responds

If you can cite any misstatement of fact in my book, *Nightfall at Navoo*, I will be happy to know of it.

Unfortunately, we Mormons have been fed on literary mythology that often has scant relationship to the truth. For example, the Church Information Service made a film on Nauvoo, and a scholar whom I rate the world's greatest expert on Nauvoo told me it contained 87 errors of fact. When you can be wrong 87 times in a half hour, you're really dedicated to mythology.

I know of no truth in our history that should harm anyone. However, I consider half-truth as extremely dangerous. And it is this suppression and manipulation of truth which is, in my opinion, the real anti-Mormon literature.

Sincerely,
Samuel W. Taylor

more news on quetzalcoatl

I would like to publicly thank Marden Clark for his kind and gracious letter in the last issue.

In the same issue, on the last page, I am incorrectly listed as being from Uruguay. Actually, I was born in Ecuador (as far from Uruguay as Oregon is from South Carolina), and I have lived in the USA all of my adult life. The error derives, I suppose, from the phonetic similarity between my name (which, by the way, is a Basque name) and that of the "Oriental Republic."

I do not approve of the editorial insertion of the words "more recent" in the first paragraph of my review of Dr. Cheesman's book (p. 92). Most *Dialogue* readers, including myself, are descended from the European invaders of America, so there is no real need for qualification.

With respect to Pratt de Perez's letter, allow me to modestly point out that I had already indicated the needed correction on the subject of Quetzalcoatl (my letter on this appeared in volume 7, No. 4). I am grateful for the support and confirmation of the point I made, and even more for the additional information, especially the names of the divine Quetzalcoatl's parents, Ometecuhtli and Omecihuatl. Besides the god, and the priest born in the year Ce Acatl (843 A.D.), there was a Toltec conqueror in the 11th century who invaded Yucatan, and a large indeterminate number of people who also appropriated the name.

Benjamin Urrutia
Provo, Utah

ILLUSTRATION BY BOB GILLESPIE

HAROLD B. LEE

1899-1973

Arthur H. King

A PROPHET IS DEAD:
A PROPHET LIVES

A man of men to
thee, a seer of thine to men
lived here; lives; shall live.

A wise man departs:
wisdom sits with the Brethren
to receive thy will.

A good man has gone:
we kneel to thee for a type
of thy goodness, and
among the faithful
amid the faithless, behold
a prince of the faith.

A great man has passed.
We praise thee for past greatness
and the future great:
strengthening the hopeless
and hopeful, under thy bow
stands a man of hope.

A kind man left us.
Grateful for kindness in one
of thy kind, we see
out of the loveless
and the loving, love, thou dost
choose one that loves thee.

Thy prophet went from
amongst us: we thank thee, O
God, for a prophet.

HAROLD B. LEE: AN APPRECIATION, BOTH HISTORICAL AND PERSONAL

JAMES B. ALLEN

When I was asked by *Dialogue* to write something in memory of President Harold B. Lee, my thought immediately went in two directions: the impact President Lee had upon the Church, and the influence he had upon my personal life. Since I both revered and respected President Lee, I welcome this opportunity to express my feelings.

Harold B. Lee will be remembered in Church history for many things, but paramount in my mind is his contribution to the Welfare program and his work in Correlation. In 1930 he became President of Pioneer Stake, and at age 31 he was the youngest stake president in the Church. America was in the depths of its most serious economic depression, and Pioneer Stake was particularly hard hit. Of the 7,300 stake members, 4,800 were either completely or partially dependent upon some kind of relief. But President Lee and his counselors were creative and soon initiated an imaginative and far-reaching new program for relief. Believing in the principle that work should be contributed in return for relief rendered, they obtained a warehouse which unemployed workers soon renovated for work and storage projects. This warehouse was transformed into a beehive of enterprise which provided hundreds of Saints with work, food, and goods to sustain them. Special drives were instituted to collect clothing, furniture, and fruit bottles; and sewing, reconditioning and canning projects were carried out to provide both work and goods for the needy.

But the First Presidency of the Church were concerned that many other members were suffering the effects of the depression, and large numbers were receiving public aid. They saw the need for a Church-wide program of relief, and the success of Elder Lee in Pioneer Stake caught their attention. In April, 1935, the Presidency asked Elder Lee to organize and take charge of a Church Welfare program. Here, in his own words, is the way he recalled it many years later:

> There I was, just a young man in my thirties. My experience had been limited. I was born in a little country town in Idaho. I had hardly been outside the boundaries of the states of Utah and Idaho. And now to put me in a position where I was to reach out to the entire membership of the Church, worldwide, was one of the most staggering contemplations that I could imagine. How could I do it with my limited understanding?

With the weight of this new burden pressing heavily upon him, the young stake president sought solitude and inspiration in a walk, and then a fervent prayer, in Rotary Park:

> As I kneeled down, my petition was, "What kind of an organization should be set up in order to accomplish what the Presidency has assigned?" And there came to me on that glorious morning one of the most heavenly realizations of the power of the priesthood of God. It was as though something were saying to me, "There is no new organization necessary to take care of the needs of this people. All that is necessary is to put the priesthood of God to work. There is nothing else that you need as a substitute."

Elder Lee resigned his job as city commissioner and became the prime mover in creating the Church Security Program, later called the Church Welfare Program. This new movement soon improved the economic well-being and personal morale of thousands of needy Latter-day Saints, and in addition caught the imagination of journalists all over the nation.

In beginning the Welfare program, President Lee relied upon the organization of the Priesthood, and it was the need to use the Priesthood to its fullest capacity that made him so interested in "Correlation." In Welfare work he demonstrated a penchant for organization and administration. In the late 1940s, as a member of the Council of the Twelve, he presented to the First Presidency a special committee report on the organization of the Church. The First Presidency had asked for the study in order to find ways to simplify the programs of the Church and at the same time improve the effectiveness of their work. In 1960 the First Presidency made a similar request to the General Priesthood Committee, of which Elder Lee was chairman. In addition, the committee was asked to work out a correlated system of gospel study for the entire priesthood and auxiliary program of the Church. From then until his death, President Lee was best known among the general membership of the Church for his leadership in helping to develop the Correlation program.

And when the Church Correlation Committee was organized in 1961, Elder Lee was appointed chairman and he held that responsibility until January, 1972. In this capacity he employed all of his talents and knowledge to help refine Church administration so that a systematic program for teaching the gospel to children, youth and adults could be implemented. In addition, he led out in inaugurating and perfecting a system for better communications between Church leaders at all levels of administration. At the heart of his philosophy was the idea that all programs of the Church should be placed more fully under the direction of the priesthood, and this objective found place in many of his sermons, particularly in his later years.

Grand as his contributions to the organization and administration of the Church may have been, however, they were no more important than the personal impact he had upon the lives of individual members. My own experience is only one example. I am sure he influenced different members in different ways, but for me three memories have special significance. In each case I was part of a group, and Elder Lee had no idea that I was there, or even who I was. Maybe it was because I was looking for something special at the time—but whatever it was, his ideas found place in my heart and became highly personal and spiritual to me.

The first came twenty years ago—in the summer of 1954 when I was a young seminary teacher attending the BYU summer session for all teachers in the Church School System. This was a special summer, because for five weeks Elder Harold B. Lee was our instructor. I don't know how his instruction affected others, or what they remember from it, but as a young teacher I was particularly concerned with the fact that there were so many differing points of view within the Church on so many issues. The differences as such did not bother me, for I had already been reconciled to the fact that the Lord did not expect complete uniformity among His Saints on everything. But I badly wanted to hear a Church leader say that not everything written in so-called "church books" had to be accepted as scripture. Maybe that was why I was impressed with what happened on June 22, the day

our instructor talked about the creation of the earth. My notes from that day are filled with statements such as these: "God has not revealed *how* the world was created—all the ideas we have presented are *theories*, and must be accepted as such." The idea that the first chapter of Genesis is the story of the spiritual creation, and the next is physical "is *theory*—some learned men in the Church are not in accord." The idea that a day in the story of creation "is a thousand years, etc., is a theory." Then, and most important, because this was really his message to the teachers that day, "Don't present theories as though they were facts. We criticize scientists who teach theories as facts. It is just as dangerous for religion teachers to do so." But what, someone asked, about all the books that are written on various subjects, often by prominent men in the Church—what if we disagree? His answer? "Where an idea is in complete accord with scripture, then accept it—but if not, then write the name of the author in the margin—it is his theory." To most of us today such things may seem commonplace, but as a guide for helping students realize that all the answers to all the problems are not in, and that even the most learned men in the Church may still disagree, it was soul satisfying indeed.

A similar, though more deeply spiritual, experience came in 1967, when B. West Belnap, former Dean of the College of Religious Instruction, passed away, and Elder Harold B. Lee was the major speaker at the funeral. I remember that he had caught, and tried to portray, one of the deepest concerns of Brother Belnap, and the way he portrayed it was of special importance to me, a teacher of both history and religion at BYU. Elder Lee described one of his last visits with Brother Belnap in the hospital—when Brother Belnap knew he probably would not live. I can't remember the exact words, but the idea went something like this as he reported Brother Belnap's final message: "I have been thinking as I lay here about all the people I know, and about all the disagreements they often have over points of doctrine, and this and that. But as I contemplate my fate, I realize now more than ever that these things, in the long run, really make no difference. What matters is that we love one another—all other things are transient and passing, for it is only really getting to know and love each other for the good that is within us all that will matter in our eternal relationships." Again, what a powerful message to those of us who were often caught up in the endless, often meaningless, debates over this and that fine point of doctrine.

But there were some things that President Lee knew beyond a doubt, and the experience which affected me most, and has been the most long-lasting came on an occasion when he was fervently declaring such knowledge.

It was in the Spring of 1961—I remember it well because that year I was teaching an Institute of Religion class in the New Testament to a group of Southern California college students. Somehow, we found ourselves discussing for two days the question of the role of the apostle in the early Church, and were asking just what an apostle's responsibility really was. I had pointed out that after the fall of Judas, the New Testament apostles had chosen another, Matthias, to be a witness with them of the resurrection of Christ (Acts 1:22-26), and I had taught my class that one of the basic responsibilities of modern apostles was also to bear witness of the living Christ. But I had not heard such a testimony from a living apostle for quite some time—at least not that I remembered.

So it was that I attended a quarterly conference in the Los Angeles Stake, and Harold B. Lee was conference visitor. On that particular morning I was in anything

but the ideal mood to receive inspiration. My wife and I were late arriving at the meeting, and had to sit in the cultural hall, where it was noisy. And our three children, ages six, five and four, were anything but soothing in their behavior as they squirmed, wiggled, whispered, crawled, and climbed over us. By the time Elder Lee got up to speak, my wife and I were both tired, and we were discussing which of us would attend conference that afternoon while the other took care of the children in the city park. As I remember it, I won. I would get to take care of the children. Then Elder Lee began to speak, and at his first statement my mental reservations about the inspiration of the conference went even deeper. He announced that all the Primary presidents in the stake were to contact all the Primary teachers, who were to call all the parents in the stake between conference meetings (and the stake covered almost half of Los Angeles), and have them bring their Primary children to conference that afternoon—for he wanted the children to sing two certain songs. "Elder Lee," I remember thinking, "what are you trying to do? Not only is this an impossible task for the Primary ladies, who have to feed their own families and get back in less than two hours, but I don't think that many people who aren't here now will even want to come." I was sure (well, at least fearful) that his plan would fail. As my wife and I looked at each other with some dismay at the thought of another session of squirming, crawling children, I was in a frame of mind in which inspiration is not usually said to come. (But we did return that afternoon, and the Primary children did sing, and the whole experience was beautiful—I wouldn't have missed it for the world.) Then Harold B. Lee, in his role as an Apostle of the Lord, began one of the most memorable sermons I have ever heard. As he recounted a recent trip to the Holy Land, he told of his deep and spiritual feelings as he walked where Jesus walked, and renewed again his own communion with the Master. It almost seemed as if the message were just for me, partly because of what I was doing in the Institutes, for seldom before or since have the chills gone up and down my spine, or has the Spirit touched my soul, as on that day. Elder Lee knew—and because Elder Lee knew, I knew, and because I knew, hopefully other people, too, would know.

Welfare? Yes. Correlation? Yes. Administrative skill? Yes. But the most valuable contribution of any man is in the uplifting influence he has on the lives of others. If my experience was any example, the influence of Harold B. Lee will be lasting and profound.

THE PASSING OF A PROPHET

Barnett Seymour Salzman

The ancients of light radiating wisdom on wings of eagles
break through the sky in a surge of compassion:

In the Milestones section of Time
Magazine a few cramped words: "Died, Harold B. Lee,
President of the Church
of Jesus Christ
of Latter-day Saints"
a cool note to the world
at large
the passing of another
prophet
these wise old men
Standing in silent oaks
Long-falling through Time
Gray pillars of light
breaking on rock-strewn shores
casting milksilver to the ocean's
spray
Faces aged in brown charcoal
White pearl eyes
The extended hand
Back Bent
in Supplication
and Strength
Forever yielding

The visible Church of Chirst is the economic and religious organizational arm of the true Church of Christ. The Holy Prophet presents to the world a contemporary American image that does not challenge the present social order, but to the spiritually discerning membership the Mormon movement is seen in its true transcendental power as a totally unique and all-embracing vision of the future rooted in traditional human values and the evolution of the Human Spirit. It is a welling, and surging, and blossoming development of humanity reaching a new evolutionary dynamism while retaining its roots in the historical perspective. It is an organic, spiritual spearhead of human growth leading the entire world to new capacities of loving.

I remember that sunny day in Long Beach on April 30, 1973 when I first heard that gentle man say, "Be loyal to the royal in you." It was a call to a reawakening, a call to a rediscovery, a call to a renewal of purpose—divine purpose.

I was born to Jewish Russo-Polish immigrant parents on February 15, 1941. I went to synagogue regularly, was taught Hebrew and the Old Testament scriptures, and sang in the temple on my thirteenth birthday to celebrate my emergence into Jewish manhood.

I promptly embraced the world and all its riches and majored in atheism in college. It was in medical school that I began to see that faith was necessary for my happiness. I began to search the world's by-ways for the evidence of truth and vowed that I would follow the spirit of truth wherever "It" led me.

For many years I had been searching. I had crossed both oceans and journeyed to the four corners of the earth to seek the Holy Man. In August, 1972, in Dehra Dun, India, in the Valley of the Himalayas I walked and talked with the Grand Lama of Tibet, Sakya Trizm. In the course of our month-long companionship this learned teacher told me that the single most important question I had to answer in my life was whether or not I believed the Bible to be true!

I began reading the literature of the world's great religions and found truth in all of them. More and more—as a moth circles the light—I was drawn back to the Bible as the most powerful source of truth. I began reading the New Testament and the words of Christ ignited my heart and mind with a magnificent flame that still rages within me. I began to feel His presence beside me; His example became my example; His burden my burden. Yet I could find no church that was His church.

One evening as I was sitting alone meditating, attempting to clear my mind from extraneous thoughts, I was struck in one shattering instant with what I can only say was revelation: that the North and South American Indians were related to me and other Jews through the House of Israel. It was a marvelous discovery and I decided to write an article about it to see what interest it might generate. I happened to mention it to a friend (an apostate Mormon) who told me the Mormons believed that to be true also. What a surprise—there was a group of people that shared that same truth. I was excited. I wondered what other beliefs they adhered to. I rushed down to the Visitors' Center in Los Angeles where a curiously jolly and elfish old man welcomed me and announced that Harold B. Lee, the Prophet of the whole Mormon Church, was to be at a devotional in Long Beach the next morning and that if I attended, it would change my life. He then gave me his wife's ticket.

So there I was, feeling the Spirit of Truth leading me to a convocation of young

Mormons, a group of people I had not heard about before. The auditorium was filled with happy and shining faces that day. I was literally overwhelmed. Waves of love were sweeping over the assembly. Such a spirit of love was present that the Prophet appeared to be at a point of swooning. With each phrase his breaths came slower and with greater humility of expression. The young men gazed into the eyes of their lovely partners with the tenderest of concerns. It was as if 2,000 Romeos and Juliets had assembled that day. Then the Prophet spoke those challenging words: "Be loyal to the royal in you." And I knew that he was speaking to me as a member of the Tribe of Judah and the Royal House of God, and I knew that he was the Prophet of the Church I had been seeking, the Church of the Living God.

I contacted the missionaries, received the instructions, and was baptized and confirmed on July 7, 1973. As an adolescent I had turned away from my Heavenly Father and from that loving relationship that I had with Him as a child. As a man my Lord Jesus Christ restored the love of my childhood and returned me to the only path that I know will take me back to my Eternal Father in Heaven.

Wizened children
hearts too big for their
Positions of responsibility
Burst
with the weight
of this world
Pain's thousand needles
their footpath
of thorns . . .
of roses
winding a weary way
through this thicket of darkness
and light
leading us with their
aching
loving
hearts
Bringing us closer
to home
Peace be with you
old child of God

SCIENCE AND RELIGION

INTRODUCTION BY JAMES L. FARMER

When this special issue of Dialogue *was first conceived, it became evident that the phrase "science and religion" has quite different meanings for different people. It was clear that the issue could not be comprehensive enough to please everyone, and therefore, decisions had to be made about what kinds of manuscripts to solicit. Generally, we decided to omit topics which had been covered extensively in either Mormon or non-Mormon literature, such as: technical discussions about ecology, population, evolution, or the age of the earth; reconciliation of the scriptures with science through allegorical interpretation or through imputation of certain technological innovations to God; and the use of science-based analogies to explain religious concepts. Topics which are peripherally related to science and religion, such as ethics, were also omitted. Manuscripts were solicited and selected with the hope that they would both raise new issues in the discussion of science and religion among Mormons and stimulate responses. This issue will not be a success unless there are responses to it in the form of articles replying to those contained herein or developing topics which are not included here.*

Richard F. Haglund Jr.'s article on science and religion is an excellent treatment

of this often misunderstood relationship. As Haglund points out, religion and science have more in common than most realize. Understanding that commonness as well as their respective uncommonness should help scientists and religionists to work together more harmoniously in their mutual quest for truth.

Duane E. Jeffrey points out the pitfalls that face us when that common ground is obscured. As he illustrates with careful historical documentation, Mormonism had a much broader ground of agreement with science on the question of evolution in the nineteenth century than did most other religions. When that ground was narrowed through mistrust and misunderstanding, it led to an attack on and distrust of science that still has deep roots in Mormon culture. There is a strong need for articles of this kind which examine the neglected field of Mormon intellectual history.

Hugh Nibley's fascinating if somewhat esoteric study of early Christian views of cosmology also suggests a fruitful field for future scholarly exploration. Certainly little is understood and more needs to be known about the historical relation of some of our theological tenets and cultural beliefs.

*That science and religion contend for allegiance is dramatically illustrated in the interview with Henry Eyring and in the three interviews with scientists in "*Dialogues on Science and Religion.*" Here we have case studies of how individuals solve or attempt to solve conflicts between these two world views. Some readers may note some factual errors in the responses by one of the scientists. Please keep in mind that these interviews were not published in order to communicate factual information but rather to examine the personalities of some Mormon scientists and to examine the interaction of their professional and religious lives. The manner in which they may have resolved conflicts will undoubtedly not be equally acceptable to all individuals who have faced the same or similar problems.*

Even though we received several excellent articles on the social and psychological sciences, they could not be included in this special issue because of space limitations. The editors of Dialogue *have expressed an interest in developing future special issues in these subject areas. In terms of truly meaningful (for the individual and society) conflicts between science and religion, the social and psychological sciences offer potentially far more formidable challenges to religion than do the natural sciences. They clearly deserve more space in* Dialogue *than a part of this issue could have afforded them.*

There were many other topics which we had hoped to include. A few of them are: the new astronomy and the scriptures; current topics such as the role of Mormons in the controversy concerning the treatment of evolution and creation in school books; a review of the use within the Church of teleological arguments for God's existence; an examination of the psuedo-scientific literature in Mormon culture; an investigation of possible conflict between our drive for scientific progress, our belief in God's omniscience, and our millennial expectations; and scientism in the Church. Each reader will undoubtedly add other topics to the list. Over the years since Dialogue *began, there have been periodic complaints from readers about the lack of articles on science and religion. It should be clear that there has been no lack of topics which could have been published in* Dialogue. *Rather, there has been a shortage of authors who were willing to spend the time and energy needed to write good articles. The editors are more than willing to publish sound articles on science and religion, if someone will write them. The challenge is clear.*

SCIENCE AND RELIGION: A SYMBIOSIS

RICHARD F. HAGLUND, JR.

Sometimes people ask if religion and science are not opposed to one another. They are: in the sense that the thumb and fingers of my hand are opposed to one another. It is an opposition by means of which anything can be grasped.[1]

—SIR WILLIAM BRAGG

For most of us, there is little doubt that science was victorious in its centuries-long warfare with theology. From Galileo—kneeling in the robes of a penitent criminal before his Inquisitors, pleading for mercy on the grounds of age and infirmity—we have come full circle, to William Jennings Bryan in the dock at the Scopes "Monkey Trial"—trying desperately to demonstrate the Bible as the infallible guide to the story of Creation, then succumbing without dignity to the pitiless goad of Clarence Darrow.

But this picture of a single titanic intellectual and spiritual conflict, with science emerging at last triumphant and religion banished to the nether realms of social myth and private ethical concerns, is far too simple. The war of science against religion has actually been waged on three broad fronts: a *social* revolution, which in Jacques Barzun's words "has enthroned science in the name of increased production, increased communication, increased population and increased specialization";[2] an *intellectual* revolution, directed at achieving "a comprehensive knowledge of the cosmos through science";[3] and, most significantly, a revolution in *consciousness*, that is, in man's felt way of perceiving himself and the world about him.

Of these three interlocking struggles, only the social revolution seems to have been concluded with any degree of finality. Indeed, the enthusiasm for science generated by its transformation of society has lent substantial strength to those who, in the name of science, have sought to discredit the world-picture of religion on intellectual grounds. Nevertheless, the conviction that there has occurred a "completed revolution of the intellect caused by science,"[4] and that theistic religion is thus as outmoded as the phlogiston theory, remains just that: a deep-seated conviction, but certainly not an experimental observation.[5] In spite of the optimism of the eighteenth and nineteenth-century popularizers of scientific enlightenment, we have yet to see many of the results we might reasonably expect from such an intellectual revolution. The completely rational theology foreseen by the *philosophes* has not appeared.[6] Nor have the attempts to reduce human behavior (particularly ethics) to biology and chemistry been successful.[7] Moreover, the scientific criticism of religious history and literature—with the avowed aim of eliminating "mythical" or "unscientific" (which is to say, prophetic, miraculous and eschatological) elements—has brought the critics themselves a number of embarrassing surprises.[8]

Yet, strangely, the protagonists of religion continue to accept a basically defensive position *vis-à-vis* science and scientists. It has often been remarked that this unfortunate state of affairs is not due to any intrinsic incompatibility of scientific and religious thought, but rather to basic misunderstandings of the contrasting languages and practices of the two disciplines. What is less often noticed is that scientists are in large measure responsible for the misunderstandings, because they have consistently presented scientific practice "as though it were the outcome of a world-view with which it was in fact fundamentally incompatible."[9] As a result, the revolution in consciousness which led to the birth of modern science about the time of Galileo has been widely misinterpreted.[10] However, regardless of who bears the blame, we are all impoverished by the notion that the only possible relation between science and religion is one of perpetual conflict between unequally-equipped antagonists, whose will to fight is sustained by irreconcilable views about ways of knowing.

A thoughtful examination of the methods and underlying metaphysics of science discloses the possibility of a symbiotic and synergistic relationship with religion. There are, of course, familiar examples of physicists—Kepler, Newton, Maupertuis, Faraday and Einstein, to name several—for whom a fundamentally religious or mystical perception of reality served as the nourishing substratum of their most significant scientific speculations.[11] But too often, these cases are dismissed as anomalous, as if, for instance, Newton's preoccupation with theology

represented a singular aberration of an otherwise extraordinarily lucid mind. In this essay, I shall try to show that such creative and fruitful interplay of religious and scientific thought is by no means an accident; on the contrary, it arises naturally from the fact that both the theory and practice of science must be guided by insights and judgments which cannot be formalized because of their subjective nature. We have long been accustomed to the idea that, in our present embryonic stage of intellectual and spiritual growth, we cannot demand a comprehensive and coherent picture of the universe from religion alone. In my judgment, we must now recognize the essential inconclusiveness of science, too, and learn to view science and religion "not as mutually destructive or reconcilable elements, but as polarities in a mutually-sustaining and dynamic tension."[12]

The existence of a symbiotic relationship between science and religion does not imply, however, that the two are "equal" in some sense. Religion is, and must be, a universal and ultimate human concern.[13] Science, on the other hand, while it should be a universal concern, can in no way be an ultimate concern unless we intend to renounce our humanity. However, religion will not solve the elementary particle dilemma; the solution to that problem will come from more and better science, not less. Nor will the difficult problems of theology be solved by the ultimate convergence of science and religion, as some scientists have suggested.[14] The object of quantum mechanics is not the search for God, but for wave functions and probability amplitudes, and knowledge of the scattering cross section does not lead to eternal life. For the moment, the conflicts will persist—but whether they persist to our salvation or damnation depends on us, rather than on the progress of the disciplines themselves.

I. *Science and Method*

Several years ago P. B. Medawar touched a tender nerve in the body scientific by asserting that "the scientific paper . . . misrepresents the processes of thought that accompanied or gave rise to the work that is described in the paper."[15] He concluded that, by pretending to complete objectivity and forcing their results into an inductive format, scientists were not only deceiving themselves and confusing the non-scientific world about the methodology of science, but actually impeding the progress of their research.

The general response to his ideas was predictably negative. We have convinced ourselves that the inductive method of the sciences has provided us with a triumphant and basely objective way of ferreting out the "irreducible and stubborn facts of nature"[16]—a notion seemingly confirmed by the "thingness" and utility of the technology which goes hand-in-hand with science and which, indeed, is often thoughtlessly equated with it. The humanities in general, and religion in particular, seem to suffer by comparison, because they deal in basically subjective insights.

However, this simple subjective-objective dichotomy is spurious, for the scientific method actually has a strong subjective component which effectively determines the social and intellectual structure of scientific inquiry. As we shall see, this subjective aspect of science makes it not only possible but in fact desirable for the religious and scientific communities to be allies rather than antagonists, for the benefit of science as well as of humanity.

A convenient starting point for discussion is the stereotype of the scientist drawn by Harping in "The Abacus and the Rose":

> Professor Lionel Potts doesn't know what the sun weighs, but he knows it weighs something. Something exact, to three places of decimals. Lionel Potts knows that everything weighs something. Everything can be measured and photographed and spectrographed and God-knows-what-o-graphed. That's it: Everything in Lionel Potts's world can be graphed—just graphed. Everything can be described. Who would dare tell Professor Lionel Potts, FRS [Fellow of the Royal Society], that beauty cannot be described? Who would hope to persuade him that description is not enough? That life, life outside the laboratory, also calls for judgments?[17]

Potts's business, as we have all been told since early childhood, is to make precise measurements of natural phenomena, and then to fit these data into an orderly, usually mathematical, scheme called a "theory." In this view—known variously as positivism or operationalism[18]—science deals with two kinds of statements and only two: empirical propositions which can be verified by sense experience, and formal definitions or tautologies (as in mathematics). Statements of value, feeling or purpose are considered meaningless for science. Thus a scientific theory is to be judged solely by its ability to account for all known observations and to predict the course of similar events in the future.

Clearly, science without substantial objectivity, or without careful measurements, is no science at all. But Harping's description of Potts as a man bent on quantifying the universe, oblivious even to "a single impulse from a vernal wood," is very superficial. Potts may not be a metaphysician, but he cannot make a single measurement or focus his dispassionate eye on any aspect of physical reality without asking a great many difficult questions, all of which call for personal (which is to say, *subjective*) judgments: What shall I measure to begin with? And once the data are in hand, what is to be done with them? Why do I claim that identical pulses of electricity in the same kinds of wires represent protons in one case and neutrons in another? If a measurement does not agree with a theory which has successfully explained all previous measurements, is the measurement in error? Or must the theory be revised? Suppose two theories explain the measured data equally well. Which theory is right? And what does "right" mean, anyway?

The concept of scientific theory as a purely objective resumé of experience shatters on these questions, precisely because science is much more than mere measurement. It is fundamentally a search for *intelligibility* in nature. Hence, "an accurate determination of the speed at which water flows in the gutter at a particular moment of time is not a contribution to science," writes Michael Polanyi,[19] because standing by itself, it is neither profound nor of intrinsic interest. And the problem of selecting interesting and profound experiments is only the beginning. The data arising from such experiments can be fit by an infinite number of mathematical functions, which thus embody them in a comprehensible pattern. But each such function or set of functions may have a completely different physical interpretation, and lead to divergent predictions for the future of the system being studied. Operationalism cannot give us a self-evident, logical criterion for choosing one mathematical embodiment of the data over another. Moreover, the question of extrapolating from a theory which comprehends present measurements to predictions of future behavior necessarily involves judgments of value.

Still more compelling arguments against Harping's view of the scientist can be found in the history of science. The Copernican revolution, for instance, was based not so much on new data as on a reinterpretation of extant observations in light of Copernicus' metaphysical ideas.[20] In fact, the Babylonian and Ptolemaic theories could probably have given better fits to the available data at that time than could the heliocentric theory. "Contemporary empiricists," notes E. A. Burtt, "had they lived in the sixteenth century, would have been the first to scoff out of court the new philosophy of the universe."[21] Copernicus' hypothesis was sustained at first more by his unshakeable confidence in the inherent beauty and simplicity of his theory than by the data—a pattern to be repeated in the monumental discoveries of Einstein, Planck, Schrödinger and Dirac in our own day.[22]

A more accurate description of the workings of science must still begin with the premise that the sensory experiences of the scientist—whether casual observations or measurements from carefully-contrived experiments—remain the primary data, the "givens," of scientific theory. But according to Planck, these brute facts remain a "chaos of elements" without any discernible pattern "unless there is the constructive quality of mind which builds up the order by a process of elimination and choice."[23] The scientific propositions founded on experimentation "are not derived by any definite rule from the data of experience," says Polanyi. "They are first arrived at by a form of guessing based on premises which are by no means inescapable and which cannot even be clearly defined; after which they are verified by a process of observational hardening which always leaves play to the scientist's personal judgment."[24] This process of guessing, in turn, influences the future course of experiment or observation. When a scientist begins work in the laboratory, he has already imagined a tentative order in the phenomena he intends to study. The experiment may be designed either to verify that conjectural picture of the world, or to prove it false; it may well be, after all, as helpful to know what kind of universe is *impossible* as to know what sort of world is probable. But in either case, both the experiment and the data it produces are already "theory-laden."[25]

This view of the scientist muddling toward cosmic truths by way of inspired or lucky guesses may not be as awe-inspiring as the operationalist picture of the disembodied Eye of science surveying the world by the cold light of reason and discerning inductively the underlying order in its apparently random processes. Nevertheless, this more accurate perspective displays the most remarkable feature of the scientific enterprise—which is not, as we sometimes erroneously suppose, its closely-defined universe of discourse, but rather its amazing tolerance for ambiguity. "One of the secrets of science carefully kept from the layman," remarks E. F. Taylor, "is that scientists can proceed fruitfully for many years in a given field without really knowing what they are doing. Indeed, one of the principal goals of scientists is simply to find out what they are doing."[26] Thus the scientific method is as much a way of *defining* physical reality as of understanding it.

This is not to say that there are *no* rules to guide the conduct of science. One usually requires of theoretical constructs that they be logically fertile, satisfactorily connected to other theoretical ideas, simple, and elegant: in addition, it is demanded that they satisfy the requirements of causality; and that their major premises be relatively permanent and stable. Experimental observations

are usually judged by their fulfillment of theoretical predictions, and by their agreement with independent methods of measuring the same quantity.[27] But powerful as these criteria are, Polanyi comments, "I could give you examples in which they were all fulfilled and yet the statement which they seemed to confirm later turned out to be false." Hence, "Any exception to a rule may thus conceivably involve not its refutation, but its elucidation and hence the confirmation of its deeper meaning."[28] And it is crucial to see that a decision either to reject the exceptional theory or experimental result, or to examine it further in the hope of finding "its deeper meaning" must be based on an act of personal judgment by the scientist.[29]

Thus the task of identifying a scientific truth in a crowd of competing hypotheses is rather like judging a beauty contest, in which one seeks some pleasing combination of features the *particulars* of which are only partially describable. Indeed, one may select a theory which has one or two glaring defects, just as one might choose a beautiful woman in spite of a ski-jump nose. Niels Bohr's original version of quantum theory is a case in point: It violated the hitherto successful theory of classical electrodynamics, but was tentatively accepted, rather than being rejected out of hand, because it seemed to be the only reasonable solution to the baffling problem of atomic spectral radiation.

It may be objected that the truth of a scientific theory can be recognized unequivocally by its consequences or its fruitfulness. That is true—but when one is in the middle of the search, how is it possible to see that a proposition is true from a knowledge of consequences which are yet to be discovered? Again, one may argue that scientific truth is recognizable because it will be the hypothesis which most closely conforms to the criteria outlined above. However, these "rules of science" do not specify scientific procedures explicitly; they actually serve only as somewhat flexible constraints. It is impossible to put them in the form of a checklist for determining what the scientist will accept as true, because he does not know beforehand what the truth looks like in all its particulars. He has, instead, only an intimation or intuition of how it is *likely* to appear. Thus these "rules" limit the strategies and tactics employed in the pursuit of science, but do not prescribe them—much as the rules of chess do not determine whose strategy will win or lose, but only that neither player in a match may move his knight in a straight line.[30]

But if the rules or principles which guide us to the solution of scientific problems are not discernible *a priori*, "cannot even be clearly defined,"[31] and thus remain forever *tacit*, how can scientific inquiry survive at all? It is because, Polanyi argues, the premises of science "can be embodied in a tradition which can be held in common by a scientific community" and which undergoes a creative reinterpretation at the hands of every person who enters that community.[32] To be sure, many aspects of the communal tradition are controlled explicitly—as, for example, the theory of statistics which governs the handling of experimental errors. But "the major principles of science . . . are continuously remolded by decisions made in borderline cases and by the touch of personal judgment entering into almost every decision."[33] A tradition of science can be sustained in this way only if there exists a community which is in principle dedicated to "the fourfold proposition (1) that there is such a thing as truth; (2) that all the members love it; (3) that they feel obliged and (4) are in fact capable of pursuing it."[34]

The apparent tough-minded objectivity of science arises *not* because it deals only in observations and logical tautologies, but because the social contract of this scientific community requires of all its members (1) that for the sake of free discussion truth be divorced as much as possible from anthropomorphic characterizations;[35] (2) that questions of purpose in natural phenomena be left to metaphysicians wherever possible;[36] (3) that every theory be submitted in good faith to experimental analysis; and (4) that experimental observations be made available to the entire community for rigorous public discussion.

The idea of tacit knowledge sustained in a community by a tradition embodying rules of practice, mutual respect and a love of truth leads quickly to the realization that science, like vital religion, is a marvelous and fragile undertaking which can survive only under particularly favorable intellectual and spiritual conditions. This constitutes the fundamental basis for an alliance between the scientific and religious communities, for whatever threatens the survival of one imperils the continued existence of the other. Both disciplines, for example, are endangered by pietistic fallacies—represented in religion by an emphasis on outward appearances; in science, by the preoccupation with method and measurement. Pharisees and positivists serve important, but essentially negative, functions;[37] left unchecked, they can vitiate and finally kill the profound inward aspects of both science and religion. Similarly, religion and science may be damaged or destroyed by the coupling of limitless moral outrage and philosophical skepticism in existentialism and Marxism. For if, as the existentialists assert, "man is his own beginning, author of all his values,"[38] the acceptance of a communal tradition, so vital to the practice of religion or science, is an act of spiritual and intellectual treason, to be abhorred by every honest man. Or if, on the other hand, science and religion are controlled by the state as the embodiment of the people's will and ostensibly for its interests, individual freedom inevitably disappears—and without it, the creative re-interpretation of the scientific or religious heritage cannot occur.[39]

This is not to say that in such an alliance there would be no conflicts; there are profound points of disagreement, and what we must expect is a kind of creative dissonance, as in good friendships. But the day when one might feel obliged to keep religion in one mental compartment and science in another is past, or ought to be. Science, for its own good if for no other reason, can no longer pretend to be a world apart from the rest of man's intellectual and spiritual strivings. Moreover, the increasing demands on science to be responsive to human needs necessitates a *rapprochement* with the larger religious community, because it is there that the ultimate concern for human needs and values resides.

A pervasive awareness of the essential unity of human life and values is not easily achieved. But to those who make the effort, there opens up the welcome prospect of a religious faith released from the pressure of an intolerably narrow perspective of the universe, and of a science helping in the discovery of "a meaningful world which could resound to religion."[40]

II. *Science and the Consciousness of Reality*

It is tempting to assume that the great scholars of antiquity, the Renaissance and the Middle Ages did not develop modern science because their methods

were inadequate. Yet there were sciences in all those periods of history—astronomy, biology, physiology, mechanics, for instance—which used all the methods of contemporary science: experiment, observation, measurement, classification, and inductive and deductive theorizing. And still theology, not mathematics, was queen of the sciences! Clearly, then, the change from the animated Macrocosm of Thomas Aquinas to the curved intergalactic space-time continuum of Einstein is *not* explicable simply in terms of the construction of the telescope, the invention of the calculus, and a few more centuries of observational and theoretical astronomy. Such a profound change in world-view can only be accounted for by a drastic reordering of "the whole apparatus of concepts and categories, within which and by means of which all our individual thinking, however daring and original, is compelled to move."[41]

It is this revolution in human consciousness which we must now consider. In tracing the history of this intellectual upheaval and the gradual emergence of the contradictions implicit in it, we shall see unfolding what I have earlier called the "inconclusiveness" of modern science. This metaphysical incompleteness turns out to offer important opportunities for a *personal* alliance between science and religion, much as the ambiguities in the scientific method open up possibilities for mutually profitable dialogue between the religious and scientific *communities*.

Consider for a moment the problem of perception. Our links with the familiar world of objects are various sensations: mechanical vibrations which rattle our auditory mechanisms, or electrical oscillations in the optic nerve. Physics tells us that these sensations arise from the motion of particles; but whether or not this is true, it is the sensations and not the particles which are the fundamental data of human and scientific experience. We live, then, in a sort of two-level world: One level is comprised of the particles, or more precisely, an *unrepresented* sub-sensible or super-sensible basis of the external world. The other level, which is the familiar world of appearances and phenomena, is made up of *representations* which our brains construct from the bare input of our sense organs. Note carefully that the representations include more than the sensation itself; "these mere sensations must be combined by the percipient mind into the recognizable and nameable objects we call 'things,' " observes Barfield, by a process which he has christened "figuration."[42] The representations are, in a manner of speaking, the costumes in which the sensory experiences appear after passing through the various dressing rooms of the mind.

We discover in a sort of experimental fashion that most human beings share the same or similar representations of sensory experiences; thus reassured, we impute the label "reality" to representations which are *collective*. Hence, our familiar world is in fact a world of collective representations.[43]

It is characteristic of twentieth-century Western minds that in figuration we are largely unconscious of the relation between ourselves and the representations. In analytical thinking, we deliberately consider the representations as wholly outside and independent of ourselves. But it was not always so. There was a time, extending back beyond the ancient Greeks to the great Oriental civilizations, and forward at least until the end of the Middle Ages, when man's primary experience of the representations was that of a *participant*, rather than an observer. For the participating consciousness, both figuration and analytical thinking are altered by this awareness of extra-sensory links between the observer and the phenom-

ena.[44] And while sophisticated theoretical thought is quite possible in such a frame of mind (as in ancient science), its subjects—that is, the phenomena—are necessarily different because of the change in figuration. A participating consciousness did *not* see the same thing we see when looking, say, at a tree or at the moon. To such a mind, "the world was much more like a garment which men wore about them than a stage on which they moved."[45] And thus, for the scientists of antiquity, the only model of the universe which made any real sense was organismic, not mechanical. Man the microcosm was constantly aware of being nurtured in and by a macrocosmic Nature conceived, as in Plato's *Timaeus*, as "the nurse of all becoming."[46]

The origins of modern science may be traced to the gradual disappearance of these extra-sensory links to the world of nature. In the organismic model, for example, thought and space were connected, because every motion in the mind of man was the product of motion in the receptacle of his Becoming, which in turn reflected movements of the Forms of the ideal world.[47] However, Aristotle's speculations on the nature of thought led him to the conclusion that thought could be divorced entirely from external movement. Thus, in our world space is an object of perception, rather than its cause; the "receptacle of becoming" is no longer an active organism which brings about life and natural processes, but simply a neutral medium "out there" in which the phenomena are displayed.[48]

In addition, it was necessary to break the cycle of time, Plato's "moving image of eternity," and change the eternal round of history into a real succession of events *ordered* by time, viewed now as a dimension or as one of the coordinate axes of reality. This concept of linear time, for which we are primarily indebted to the Israelites,[49] made possible the evolutionary orientation of modern science, and the notion of cause and effect on a cosmic scale.

Galileo is one of the first modern scientific minds, and it is important to understand that he occupies his pivotal position in the history of science because, for him, participation in the phenomena has effectively ceased. This assertion can be verified in two different ways.

One piece of evidence is his ability to conduct thought-experiments, in which he considers "not real bodies as we actually observe them in the real world, but geometrical bodies moving in a world without resistance and without gravity—moving in that boundless emptiness of Euclidean space which Aristotle had regarded as unthinkable."[50] Galileo was not by any means the first man to construct a mechanomorphic model of the universe.[51] However, the abstract character of his models and the idealized space in which he imagines observing their evolution in time stamps his model-building as original and thoroughly modern.

An even more significant token of Galileo's rejection of the participating consciousness is his treatment of hypotheses. Hypotheses—including the heliocentric hypothesis—had been made long before his time. But for ancient and medieval thinkers, the primary concern in constructing an hypothesis was not to establish some particular one as an accurate picture of the universe, but to comprehend the Forms of an idealized nature by an act of indwelling, or participation.[52] Hence, it was of little consequence that several different hypotheses might save the same physical appearances;[53] there was simply no pressing need to choose among them. The astounding notion which occurred to Galileo[54] was that, if the heliocentric theory could save all the astronomical appearances, it was

literally, *physically* true. It is this concept which marked for him the final break with both ancient science and the carefully rationalized theology of the Catholic Church. And only in this context can we understand Ricardi's instructions to Galileo's Inquisitor, "that the *absolute* truth should never be conceded to this opinion [the heliocentric theory], but only the *hypothetical*, and without Scripture."[55] (Italics added.)

Perhaps Ricardi had a premonition that analytical mechanics might one day become sufficently cogent and appealing to convince scientists that only such knowledge of the external world could be truly satisfying. At any rate, that is precisely what happened: Inspired by Galileo's success in saving the appearances with abstract mechanical models, others following him began the erection of a hollow, lifeless image of the universe, which was declared to be Reality itself and was, indeed, worshipped after a fashion (witness the talk of "the temple of science"). Small wonder Barfield speaks of the "idolatry" of modern science!

This might not have happened if scientists had paused to consider the metaphysical underpinnings of their work. But the peculiar circumstances surrounding the birth of modern science—the sense of revolt against the monolithic worldview of Scholasticism, and its early alliance with technology—conspired against that kind of meditative thinking. Modern science began as and "has remained predominantly an anti-rationalistic movement, based upon a naive faith," declared Alfred North Whitehead. "Science repudiates philosophy. In other words, it has never cared to justify its faith or explain its meanings."[56]

This disdain for philosophy gave physicists a false sense of security about the epistemological foundations of their work, and, ultimately, made the transition to atomic and molecular physics an emotional as well as an intellectual shock. But metaphysical conundrums were of little concern to science until the beginning of the twentieth century. Through three hundred years of magnificent achievements, the stubborn scientific faith of Galileo hardened into a dogma epitomized in Laplace's contention that he could "embrace in the same formula the movements of the greatest bodies of the universe and those of the lightest atom."[57] Henry Power, one of the first members of the Royal Society, felt that "the infallible demonstrations of Mechanicks" would "lay a new foundation of a more magnificent Philosophy never to be overthrown."[58] So, from its beginnings as *a* physical theory, analytical mechanics came to be considered *the* physical theory, and "it was as such that classical physics superseded organismic physics, tried to rule philosophy, and influenced even sociology and politics."[59]

However, when physicists actually moved to incorporate the "lightest atoms" and the phenomena of electricity and magnetism into the all-encompassing vision of mechanics, Laplace's creed could no longer be sustained. Between 1855 and 1926, almost every fundamental concept of mechanics was discarded or altered beyond recognition. Mass, length and time were redefined in Einstein's special and general theories of relativity. Planck, Bohr and Schrödinger developed a theory of quantum mechanics to describe atomic phenomena, with probability distributions replacing the simple mechanical causality of classical physics. From the laboratory came experimental data describing particles with wave-like behavior, and light waves which looked like beams of particles. The story has been told well elsewhere.[60] What is important for us is that relativity and quantum mechanics explicitly deny the possibility of a complete causal description of a

physical system without any reference to an observer. The difficulty is most acute with atomic systems, where Heisenberg's uncertainty principle decrees the impossibility of a simultaneous measurement of all the variables needed for a comprehensive picture of the system. Measurements are possible, and they can be integrated into a causal framework, but we cannot mold "these isolated bits of perception and isolated causal chains into an objective model of the event; what fails is the 'objectifiability of nature.' "[61] Thus the physicist can no longer sit in the gallery as a disinterested spectator, but has been forced to come on stage with his machine.

With the breakdown of mechanism, some theoreticians looked to mathematics as a refuge. "Our quanta," wrote Arthur Sommerfeld, "remind us of the role that the Pythagorean doctrine seems to have ascribed to the integers, not merely as attributes but as the real essence of the physical phenomena."[62] Note well the change: In classical physics, mathematics was used as a shorthand for ordering the representations; now we have a new "idol," with wave functions and quantum numbers replacing the classical universe of point particles. But here, too, physicists came in for an unpleasant surprise, this time from the mathematician Gödel, who proved in an historic paper that even such a simple system as whole number arithmetic cannot have within itself a proof of its consistency.[63] Mathematicians and philosophers alike saw in Gödel's theorem the end of hope for a complete, self-consistent mathematical model of physical processes. Bertrand Russell, for instance, suggested that "physics is mathematical not because we know so much about the physical world, but because we know so little: it is only its mathematical properties that we can discover."[64]

Considered by itself, the failure of the mechanical model is certainly not catastrophic. Relativity theory, after all, does not require one to give up mechanism; it asks rather that one pay more careful attention to operational definitions of mass, length and time.[65] Even the paradoxical results of quantum mechanics—such as the wave-like behavior of electrons in crystals—might be made perfectly intelligible if one assumed that the electron was a more complicated object than an ordinary billiard ball.

Lord Russell's comment, on the other hand, hints at a profound *metaphysical* inconclusiveness in physics: that there is no self-evident, logical way of choosing an undergirding conceptual framework into which one can integrate particular experimental or theoretical results. That framework must be supplied by the scientist from his own perceptions and intuitions of the underlying realities of nature. When Einstein, for example, renounced the Newtonian ideas of space and time, he did so because he saw in them certain fundamental contradictions which demanded resolution. But he was led to this insight not by logical deduction, but by "intuition, resting on sympathetic understanding of experience," derived, as Einstein himself said, from a "cosmic religious feeling."[66] Similarly, the crucial role of symmetry concepts in particle physics could not have been deduced logically from the character of physical laws. Someone with a fundamentally aesthetic view of nature had to postulate the existence of still-undiscovered symmetries in the "zoo" of protons, neutrons and mesons—and then follow that intuition to the discovery of a new kind of order. Thus, just as Gell-Mann's classification of elementary particles on the basis of symmetries might be said to be as much art as science, so Einstein's general theory of relativity "was religion as much as science."[67]

In the final analysis, it is apparently the metaphysical incompleteness of physics which prevents the erection of a comprehensive, self-consistent model of the universe. And this should make us skeptical of claims for both comprehensiveness and logical consistency in any other science, because physics deals with the simplest models and has the most formal mathematical structure of all the sciences. I have no intention of stigmatizing scientific knowledge as meager or unsatisfactory. On the contrary: the Schrödinger equation is also "a thing of beauty, and a joy forever." But we must eschew the scientific idolatry which attempts to define reality solely in terms of some particular set of collective representations or hypotheses, and learn, instead, to meet reality in all the levels and varieties of human experience.

Once we acquire the intellectual and spiritual courage to discard our monolithic world-view, the metaphysical inconclusiveness of science ceases to appear as a threatening gap in our comprehension of nature. It offers, instead, the opportunity for laying new foundations in scientific thought—based on philosophy, art, and certainly on theology. In this way, we may also recover that feeling for the purposefulness of nature which was the special delight of the sophisticated scientists of antiquity.

We need, finally, to understand clearly that the failure of ancient science was not rooted in its mode of consciousness, but rather in its attempt to achieve a complete world picture through a single mode of thought. With the shift away from participation in the phenomena and the consequent bifurcation of the universe into objects and observers, we have gained an understanding and control of natural processes of which the ancients could only dream. Yet Laplace made the same mistake as Aquinas. Therefore it is not the method of science which we must renounce, but the madness. To this end, we would do well to pray with William Blake:

May God keep us
From single vision and Newton's sleep.[68]

III. *Problems and Prospects*

To recapitulate: We have drawn two major conclusions about science, based on the example of physics: First, that its methodology does not consist of prescriptions for "doing" science, but rather of rules of art, which are embodied in a tradition of practice preserved in and by a community dedicated to individual freedom and the pursuit of truth. Second, that physics, although it deals with the simplest and most fundamental phenomena of nature, is seemingly unable to give an account of these phenomena which is simultaneously complete and logically consistent, thus casting grave doubts on the ability of any scientific enterprise to do so. From these conclusions, I have inferred the possibility of a dialogue between science and religion, based on (1) their common interest in preserving moral and intellectual freedom for the scientific and religious communities; and (2) on the need of science for periodic infusions of categories and concepts not available in its own storehouse—a need which has frequently been met by theological, religious or mystical perceptions of the universe.

In all of this, I have stressed the contributions which religion can make to the progress of scientific activity and thought. Since I have assumed from the be-

ginning that religion has a more fundamental claim on man than science, that is as it should be. After all, if "the fear of the Lord is the beginning of wisdom,"[69] how could a physicist resist? But even assuming this to be so, we are entitled to wonder how science can be a symbiotic partner with religion unless the relationship benefits religion as well.

Certainly the gift of science to religion is *not* the imparting of the scientific consciousness to religious thought. The end of participation in the collective representations of the phenomenal world occurred in Israel long before it happened in the West; and, interestingly enough, in the ancient East, where this revolution in religious thought did not occur, the development of science was substantially delayed.[70] So science is, if anything, the *product* of the revolution in theological consciousness: The Jews succeeded in divorcing their Creator from his creation long before Galileo was able to get the Prime Mover out of Aristotle's scientific cosmology.

Nor can science fill its proper place by permitting itself to be pressed into service wherever theologians need to buttress their own grand schemes of the universe. Of the myriad abuses of this type, two examples will suffice. One is the propensity of some religious thinkers for distorting scientific concepts to fit some theological principle—as when we are told that the quantum mechanical uncertainty principle gives us once more the possibility of free will, as if that were something which Laplace could take away and Heisenberg restore. A similar misuse of science is the all-too-frequent attempt to harness it to the task of "proving" scriptural accounts of creation—an effort that often, curiously, goes together with adducing gaps in scientific knowledge as "proofs" for the existence of God. I believe these abuses are based not on faith in the ability of religion to comprehend all truth, but instead on the unfortunate modern skepticism which accepts any scientific proposition, no matter how well-founded it may or may not be, as the only kind of knowledge worth having. And that is false to both religion and science.

On the other hand, science does offer to religion a valuable example of the continual interplay of creative doubt with an abiding faith in the basic orderliness of the universe. This fundamental article of scientific faith is grounded in "the medieval insistence on the rationality of God, conceived as with the personal energy of Jehovah and with the rationality of a Greek philosopher."[71] Unfortunately, now that religion has fallen into disrepute as the source of a unifying vision, this priceless legacy from medieval theology has been largely forgotten. Nevertheless, it remains possible for the scientist to work both critically and worshipfully, thus offering to the practice of religion one particular means (among many) of loving God with all one's mind.

Scientific propositions may also properly serve to confirm individual faith or elucidate theological principles. C. S. Lewis has written that the story of the Incarnation of Christ

> has not the suspicious *a priori* lucidity of Pantheism or of Newtonian physics. It has the seemingly arbitrary and idiosyncratic character which modern science is slowly teaching us to put up with in this wilful universe, where energy is made up in little parcels of a quantity no one could predict, where speed is not unlimited, where irreversible entropy gives time a real direction and the cosmos, no longer static or cyclic, moves like a drama from a real beginning to a real end. If any message from the core of reality were ever to reach us, we should expect to find in it just that unexpectedness, that wilful, dramatic anfractuosity which we find in the Christian faith.[72]

Newton, of course, would have used quite a different aspect of physics to bolster his faith, but that should not disturb us. The point is that religion is made lively and strong by any honest activity of the mind, *if* the activity is directed to that end. Science will serve as well, or as poorly, as art or literature in this regard.

As to the role of religion in science: Einstein observed that "religion without science is blind; science without religion is lame."[73] What so cripples science is its tendency toward idolatry—that is, toward the treatment of some particular set of collective representations as if it were itself the sub-sensible basis of the phenomenal world—and, paradoxically, the freedom of its practitioners. Religion can be of use in both areas.

The most helpful thing religion can do with idols, of whatever shape or size, is to smash them thoroughly. This ought not to be done with any trace of condescension or hostility, but rather with the frank good humor becoming an honest friendship. It is the function of religion as much as it is of science to replace illusion or ignorance with reality. Thus, when the scientist insists that he and he alone is able "in principle" to explain man or the universe, the theologian ought to smile and remind him that "there are more things in heaven and earth than are dreamt of in your philosophy."

This, however, is essentially a negative, critical function, and there is a more vital service to be performed. Because of the autonomy which the scientific community grants practicing scientists, specialization of research may lead not only to fragmentation of knowledge (which is tolerable if one can prepare for it and take certain countermeasures), but also to the aimless piling up of research papers which remain unintelligible to all but those working in the same tiny disciplinary niche. Religion offers a strong antidote to this poisoning of thought through its perspective of a God who created man and nature in infinite variety and staggering complexity, but who reveals himself in unexpected and delightful ways as the author of a cosmic orderliness and meaning. Such a perspective can serve as a constant reminder to science and scientists that the whole of the phenomenal world is wonderfully more than the sum of the parts into which it has been sliced for the relentless scrutiny of the various scientific disciplines.

All of this suggests the prospect for a mutually supportive relationship between science and religion, in which science might lend to the search for God the strength and critical appreciation of a mind viewing nature from outside, and with religion in turn offering to science the inspiration of eternal orderliness derived from its perception of man *in* nature. The creation of such a working synthesis of science and religion is necessarily a personal matter, of course. But it must be based on a steadfast refusal to gloss the apparently inevitable points of difference between disciplines, and a determination to treat conflicts as opportunities for a union in diversity, rather than as challenges to do battle over contested territory of thought. Such a relationship would, I think, be especially satisfying to Latter-day Saints, for whom no enterprise which forever splits spirit and intellect can ever be fulfilling.

However it may be achieved, a symbiosis embracing science and religion is essential if we are to avoid a dangerous compartmentalization of our thought and experience. That the relentless and sometimes heedless pursuit of science has unintentionally compromised our intellectual and spiritual integrity is clear from the persistent feeling of oppression and alienation that pervades so much of

modern art and literature; from the "two cultures" problem outlined by C. P. Snow; from the burgeoning, irrational hatred of technology; and from the widespread, haunting feeling that "mankind is at the helm of a black ship bound for hell."[74] The malaise is curable, though, and religion can prescribe the specifics of the cure. What is required as a condition of understanding is intellectual humility and submissiveness coupled with a childlike and faithful curiosity. The medicine, it is said, tastes bitter at first, but comes in time to be quite agreeable. And if enthusiasm for trying the cure is wanting, we need only remember that the disease gives every indication of being fatal.

Recommended Reading

For those interested in further pursuit of this and related subjects, I would suggest the following books, which are arranged roughly in order of personal prejudice.

Jacques Barzun, *Science, the Glorious Entertainment*
Owen Barfield, *Saving the Appearances: A Study in Idolatry* (p)*
Stanley L. Jaki, *The Relevance of Physics*
J. Bronowski, *Science and Human Values* (p)
Michael Polanyi, *Science, Faith and Society* (p)
*Available in paperback.

Notes

[1]Quoted by Stanley L. Jaki, *The Relevance of Physics* (Chicago: Univ. of Chicago Press, 1966), p. 457.

[2]*Science, the Glorious Entertainment* (New York: Harper and Row, 1964), p. 24.

[3]*Ibid.*

[4]*Ibid.*

[5]Hugh W. Nibley, "Archaeology and Our Religion," unpublished paper.

[6]For an introduction to the fascinating activities of the *philosophes*, see Herbert Butterfield, *The Origins of Modern Science* (London: G. Bell and Sons, 1950), Chap. IX.

[7]C. S. Lewis, *The Abolition of Man* (New York: Macmillan, 1966), and Jaki, *op. cit.*, Chap. IX, "Physics and Ethics."

[8]Hugh Nibley, "New Discoveries Concerning the Bible and Church History," (Provo: Brig. Young Univ. Press, 1963), and "The Expanding Gospel," *BYU Studies*, 7:3-27.

[9]Charles Singer, *A Short History of Scientific Ideas to 1900* (Oxford: Oxford Univ. Press, 1959), p. 420.

[10]While I have epitomized Galileo as the man whose thought marks the boundary between ancient or medieval and modern science, I think it is important to realize that he, like Newton after him, was "standing on the shoulders of giants." For accounts of Galileo's intellectual precursors, see, for example: E. J. Dijksterhuis, *The Mechanization of the World Picture*, trans. C. Dikshoorn (Oxford: Oxford Univ. Press, 1961).

[11]Arthur Koestler, *The Sleepwalkers* (New York: Macmillan, 1968); Gerald Holton, "Johannes Kepler's Universe," *American Journal of Physics*, 24:350 ff. (1956); Jaki, *op. cit.*, Chap. X, "Physics and Theology"; Rene Dugas, *A History of Mechanics*, trans. J. R. Maddox (Neuchatel: Editions du Griffon, no date given), pp. 263ff.; Cornelius Lanczos, *Albert Einstein and the Cosmic World Order* (New York: Interscience, 1965).

[12]Wayne J. Pond, private communication.

[13]The phrase "ultimate concern" is Paul Tillich's.

[14]Cf. Charles H. Townes, "The Convergence of Science and Religion," *The Improvement Era*, February 1968, p. 62.

[15]P. B. Medawar, "Is the Scientific Paper Fraudulent?" *Saturday Review*, Aug. 1, 1964, pp. 42-43.

[16]William James, as quoted by Alfred North Whitehead, *Science and the Modern World* (New York: Macmillan, 1925), p. 3.

[17]J. Bronowski, *Science and Human Values* (New York: Harper and Row, 1950), p. 88.

[18]For a concise discussion, see Ian Barbour, *Issues in Science and Religion* (New Jersey: Prentice-Hall, 1966), pp. 162-66, 239-43.

[19]Michael Polanyi, *Science, Faith and Society* (Chicago: Phoenix, 1946), p. 49. Polanyi is an eminent British physical chemist who in recent years has turned his attention almost exclusively to the philosophy of science.

[20]Butterfield, *op. cit.*, Chap. II.

[21]Quoted by Polanyi, *op. cit.*, p. 27n.

[22]A poignant expression of the trials of scientific faith is given by Einstein: "In the light of knowledge attained, the happy achievement seems almost a matter of course. . . . But the years of anxious searching in the dark, with their intense longing, their alternations of confidence and exhaustion, and the final emergence into the light—only those who have experienced it can understand that." Quoted by Barzun, *op. cit.*, p. 92.

[23]Quoted by Jaki, *op. cit.*, p. 353. Max Planck, a German physicist, was awarded the Nobel Prize for his pioneering work in quantum theory.

[24]Polanyi, *op.cit.*, p. 42.

[25]Norwood R. Hanson, quoted by Barbour, *op. cit.*, p. 139.

[26]Erwin F. Taylor, *Introductory Mechanics* (New York: John Wiley, 1963), p. 107.

[27]Henry Margenau, *The Nature of Physical Reality* (New York: McGraw-Hill, 1950), Chaps. V, VI.

[28]Polanyi, *op. cit.*, p. 31

[29]Thus Polanyi, *loc. cit.*: "In my laboratory I find the laws of nature formally contradicted at every hour, but I explain this away by the assumption of experimental error. I know that this may cause me one day to explain away a fundamentally new phenomenon and to miss a great discovery. . . . Yet I shall continue to explain away my odd results, for if every anomaly observed in my laboratory were taken at its face value, research would instantly degenerate into a wild-goose chase after imaginary fundamental novelties."

[30]A. A. Moles, in his *La Creation Scientifique* (Geneva: Rene Kister, 1957), has attempted to catalog the strategies of different scientists, e.g., those who like to use the method of contradiction in theoretical work, and those whose experimental tactics consist of apparently random but actually extremely clever and sophisticated tinkering. See also Barzun, *op. cit.*, pp. 92-95.

[31]Polanyi, *op. cit.*, p. 42.

[32]*Ibid.*, p. 56.

[33]*Ibid.*, pp. 58-9.

[34]*Ibid.*, p. 71.

[35]This is a continuing process in physics. A current example is the growing preference for the neutral term "interaction" in place of the older, anthropomorphic concept of "force."

[36]It is not yet clear how far this requirement can be carried in dealing with sentient systems,

as in biology or psychology. For two opposing points of view, see Polanyi, *The Tacit Dimension* (New York: Doubleday-Anchor, 1967), pp. 36-52, and J. Bronowski, "New Concepts in the Evolution of Complexity," *American Scholar*, Autumn 1972, pp. 570 ff.

[37]Thus C. F. von Weizsäcker: "Positivism . . . says no more than science already knows. It is then in a sense the null class among philosophical systems, with the merit of the most radical self-criticism." (*The World-View of Physics* [Chicago: Univ. of Chicago Press, 1952], p. 113.) Nevertheless, this self-criticism can be extremely useful; Ernst Mach's positivist attacks on classical mechanics not only pointed out serious shortcomings in the theory, but stimulated Einstein to do something about them. The result was the theory of relativity.

[38]Polanyi, *The Tacit Dimension*, p. 80.

[39]Polanyi, in the Introduction to *Science, Faith and Society*, declares that he was originally led to the search for a new scientific epistemology by the abuses of science in the Soviet Union —a society which in theory was founded on scientific principles. In practice, though, party ideologues nearly destroyed Soviet biology in the 1940s, and tried as late as the middle 1950s to force Russian physicists to renounce relativity theory in the name of Communist doctrine. See Jaki, *op. cit.*, Chap. XI, "The Fate of Physics in Scientism."

[40]Polanyi, *The Tacit Dimension*, p. 92.

[41]Francis MacDonald Cornford, *From Religion to Philosophy* (New York: Harper and Brothers, 1957), p. 45.

[42]Owen Barfield, *Saving the Appearances: A Study in Idolatry* (New York: Harcourt, Brace and World, 1965), Chap. III. Quotation from p. 24.

[43]*Ibid.* Cornford, *op. cit.*, pp. 43-50. Erwin Schrödinger, *What is Life? and Other Scientific Essays* (New York: Doubleday-Anchor, 1956), p. 210.

[44]As in totemism. See Barfield, *op. cit.*, Chap. IV, and Cornford, *op. cit.*, pp. 55-63, 73-90.

[45]Barfield, *op. cit.*, p. 94.

[46]Plato, *Timaeus*, trans. F. M. Cornford (Indianapolis: Liberal Arts Press, 1959), p. 48 (Para. 49a).

[47]Plato notes that "the revolutions of our own thought are akin to them [the motions of the heavens], though ours be troubled and they are unperturbed." *Timaeus*, p. 45.

[48]This same process led to the development of perspective in painting.

[49]Barfield, *op. cit.*, Chap. XXII.

[50]Butterfield, *op. cit.*, p. 5.

[51]Oresme and Buridan, who preceded Galileo, realized that a mechanomorphic nature would need no celestial intelligences to drive the spheres—which would be more in accord with the biblical accounts, in which no such animating spirits were mentioned. For this reason, mechanical models even had the limited backing of Catholic theologians. Jaki, *op. cit.*, pp. 416-17.

[52]For Plato (*loc. cit.*), "by learning to know them [the revolutions of the heavenly bodies] and acquiring the power to compute them according to nature [that is, to save the appearances], we might reproduce the perfectly unerring revolutions of the god and reduce to settled order the wandering motions in ourselves."

[53]"Saving the appearances" is a technical term for the proper use of hypotheses; we would probably say that an hypothesis "fits the data." See Barfield, *op. cit.*, pp. 46-52.

[54]Thus the germ of this idea was also stated by Kepler: God, he says, "founded everything in the world according to the norm of quantity." Hence, when "harmonies [of numbers] . . . accommodate experience," we have arrived at the real order of nature. See Gerald Holton, *loc. cit.*

[55]Quoted by Giorgio de Santillana, *The Crime of Galileo* (Chicago: Univ. of Chicago Press, 1955), p. 317.

[56]Whitehead, *op. cit.*, p. 24.

[57]Quoted by Jaki, *op. cit.*, p. 67.

[58]*Ibid.*, p. 93.

[59]*Ibid.*

[60]Jaki, *op. cit.*, Chaps. II and III. Albert Einstein and Leopold Infeld *The Evolution of Physics* (New York: Simon and Schuster, 1955). (It is not as well known as it should be that

Einstein was one of the most gifted and understandable popularizers of modern physics.) Banesh Hoffman, *The Strange Story of the Quantum Theory* (New York: Harper and Brothers, 1947).

[61]von Weizsäcker, *op. cit.*, p. 33.

[62]Quoted by Jaki, *op. cit.*, p. 108.

[63]Jaki, *op. cit.*, pp. 127-130.

[64]*Ibid.*, p. 128.

[65]"Einstein's *relativity of time* is a reform in *semantics*, not in metaphysics." Phillipp Frank, *Einstein, His Life and Times* (New York: Alfred A. Knopf, 1947), p. 63.

[66]Albert Einstein, *The World as I See It* (New York: Covici, Friede, 1934), pp. 22, 264.

[67]Lanczos, *op. cit.*, p. 112.

[68]Quoted by Barzun, *op. cit.*, p. 295.

[69]*Proverbs* ix, 10.

[70]Jaki, *op. cit.*, p. 419.

[71]Whitehead, *op. cit.*, p. 18.

[72]C. S. Lewis, *The Problem of Pain* (New York: Macmillan, 1966), p. 25.

[73]Quoted by Jaki, *op. cit.*, p. 345.

[74]Barzun, *op. cit.*, p. 18.

and God said:

$$\text{“}\frac{mv^2}{r} = \frac{Ze^2}{r^2}$$

$$mvr = \frac{nh}{2\pi}$$

$$r = \frac{r^2h^2}{12\pi mze^2}$$

$$E = \tfrac{1}{2}mv\frac{Ze}{r}$$

$$E = \frac{2\pi^2h^2}{nh} = Ry\text{”}$$

and there was:

Light

Seers, Savants and Evolution: The Uncomfortable Interface

DUANE E. JEFFREY

Ever since his great synthesis, Darwin's name has been a source of discomfort to the religious world. Too sweeping to be fully fathomed, too revolutionary to be easily accepted, but too well documented to be ignored, his concepts of evolution[1] by natural selection have been hotly debated now for well over a century.[2] The facts of evolution as a current and on-going process are there for the observation of any who will exercise the honesty and take the time to look. The question of whether species evolve is no longer open; it has long since been resolved affirmatively.

This is not to say, however, that we understand all the processes at work in evolving populations, or that we can answer unequivocally all the detailed questions concerning life forms in the distant past. But such shortcomings do not negate

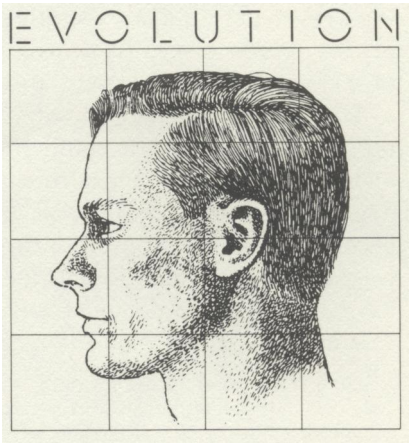
the fact that a great deal about evolutionary processes is known and is demonstrable; anyone who chooses to ignore the subject surely jeopardizes the development of an accurate view of the world around him.

Most Mormons, it would appear, have addressed the question only perfunctorily. The same weakness exists in the vast majority of our published literature on the subject; the level of discussion, unfortunately, is far from sophisticated. Available works are usually the product of individuals who labor under the apparent belief that the concept of evolution *per se* is a threat to the survival or vitality of Mormonism, and that by attacking evolution they become defenders of the faith. Not only do such authors perceive evolution as a deep and fundamental threat to their personal religious convictions, but by various devices they try to convince us that *their* bias is also the official, or at least necessary, doctrine of the Church. Statements to the effect that one cannot harbor any belief whatsoever in any version of evolution and still be a real Latter-day Saint, or that evolution is the deliberate doctrine of Satan and a counterfeit to the gospel, that it is atheistic, communistic, etc., are not at all rare in the Mormon culture and popular literature.

We do not propose here to consider the validity of the above positions, though readers should be fairly warned of the dangers inherent in a *prima facie* acceptance thereof. We direct ourselves instead to a more immediate concern: What *is* the doctrine of the Church on the subject of evolution, if any? We assert immediately that, among mortals, only the President of the Church can articulate a Church position—on anything. We have no desire to assume that role; the responsibility is awesome. But there is a glaring lack, in all published Mormon literature, of analysis of what the response to evolution by "the Church" really has been. To be sure, many publications bring together copious strings of quotes from general authorities, all carefully selected to fit the author's personal point of view. In a certain sense the present development will suffer from the same weakness; we make no attempt to catalogue and analyze every statement by every general authority on the subject. We do claim, however, to try for the first time to document another, broader, point of view fundamentally different from those which have been most ardently presented in the past twenty years, and to examine in as complete a context as is currently sufficiently documented the statements of the prophets of the Church on the matter.

Our account may be disturbing to some. It is not designed to be. But the nature and history of the subject make it virtually impossible to avoid affront to someone. We have gone to considerable lengths to circumvent unnecessary conflict—we hope that any who find the review offensive will extend themselves sufficiently to appreciate why this investigation is necessary in the first place. And since the footnotes supply additional discussion, we urge their consultation on critical points.

For statements on Church doctrine, we are traditionally referred to the four Standard Works.[3] But the standard works are not of themselves always sufficient, and it is recognized that essentially authoritative statements can also be originated by the presiding Prophet (the President) of the Church.[4] In addition, other priesthood holders may declare the mind of the Lord whenever they are "moved upon by the Holy Ghost."[5] This latter criterion introduces a high degree of subjectivity into the matter: how does an audience know when a speaker or writer is so moved? President J. Reuben Clark Jr., of the First Presidency, concluded that one knows



ILLUSTRATIONS BY MICHAEL SCHWAB

only when he himself is so moved,[6] a conclusion that is religiously sound enough, but still too open for scholarly analysis. For some degree of necessary control in the matter, we shall in this article confine ourselves primarily to statements by the Presidents of the Church. Recognizing, however, that counselors in the First Presidency of necessity share a very close relationship to the President, sharing with him the responsibility for governing the affairs and doctrines of the Church,[7] we shall also on occasion extend ourselves to their testimony and counsel. The First Presidency, then, as the highest quorum in the Church, becomes our source of authoritative statements. The many statements by other authorities will be discussed only as needed for perspective, since they are not binding or fully authoritative.[8]

It should be recognized at the outset that the Authorities have never been comfortable with the ideas surrounding evolution. But that point must be kept in perspective: much of their discomfort is shared by many other religionists, laymen, and scientists. It would appear that the primary reasons for discomfort lie not so much in the question of whether living forms have evolved through time; rather, the concern seems to lie with the mechanisms responsible for such projected changes. To believe that evolution is Deity's mode of creation is one thing; to ascribe it all to the action of blind chance is another. Darwin, of course, postulated natural selection as the major mechanism of change. In the century since, it has become plain that he was generally correct; natural selection is the major identified mechanism. Other mechanisms (e.g., genetic drift) have since been identified as well, and the picture is still far from complete. But the real question is not whether these mechanisms are functional; it is whether they are *sufficient*. Can they, as presently understood, explain the incredible complexity observable in the living world? Of more direct concern to those theologically-oriented is the question: Is there any need for, or evidence of, any processes that would be classed as *divinely* operated or controlled? Therein lies the crux: no one really has any good ideas as to how to look for such possible instances of divine intervention. How would one identify them? It has long been fashionable, in literature both within and without the Church, to implicate God wherever we lack adequate "natural" explanations; that is, God is present wherever there is a gap in our knowledge. This "god of the gaps" approach is demonstrably tantamount to theological suicide; the gaps have a way of being filled in by further research, and one must keep shift-

ing to ever-new and more subtle gaps. Perception of the self-destructive properties of this approach seems to travel slowly, however, and it still remains the foundation stone of virtually every anti-evolution argument currently in vogue.[9]

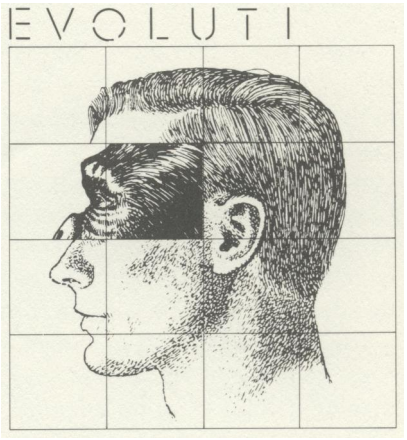
The basic question of underlying and fundamental causes remains. If everything proceeds in a stochastic manner governed by the basic laws of chemistry, physics, and genetics, from whence come *those* laws? They *appear* to many to be orderly; does this indicate a purposeful design and a Designer?[10] At this point the decision becomes largely a leap of faith; there is no demonstrated answer. Darwin confessed himself unable to decide,[11] and his successors, whatever their persuasion, have been able to demonstrate no better solution. President David O. McKay summed up his views on the matter for teachers in the Church as follows:

> There is a perpetual design permeating all purposes of creation. On these thoughts, science again leads the student up to a certain point and sometimes leads him with his soul unanchored. Millikan is right when he says "Science without religion obviously may become a curse rather than a blessing to mankind." But, science dominated by the spirit of religion is the key [to] progress and the hope of the future. For example, evolution's beautiful theory of the creation of the world offers many perplexing problems to the inquiring mind. Inevitably, a teacher who denies divine agency in creation, who insists there is no intelligent purpose in it, will infest the student with the thought that all may be chance. I say, that no youth should be so led without a counterbalancing thought. Even the skeptic teacher should be fair enough to see that even Charles Darwin, when he faced this great question of annihilation, that the creation is dominated only by chance wrote: "It is an intolerable thought that man and all other sentient beings are doomed to complete annihilation after such long, continued slow progress." . . . The public school teacher will probably, even if he says that much, . . . go no farther. In the Church school the teacher is unhampered. In the Brigham Young University and every other Church school the teacher can say God is at the helm.[12]

Considerations as to God's possible role in evolutionary processes have not been characteristic of Mormon literature, especially not during the past two decades or so. The shift has been to an attack on evolution itself, fighting not "Godless evolution," but evolution *per se*. The question of whether this latter approach is legitimate brings us squarely back to our original task: a search for a Church position.

The researcher soon faces an interesting problem: the available utterances on the subject are widely scattered and remarkably few. Compared with the output of other religious groups, Mormonism has produced a rather tiny body of literature that really deals directly with the matter of evolution.[13] At first this is rather frustrating. Commentaries on marriage systems, political involvement, and matters of church and state are extensive, and there is a sizeable literature on other social issues of the day. But there are very few direct confrontations with the questions raised by evolution. Why? Is it solely that the other items were more pressing? There can be no doubt that involvement with these other problems was contributory, but it is clear also that that is not alone a sufficient answer. The most likely further explanation appears to be that LDS doctrines central to the evolution issue were not well developed; they were still in a sufficient state of flux that no direct confrontation was really possible or necessary. Simply put, the Church had no defined basic doctrines directly under attack.

On some matters, Mormonism was clearly on the side of "science" in the first place. In no real way could the Church be classed as party to the literalistic views of the more orthodox Christian groups of the day. Indeed, Mormonism was a theologic maverick to nineteenth-century Christian orthodoxy. The differences were deep and profound, and on several issues, Mormonism was much more closely aligned with the prevailing concepts of science.[14] Why then should the Mormon



theologians rush to an attack on science as other groups did? They should not, and they did not.

Such a view will not be apparent to many. Let us, therefore, quickly proceed to its examination.

For all intents and purposes, the modern story of evolution began November 24, 1859, the date of the release of Darwin's classic, *On the Origin of Species*. The earlier announcement of the theory of evolution by natural selection, presented as joint papers by Darwin and A. R. Wallace on the evening of July 1, 1858 to the Linnaean Society, had caused little stir. Not so the 1859 publication. Public response was immediate and heated. A recounting of that story is not necessary here, however, since it is readily available elsewhere.[15] Our major concern is to identify the central points of the issues that were of interest in Mormon theology. Mayr[16] has recently postulated six specific issues that seem to lie at the heart of the revolution of thought precipitated by Darwin. These do not translate easily to the LDS world-view, however, so we would propose the following five basic concepts as useful for comparing Mormonism to the doctrinal positions taken by science and prevailing Christian theology of the last century.[17] The theological posits are:

1. Belief in an *ex nihilo* creation, that is, creation out of nothing.
2. Belief that the earth was created in six twenty-four hour days, and is only about 6000 years old.
3. Fixity or immutability of species; that all species were created originally in Eden by the Creator and do not change in any significant way.
4. Contention that life is dependent on an activating vital force which is immaterial and divine, i.e., spirit or soul.
5. Special creation of man; that God literally molded man's body from the dust of the ground and blew into it the breath of life, the spirit.[18]

Let us now examine the alignment of Mormonism on these issues. Was the doctrine of the Church as of 1859 (and for, say, twenty or so years thereafter, the period of the hottest debates) such as to align it with the orthodox theologies of the day, or with science, or with neither?

1. *Creation* Ex Nihilo

A formal definition of this view is ". . . God brings the entire substance of a thing into existence from a state of non-existence . . . what is peculiar to creation is the entire absence of any prior subject-matter. . . ."[19] The doctrine is elsewhere explained as God's "speaking into being" everything except Himself.[20] The doctrine in its contested form meant literally out of *nothing;* more recent attempts to cast it in the light of matter-energy conversions are distortions that betray the earlier meaning. The doctrine, of course, finds little place in contemporary science, which deals with conversions of matter and of energy, but is generally foreign to the idea of something coming from nothing.

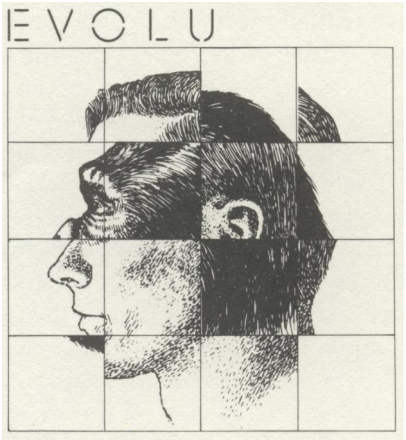
It is difficult to find in Mormonism a philosophical doctrine that has been more consistently and fervently denounced, that is more incompatible with Mormon theology, than creation *ex nihilo.* The concept is usually derived straight from Gen. 1:1: "In the beginning God created the heaven and the earth," and it is right there that Joseph Smith chose to set the theologians straight:

> Now I ask all the learned men who hear me, why the learned men who are preaching salvation say, that God created the heavens and the earth out of nothing, and the reason is they are unlearned; they account it blasphemy to contradict the idea, they will call you a fool.—I know more than all the world put together, and the Holy Ghost within me comprehends more than all the world, and I will associate with it. The word create came from the word *baurau;* it does not mean so; it means to organize; the same as a man would organize a ship. Hence we infer that God had materials to organize the world out of chaos; chaotic matter, which is element, and in which dwells all the glory. Element had an existence from the time he had. The pure principles of element, are principles that can never be destroyed. They may be organized and re-organized; but not destroyed.[21]

This view of Joseph's has been affirmed ever since in Mormonism. Brigham Young continually preached it,[22] as did his contemporaries among the general authorities.

Creation *ex nihilo* has further meaning as well: that all things were created directly by God, and therefore have *contingent* being.[23] In this view, only God had *necessary* being; all else is dependent (contingent) on Him for both its existence and continued maintenance. This concept leads to a morass of theological difficulties, not the least of which are responsibility for evil and denial of the free agency of man.[24] Mormonism, while it does not escape completely from some of these difficulties, begins from a completely different base. For one thing, God is not the creator of matter, as is indicated in the above statement from the founder of the faith. "Element had an existence from the time he had . . . it had no beginning, and can have no end." The statement (part of a funeral sermon) continues:

> . . . so I must come to the resurrection of the dead, the soul, the mind of man, the immortal spirit. All men say God created it in the beginning. The very idea lessens man in my estimation; I do not believe the doctrine, I know better. Hear it all ye ends of the world, for God has told me so. I will make a man appear a fool before I get through, if you don't believe it. I am going to tell of things more noble—we say that God himself is a self existing God; who told you so? it is correct enough, but how did it get into your heads? Who told you that man did not exist in like manner upon the same principles? (refers to the old Bible,) how does it read in the Hebrew? It don't say so in the Hebrew, it says God made man out of the earth, and put into him Adam's spirit, and so became a living body.
>
> The mind of man is as immortal as God himself. I know that my testimony is true, hence when I talk to these mourners; what have they lost, they are only seperated from their bodies for a short season; their spirits existed co-equal with God, and they now exist in a place where they converse together, the same as we do on the earth. Is it logic to say that a spirit is immortal, and yet have a beginning? Because if a spirit have a beginning it will



have an end; good logic. I want to reason more on the spirit of man, for I am dwelling on the body of man, on the subject of the dead. I take my ring from my finger and liken it unto the mind of man, the immortal spirit, because it has no beginning. Suppose you cut it in two; but as the Lord lives there would be an end.—All the fools, learned and wise men, from the beginning of creation, who say that man had a beginning, proves that he must have an end and then the doctrine of annihilation would be true. But, if I am right I might with boldness proclaim from the house tops, that God never did have power to create the spirit of man at all. God himself could not create himself: intelligence exists upon a self existent principle, it is a spirit from age to age, and there is no creation about it.[25]

Thus both matter and the basic identity of man share necessary existence with God.[26] The doctrines have been taught continually and often by Joseph's successors.[27] As regards the first point of contention in the science-theology argument, Mormonism was unalterably opposed to the basic position of Christian theology.[28] In the dispute on this point between science and then-current theology, Mormonism was clearly allied much more closely with science.

2. *Age of the Earth*

The predominant doctrine of the 19th century Christian theologians is too well known to need extensive documentation. While not all were as extreme as John Lightfoot, the Vice-Chancellor of the University of Cambridge, who insisted that the creation of the earth took place "on the twenty-third of October, 4004 B.C., at nine o'clock in the morning," the range of views for the earth's age ranged generally from about 4000 years to 6000 years before Christ.[29] Science, of course, could not agree. Darwin, in the first edition of *The Origin*, had opted for an age of several hundreds of millions of years. Even devoutly religious scientists who opposed him, such as the physicist Lord Kelvin, produced estimates for the earth's age in the neighborhood of twenty million years. Estimates this small were painful to Darwin, since they seemed far too short for natural selection to have played the role he postulated for it.[30] But they were even more painful to the orthodox theologians; they demonstrated in virtually final fashion that a 6000-year age was beyond defensibility. Kelvin's arguments, and others similar, have since been generally laid to rest. The age of the earth has been pushed ever further back; current estimates range from 4.5 - 5.0 billion years. While no really precise age has been determined, the main issue, that of an old earth or a young one, has been

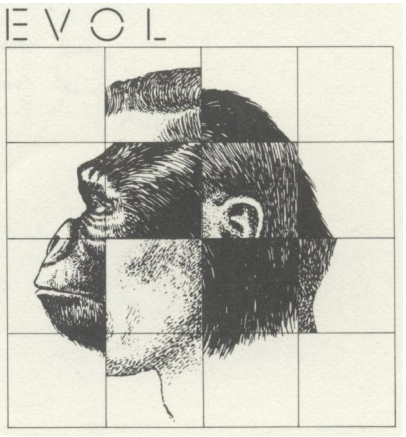
essentially resolved.[31] Our concern here, however, is not how old the earth really is. Rather, it is: where did the Church line up on the issue? The answer is: nowhere—it was wide open on the matter.

Mormon speakers ranged widely in their expressions. Statements from the presiding quorum kept the Church non-committed, but open for the long age. There seems to have been no one who opted for twenty-four hour creation days, unless one wishes to so interpret Oliver Cowdery's statement, published while he was Assistant (Associate) President of the Church, that he believed the scriptures "are meant to be understood according to their *literal* reading, as those passages which teach us of the creation of the world, . . ." (emphasis his[32]). Joseph Smith left no clear-cut statement on the matter. On the Christmas day after Joseph's death, his close associate W. W. Phelps wrote a letter to Joseph's brother William, who was in the east. Therein he refers, among other things, to the contributions of Joseph, and to the eventual triumph of truth and Mormonism. One of Joseph's accomplishments, of course, was the Book of Abraham, an incomplete text produced in conjunction with some Egyptian papyri. Phelps exults:

> Well, now, Brother William, when the house of Israel begin to come into the glorious mysteries of the kingdom, and find that Jesus Christ, whose goings forth, as the prophets said, have been from of old, from eternity: and that eternity, agreeably to the records found in the catacombs of Egypt, has been going on in this system, (not this world) almost *two thousand five hundred and fifty five millions* of years: and to know at the same time, that deists, geologists and others are trying to prove that matter must have existed hundreds of thousands of years; —it almost tempts the flesh to fly to God, or muster faith like Enoch to be translated. . .[33]

This reference has been cited many times in Mormon literature. Some have used it to indicate that the planet earth is 2.55 billion years old; others, taking careful note of the phrase in parentheses, insist that it has no such meaning, that it refers to a much larger physical system and has no bearing on the age of the earth. The latter view argues that "not this world" specifically rules out the earth as the object of reference. A critical examination of terms in Joseph's vocabulary, however, indicates that he had made definite distinctions between the terms "earth" and "world": "earth" was the planet upon which we live, "world" referred to "the human family."[34] One also finds that Joseph did not, in his sermons, utilize these definitions consistently. The disagreement over the interpretation of the above passage, however, centers on how *Phelps* meant the term "world"—in the way Joseph had defined it, or in some other sense. The question is moot, since Phelps nowhere clarified the statement. The very evident context, however, of Phelps' rejoicing over the developing agreement between this statement and the efforts of "geologists" to establish long time-spans gives strong support to those who interpret the statement as applying to the planet earth. The one certain point that can be drawn from this statement is that Joseph's world-view was not bounded by the orthodox Christian theologies of the day. His mind ranged far more widely, a point that is plentifully evident from even a casual analysis.

During the nineteenth century subsequent to Joseph's death, one can find many further statements by Mormon authorities pertaining to the age of the earth. A prominent one, taught by certain apostles, was that the seven days of creation were each 1000 years in duration, and the earth was therefore approximately 13,000 years old, calculating approximately 6000 years since the Adamic Fall. This concept received limited support from members of the First Presidency,



but their statements carried also a sentiment of very different flavor: the age of the earth was really not known and did not matter; the important thing to realize was that God created it. As Brigham Young expressed it, in a comment fraught with implications:

> It is said in this book (the Bible) that God made the earth in six days. This is a mere term, but it matters not whether it took six days, six months, six years, or six thousand years. The creation occupied certain periods of time. We are not authorized to say what the duration of these days was, whether Moses penned these words as we have them, or whether the translators of the Bible have given the words their intended meaning. However, God created the world. If I were a sectarian I would say, according to their philosophy, as I have heard many of them say hundreds of times, "God created all things out of nothing; in six days he created the world out of nothing." You may be assured the Latter-day Saints do not believe any such thing. They believe God brought forth material out of which he formed this little *terra firma* upon which we roam. How long had this material been in existence? Forever and forever, in some shape, in some condition.[35]

A further lengthy but valuable passage from Brigham Young voices the same sentiments, amplifies them in regard to the scriptures, and emphasizes that revelations then in possession of the Church were insufficient to settle the matter, and that the truth would be obtained only if God were to give specific revelation on the subject:

> It was observed here just now that we differ from the Christian world in our religious faith and belief; and so we do very materially. I am not astonished that infidelity prevails to a great extent among the inhabitants of the earth, for the religious teachers of the people advance many ideas and notions for truth which are in opposition to and contradict facts demonstrated by science, and which are generally understood. Says the scientific man, "I do not see your religion to be true; I do not understand the law, light, rules, religion, or whatever you call it, which you say God has revealed; it is confusion to me, and if I submit to and embrace your views and theories I must reject the facts which science demonstrates to me." This is the position, and the line of demarcation has been plainly drawn, by those who profess Christianity, between the sciences and revealed religion. You take, for instance, our geologists, and they tell us that this earth has been in existence for thousands and millions of years. They think, and they have good reason for their faith, that their researches and investigations enable them to demonstrate that this earth has been in existence as long as they assert it has; and they say, "If the Lord, as religionists declare, made the earth out of nothing in six days, six thousands years ago, our studies are all in vain; but by what we can learn from nature and the immutable laws of the Creator as revealed therein, we know that your theories are incorrect and consequently we must reject your religions as false and vain, we must be what you call infidels, with the demonstrated truths of science in our possession; or, rejecting those truths, become enthusiasts in, what you call, Christianity."

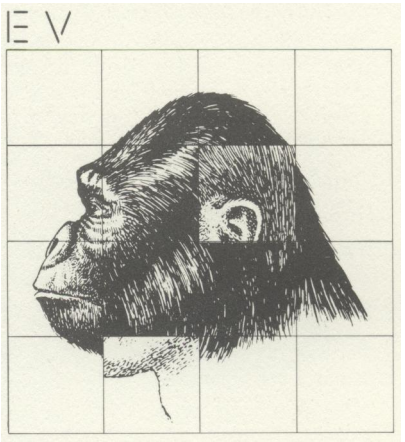
> In these respects we differ from the Christian world, for our religion will not clash with or contradict the facts of science in any particular. You may take geology, for instance, and it is a true science; not that I would say for a moment that all the conclusions and deductions of its professors are true, but its leading principles are; they are facts—they are eternal; and to assert that the Lord made this earth out of nothing is preposterous and impossible. God never made something out of nothing; it is not in the economy or law by which the worlds were, are, or will exist. There is an eternity before us, and it is full of matter; and if we but understand enough of the Lord and his ways, we would say that he took of this matter and organized this earth from it. How long it has been organized it is not for me to say, and I do not care anything about it. As for the Bible account of the creation we may say that the Lord gave it to Moses, or rather Moses obtained the history and traditions of the fathers, and from these picked out what he considered necessary, and that account has been handed down from age to age, and we have got it, no matter whether it is correct or not, and whether the Lord found the earth empty and void, whether he made it out of nothing or out of the rude elements; or whether he made it in six days or in as many millions of years, is and will remain a matter of speculation in the minds of men unless he give revelation on the subject. If we understood the process of creation there would be no mystery about it, it would be all reasonable and plain, for there is no mystery except to the ignorant. This we know by what we have learned naturally. . . .[36]

We need not belabor the issue. Though Mormon speakers expressed a diversity of opinions, the First Presidency kept the door open, clearly opposed to orthodox Christian theology, clearly sympathetic to the position of science.

3. *Fixity of Species*

If ever anyone bought a bad deal, it was when the theologians adopted the stance that species do not change, that they remain as "originally created." The irony of the matter is that the concept of species is not a religious one at all, but an idea prematurely bought from science. The Genesis scriptures speak only of "kind," which to this day no one has been able to define.[37] Indeed, no one worried much about it until about the 17th century, when John Ray (1627-1705) and Carl Linné (Linnaeus) (1707-1778) laid the foundations of modern taxonomy and systematics.

Linné's case is particularly instructive. Few men have ever so completely dominated the intellectual thought of the time in which they have lived; he was indeed "a phenomenon rather than a man." His gift and passion for cataloguing organisms was unmatched and contagious; everyone wanted to get into the act, and plants and animals were brought to him from all over the world for proper naming and classification. His passion was to name everything, to pigeonhole all living things into the neat compartments he attributed to the Genesis creations. He thus declared a fixity of species, that they were unchangeable entities each descended from a specific Edenic stock, by whose analysis one caught a glimpse of the Creator at work. But the concept was an illusion, one which tragically escaped from his control. For it caught the human fancy, and when in his maturity Linné realized that it was worthless, he was powerless to change its hold upon the human mind. By then it had been seized upon as a classic demonstration of the neatness of creation; "kind" had been construed as meaning "species," and the trap for theologians was thus laid—innocently but nonetheless surely. It was Linné's own fame and prodigious work which sprung the set. Not only did it become painfully evident to anyone who wished to look that there were just too many species to be explained so simply—if Adam had named them all in the Garden, he'd likely have been at it yet—but their distributions, their intermediate grades, their hybridizations, were irrefutably beyond so neat a concep-



tion. But the damage was done: theologians would have their species, and they would have them fixed.

Science, self-correcting as it eventually is, finally grew openly beyond the strictures of Linné's early concepts. Species quite obviously could change, and did—both in time and in space. The battle with theology was joined after Darwin proposed a mechanism (natural selection) for such change.[38]

A very real problem was the lack of an adequate concept of what a species really is. We need not discuss the attempts at definition here, only point out that the concept is problematical. That does not indicate that species do not exist, they most definitely do. As with many other things, however, precise definitions are virtually impossible, and before one can really understand anyone else on the matter, he must know what definitions are being used.[39] Such a common word to hide such complexity! But statements on the subject, without definitions, are virtually meaningless.

What position on species fixity was being articulated by the leaders of Mormonism up to and during this critical time? It is readily apparent that the subject hardly ever caught their attention. Casual statements that God and man are of the same species occur periodically, but beyond that the treatment is sketchy. The following lean sampling represents all the authoritative statements that have come to our attention.

Speaking on divine decrees, Joseph Smith comments:

> The sea also has its bounds which it cannot pass. God has set many signs on the earth, as well as in the heavens; for instance, the oak of the forest, the fruit of the tree, the herb of the field—all bear a sign that seed hath been planted there; for it is a decree of the Lord that every tree, plant, and herb bearing seed should bring forth of its kind, and cannot come forth after any other law or principle.[40]

No mention here of species at all, just the generic "kind," and no definition of that. For all its looseness, however, a certain sentiment is evidenced which tends to favor some sort of fixity.

Eighteen years later, in 1860, Brigham Young touched the subject. In a sermon launched upon the matter of death and the resurrection, he asserts:

> The whole Scriptures plainly teach us that we are the children of that God who framed the world. Let us look round and see whether we can find a father and son in this congregation.

> Do we see one an elephant, and the other a hen? No. Does a father that looks like a human being have a son like an ape, going on all fours? No; the son looks like his father. There is an endless variety of distinction in the few features that compose the human face, yet children have in their countenances and general expression of figure and temperament a greater or less likeness of their parents. You do not see brutes spring from human beings. Every species is true to its kind. The children of men are featured alike and walk erect.[41]

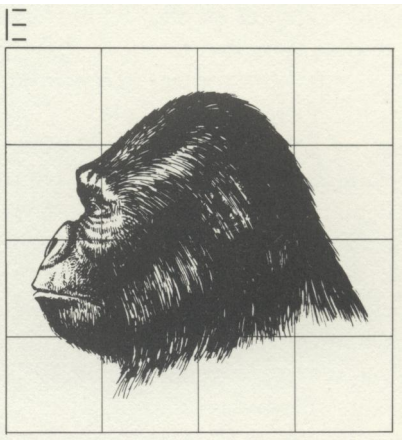
The hyperbole here is evident, and strictly speaking, completely disrupts the point its author is making. As it is, it certainly does not constitute a statement against the scientific version of changes in species. Modern evolution texts carry many statements concerning developmental canalization and genetic homeostasis which express these same concepts. But with all that, there is still, in President Young's words, a sentiment toward fixity of species—again subject to whatever is meant by "species."

These would seem to constitute virtually all the authoritative statements that were applicable during the early Darwinian period. The extreme paucity and ambiguity of such addressments is evident from the fact that the favorite citation on the subject by current Mormon anti-evolutionists is cited, usually, as one from "President Charles W. Penrose, of the First Presidency." While it is slightly more explicit than the ones we have here discussed, it simply is not admissible, since it was in actuality made by *Elder* Charles W. Penrose nearly twenty years before he was called to be a general authority, let alone a member of the First Presidency.[42]

In summary, the doctrine of species fixity was virtually ignored by official Mormon spokesmen. When they did broach the subject, their statements were very general and in no real way proscriptive from a professional's point of view. The authors were not speaking to professionals, however, and the sentiment of their statements took on the flavor of the theology of their day. In the light of subsequent research and observation, such a sentiment is unfortunate; it mars a rather neat record. It is quite evident, however, that a doctrine of species fixity was not a matter of prime concern in the nineteenth-century Church.

4. *Vitalism: Necessity for an Outside 'Spirit' or Vital Force*

While not strictly a product of the Darwinian revolution, and in many ways antedating it, the question of the existence of a vital force became an important part of the discussion surrounding Darwinism. Particularly was this true in later years of the furor, when vitalism was offered in various forms as an alternative to the causalistic theories which were more in vogue.[43] As with previous topics, our purpose here is only to look at the range of authoritative Mormon expression. We must restrict ourselves to a fairly superficial treatment, though the subject as treated in Mormonism virtually screams for a thorough and searching analysis. And although it is highly unlikely that any reviewer can wrap it all up in one neat package, it becomes quickly evident to the inquiring student that Mormon spokesmen have glimpsed a view radically different from the usual Christian positions, and their tenets are very poorly appreciated in the Church today. This lack of appreciation seems to result more from neglect than from any shift in doctrine; the basic conceptions, tentative though they are, have become so covered with the cobwebs of time that to most Mormons today even their basic outlines are obscured; the general concept in the Church today is essentially standard Christian.



A recent treatment outlines the basic positions of vitalism and mechanism thusly:

> Life, the subject matter of biology, is a phenomenon intimately connected with matter. Biology, therefore, must be concerned with the relationship between matter and the phenomenon we call life. Animate and inanimate things have matter in common, and it is in their materiality that the two can best be compared. In this comparison, two theories, vitalism and mechanism, compete for the mastery. The vitalist sees in a living organism the convergence of two essentially different factors. For him matter is shaped and dominated by a life principle; unaided, matter could never give rise to life. The mechanist, on the other hand, denies any joint action of two essentially different factors. He holds that matter is capable of giving rise to life by its own intrinsic forces. The mechanist considers matter to be "alive." The vitalist considers that something immaterial lives in and through matter.[44]

To Mormons, the divergence between the two approaches is best seen in two basic issues: 1) whether an outside force is necessary to make a body "alive," and 2) whether such an outside force is material. The popular nineteenth-century theological view, of course, was that life is due to a non-material force. Science, profiting from a long series of investigations on spontaneous generation dating primarily from Redi in the seventeenth century to Pasteur and Tyndall in the 1870s, became associated with mechanism (materialism). The reason for this latter association is not that either view has been rigorously proved. It is rather that the materialistic view allows experimentation whereas the vitalist view does not, since one is hard pressed to experiment with immaterial "things." As Hardin has so aptly put it: "The mechanistic position, whether it is ultimately proved right or wrong, has been and will continue to be productive of new discoveries. Indeed, if vitalism is ultimately proved to be true, it is the mechanist who will prove it so."[45]

It is doubtful that anyone can meaningfully pinpoint a consistent Mormon "doctrine" on the matter of spirit, life, vital force, etc. Teachings of the Church in the nineteenth-century were in a high state of flux when it came to issues beyond the simple basics. Terms were confused and misused, concepts were loosely defined and highly fragmented, speculation was rife. B. H. Roberts points out quite correctly that Joseph Smith sometimes used the terms "intelligence," "mind," "spirit," and "soul" interchangeably—"life" and even "light" could be added to the list as well.[46] There is no satisfactory synthesis of the subject, and it is doubtful that one could be produced. Andrus' imaginative treatment[47] is as

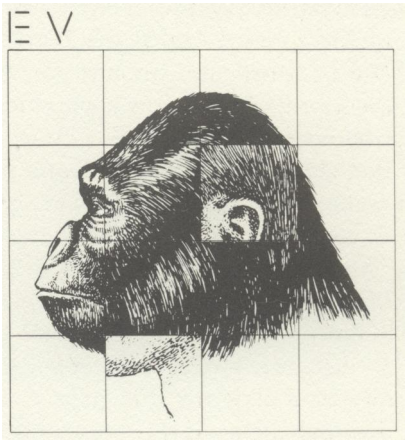
wide-ranging as any available and should be consulted carefully if for no other reason than its references. Roberts' brief discussion[48] is valuable.

That Mormonism accepts the view that living things possess spirits is well known as a general concept; man's spirit, of course, is said to be the result of a spirit birth in a pre-mortal state. That "spirit," "spirits," ($\approx$ "life," etc.), are *material* is likewise clear: "There is no such thing as immaterial matter. All spirit is matter, but it is more fine or pure, and can only be discerned by purer eyes; . . . it is all matter."[49] This canonized statement has been the justification for a long series of missionary tracts and doctrinal assertions that have spelled out very clearly that Mormonism is a materialistic system. There can be no identification whatever with sentiments of immateriality. Immateriality, to the early Mormons, was virtually synonymous with atheism; in either case, one ended up with his hopes pinned on nothing.

Beyond this point, however, the thinking becomes more tortuous. The philosophically-minded Pratt brothers, Orson and Parley, were by far the most expansive and explicit on the matter. But certain aspects of Orson's writings eventually drew public denouncement from the First Presidency under Brigham Young.[50] Parley's master work, decades after his death, was subjected to a rather unscrupulous editing and reworking, anonymously and without any warning to subsequent readers. Later editions passed off as Parley's some teachings quite foreign to those of the original text.[51] These incidents, as perhaps no others in Mormonism, emphasize the fact that only the First Presidency comprises an authoritative source for doctrinal analysis.

But from all the heady teachings on spirit during these decades comes a perception germane to our present consideration. The Pratts worried about the spirit natures of animals and plants, becoming in many ways almost Aristotelean, and these writings were not among those censured. The sentiment went further, to include the earth itself as a living thing by virtue of its having spirit or a spirit; indeed it was taught that all matter was possessed of spirit, that spirit pervades all matter. The material of the body of a man is thus possessed of spirit independent from *his* spirit. Spirit or life is thus a property of matter itself. From here, we can do no better than to let Brigham Young develop it directly, in an 1856 discourse. Speaking of "natural, true philosophy," and developing the idea that the processes associated with death are really a manifestation of inherent life in matter, he continues:

> What is commonly called death does not destroy the body, it only causes a separation of spirit and body, but the principle of life, inherent in the native elements, of which the body is composed, still continues with the particles of that body and causes it to decay, to dissolve itself into the elements of which it was composed, and all of which continue to have life. When the spirit given to man leaves the body, the tabernacle begins to decompose, is that death? No, death only separates the spirit and body, and a principle of life still operates in the untenanted tabernacle, but in a different way, and producing different effects from those observed while it was tenanted by the spirit. There is not a particle of element which is not filled with life, and all space is filled with element; there is no such thing as empty space, though some philosophers contend that there is.
>
> Life in various proportions, combinations, conditions, etc., fills all matter. Is there life in a tree when it ceases to put forth leaves? You see it standing upright, and when it ceases to bear leaves and fruit you say it is dead, but that is a mistake. It still has life, but that life operates upon the tree in another way, and continues to operate until it resolves it to the native elements. It is life in another condition that begins to operate upon man, upon animal, upon vegetation, and upon minerals when we see the change termed dissolution. There is life in the material of the fleshly tabernacle, independent of the spirit given of God to



undergo this probation. There is life in all matter, throughout the vast extent of all the eternities; it is in the rock, the sand, the dust, in water, air, the gases, and, in short, in every description and organization of matter, whether it be solid, liquid, or gaseous, particle operating with particle.[52]

Elsewhere President Young repeatedly refers to "organization" as a key factor in determining differences in life quality.[53] Taken with the concepts above, such teachings bear a striking resemblance to those of the mechanists-materialists. To the mechanist, life is an expression of a unique combination or organization of matter. To President Young, all matter has life as an inherent property, and organization is the key to its different manifestations. To both, life is an expression of matter. At this most fundamental of levels, the differences between science and Mormonism, as taught by Brigham Young, are reduced to mere semantics. The points of agreement are profound. President Young's entire philosophy, to be sure, ranges far beyond matters that are in the realm of science either then or now, but at the fundamental level, at the point of contact, they are in essential agreement. Should Mormonism then have taken the field against the materialism of science? Scarcely.

5. *Special Creation of Man*

Here we venture into the hottest point of discussion. In *The Origin,* Darwin marshalled one powerful argument after another for the evolution of plant and animal species from earlier forms. Only one sentence, on the penultimate page, was directed to man: "Much light will be thrown on the origin of man and his history." Though Darwin himself was not yet ready to tackle this problem of ultimate concern, others were not so retiring. The issue was quickly joined; Huxley and others insisting that man's *body* was related to and derived from other life forms, the theologians of the day insisting with equal vehemence that the body was the result of a special creative act, independently developed from the dust of the ground by the shaping hand of the Creator, and activated by "the breath of life." Mormons accept as part of their canon the same scripture-text on this matter as was utilized by the orthodox theologians, of course, that of the King James rendition, Genesis 2:7. The Book of Abraham, first published in the *Times and Seasons* in 1842 and canonized in 1880, expresses virtually the same thought as Genesis (cf. 5:7). The Book of Moses, proclaimed as a revealed restoration of the

Genesis text, dating from 1830 and also canonized in 1880, is the most explicit of the three: "And I, the Lord God, formed man from the dust of the ground, and breathed into his nostrils the breath of life; and man became a living soul, the first flesh upon the earth, the first man also; . . ." (3:7). A literal reading of the passage lends itself to no other interpretation at all but that of the special creationists; it is clearly stated, and proscriptive of any other interpretation. The fascinating point, however, is that with the possible exception of Apostle Orson Pratt, no major Mormon spokesman seems to have taken the full passage literally.[54] The intense scriptural literalism with which some current writers try to paint LDS presidents falls apart completely on this and related passages.

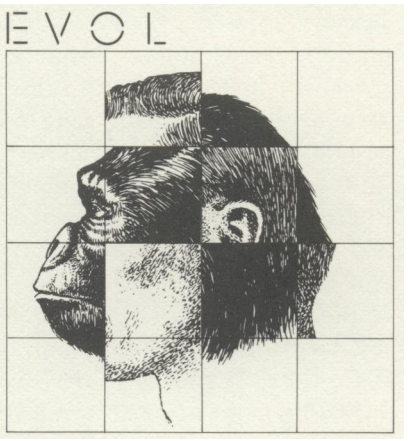
No president or member of the First Presidency, so far as we have been able to discover, has ever accepted the idea of special creation of man's body, or of anything else, for that matter. An examination of Joseph Smith's teachings reveals an idea, never expressed in detail, that man came via an act of natural procreation. That sentiment runs generally through the teachings of his successors,[55] but we shall find that it is not so clearly spelled out as some have assumed. If by a natural act of procreation, then *from* whom, and by what specific natural process? For "natural processes," as we shall see, encompass a wide variety of possibilities. To assist the focus of our inquiry, we shall refine the question to: from whence came man's body?

Joseph's clearest statement on the matter seems to be: "Where was there ever a son without a father? And where was there ever a father without first being a son? Whenever did a tree or anything spring into existence without a progenitor? And everything comes in this way."[56]

Under Brigham Young's administration, however, more specific teachings were developed. Beginning in 1852, the same year that plural marriage was openly acknowledged to the world, President Young himself served notice of a new doctrine in Mormonism: that Adam and Eve were resurrected beings, exalted to Godhood from a mortality on another and older sphere. They had produced the spirits of all men, and had then come to this earth, degraded their "celestial" bodies so that they could produce the bodies of Abel, Cain, Seth, etc.[57] In short, Adam in President Young's views occupied essentially the same place that modern Church members reserve for Elohim; Elohim was regarded as the Grandfather in Heaven, rather than Father. We needn't concern ourselves here with the details of the doctrine, only that Adam was purported to have had a resurrected body, and to have begun the family of man by direct sexual union and procreation.

The response of Church members to the doctrine, however, is of importance to us. With most, the concept does not seem to have been well-received. Indeed, President Young's public sermons on the matter quickly began to skirt the issue, referring to it continually but obliquely. In private, he and his colleagues taught it affirmatively.[58] With rare exceptions, the writings and sermons of Mormons in general just avoided the entire issue, or couched it in the vague terms characteristic of the scriptures, and offered no commentary. The matter of Adam and Adam's body was left essentially undeveloped.

There was one notable exception: Orson Pratt, the Apostle. On this matter, at least, Orson seems to have accepted the scriptures quite literally, and could not reconcile them with the doctrine from President Young. Beginning in 1853, he published a periodical entitled *The Seer*, and in its pages promulgated a doctrine



that sounded far too much like special creation. Articles from *The Seer* were republished in England in the pages of the *Millenial Star*, a situation not pleasing to the Church presidency. As early as January 1855, Brigham Young requested the editor of the *Star* to refrain from any further publication of material from *The Seer*, citing "erroneous doctrine" as the reason.[59]

Five years later, Orson Pratt himself brought the matter into the open, in a dramatic sermon during the regular Sunday morning worship service in the Salt Lake Tabernacle, January 29, 1860. Confessing the error of his ways, Orson sued for reconciliation to the Church and to his brethren of the Quorum of the Twelve Apostles and the First Presidency. A few months later a "carefully revised" version of his speech was published in the *Deseret News*, followed by a formal statement from the First Presidency, listing several explicit errors in Orson's writings.[60] The first item cited was the matter of Orson's teachings concerning Adam's having been formed "out of the ground." While the teachings were summarily dismissed with the statement that they were not true, President Young refrained from imposing his own doctrine on the Church. The refutation simply states that with regard to Adam

> it is deemed wisest to let that subject remain without further explanation at present, for it is written that we are to receive 'line upon line,' according to our faith and capacities, and the circumstances attending our progress.

The careful handling of this matter by President Young is significant. What was the Church to believe? Orson's teachings had been refuted, but nothing had been specified in their place. And no further pronouncements of any official character to clarify the matter were forthcoming throughout the remainder of the century.

Where, then, in the early days of the debates between science and theology, did Mormonism find its closest affinities? On our first doctrine, *ex nihilo* creation, Mormonism was clearly allied with science. The matter of the earth's age was an open one, that of fixity of species virtually ignored, that of materialism and vital forces in a state of flux but with certain definite fundamental agreement with science. Only on the subject of special creation could Mormonism be tied in any significant way to orthodox Christianity, and even that was tenuous. Darwin's book, as we have noted, was published November 24, 1859. Just sixty-six days later, on

January 29, 1860, Orson Pratt began the severing of that one tie. The closeness of the dates is almost certainly coincidental, since (among other reasons) news travelled slowly to Utah in those days—Orson's action is not to be viewed as a response to Darwinism. But, in retrospect, his action (and the First Presidency's response) was significant none-the-less; the incident may well have put a damper on further doctrinal development. Certain it is that, considering the duration and intensity of the debate in non-Mormon theological circles, nineteenth-century Mormonism produced relatively little in the way of relevant commentary. Let us shift now, in our inquiry, from the study of basic Mormon teachings applicable at the time of Darwin's book, to a documentation of subsequent pertinent commentary and response.

In 1882, President John Taylor published his *Mediation and Atonement*, in which he makes probably the strongest statement by any president favoring the fixity of species,[61] thus inching the Church toward the theologians' position. But during the following year his first counselor, George Q. Cannon, twice reaffirmed the sentiment of Brigham Young that the creation periods were "periods of time," and that Joseph Smith had anticipated science on the matter of the earth's age. Rejoicing that science was bolstering the prophet, Cannon summarizes: "Geologists have declared it, and religious people are adopting it; and so the world is progressing."[62] But Cannon was eclectic in his beliefs; acceptance of an old earth was not to be taken as an acceptance of Darwinism—at least so far as it applied to man. In an editorial in 1883 he made it clear that he regarded belief in "Darwin's theories concerning the origin of man" as evidence of spiritual apostasy.[63] This sentiment is not surprising, since Cannon had often expressed himself in similar vein before being called to the First Presidency,[64] and was a firm believer in the Adamic doctrines taught by President Young.[65]

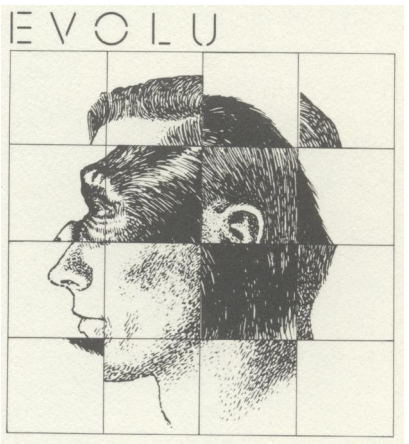
The general feeling of the Church in the latter 1800's, however, was that science would continue to demonstrate the validity of the Mormon positions; indeed a rather heady flirtation with science affixed itself on the Church. The Church hierarchy seems to have rejoiced at the goodwill generated by James E. Talmage's reception in scientific circles, his participation and membership in esteemed societies, and his trips to England and Russia. In 1896, Talmage became the holder of Mormonism's first real doctorate degree; he was joined in this doctorate distinction in 1899 by John A. Widtsoe and Joseph F. Merrill. All three of these physical scientists later became prominent apostles and articulate spokesmen in the Church.

* * *

So closed the 1800's, and Mormonism, past the major hurdles in her long political feud over plural marriage, and newly-sequestered under the government of statehood, plunged with high anticipations into the twentieth-century.

Davis Bitton[66] has rightly pinpointed these years, the turn of the century, as a period critical in Mormonism, during which the prevailing optimism toward science and reason began to erode. But this cooling of ardor must not be over-rated; the antagonism which has seemed to pervade recent times is seen more correctly, for science at least, as a product of only the last couple of decades.

The *Improvement Era*, in the early years of the century, regularly ran articles by Talmage, Widtsoe, Frederick Pack, and others, extolling areas of agreement between science and Mormon theology. These articles show a degree of caution



and sensitivity toward evolution that is quite commendable. The distinction between evolution *per se* and Darwinism was periodically noted, a point which many later writers seem to have missed. The then recent re-discovery of Mendel's paper and the principles of genetics, and the question of their compatibility with Darwinism, were sensed, and watched with interest. But the concept that science and Mormonism were a basic unity is evident throughout; it forms the dominant theme.

The year 1909 marks a particularly significant occasion, the centennial of Darwin's birth as well as the 50th anniversary of the publication of *The Origin of Species*. The scientific literature had been building toward the event for several years. Debates on the "current status of Darwinism," its validity in areas of concern other than biology, its relation to religion, philosophy, etc., abounded in the lay literature as well. Centennial celebrations were held in both Europe and America; the Pontifical Biblical Commission, appointed in 1902 by Pope Leo XIII, finally issued its long-awaited report on the interpretation of Genesis. In Mormonism, the atmosphere was quieter, but the discussion was not ignored. The YMMIA manual for the year (*Joseph Smith as Scientist*, by Widtsoe)[67] reaffirmed the ideas concerning the age of the earth that were taught earlier by Brigham Young and others, that the earth was very old, and that the creative days were indefinite periods. The manual evoked a series of questions on the matter to Church headquarters, which were discussed in a special column of the *Improvement Era*. The managing editor, Edward H. Anderson, defended the manual. He contended that the verses of *D&C* 77:12, cited by questioners in support of a young-earth theory, did not apply to the subject in any meaningful way at all, and turned the column over to Widtsoe for further discussion. Widtsoe proceeded to dismiss the twenty-four-hour-day view, the 1000-year-day concept, the *D&C* 77:6, 7, 12 argument, as well as the theory attributed to Joseph Smith that the earth had been formed of fragments of other worlds.[68] The following month's issue published as its lead article an essay by Apostle Charles W. Penrose entitled, "The Age and Destiny of the Earth," which also argued for an old earth of indefinite age.[69] And in November, 1909, the first formal statement on evolution from the First Presidency was published; it was signed by Joseph F. Smith, John R. Winder, and Anthon H. Lund.[70] Entitled "The Origin of Man," it is widely cited by some individuals in the Church as "the official pronouncement against evolution." A more honest ap-

praisal of the text, its background, and its meaning to later presidents, indicates that such a judgment is inaccurate. The document is carefully and sensitively worded. Its message is an affirmation that man is the spirit child of divine parentage, is in the image of God both in body and spirit, and that all men are descendants of a common ancestor, Adam. Lengthy scriptural passages are cited in affirmation of man's divine spiritual pedigree. And the origin of man's physical body? Three paragraphs are relevant, and form the crux of the matter; we shall denote them Paragraphs 12 to 14:[71]

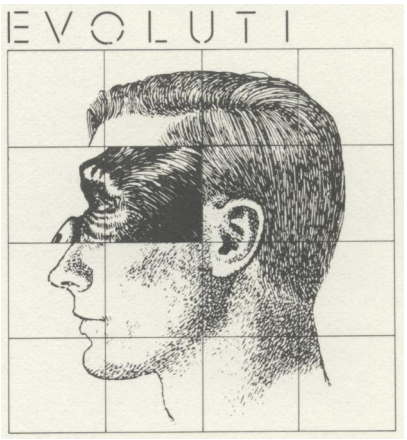
> Adam, our great progenitor, "the first man," was, like Christ, a pre-existent spirit, and like Christ he took upon him an appropriate body, the body of a man, and so became a "living soul." The doctrine of the pre-existence,—revealed so plainly, particularly in latter days, pours a wonderful flood of light upon the otherwise mysterious problem of man's origin. It shows that man, as a spirit, was begotten and born of heavenly parents, and reared to maturity in the eternal mansions of the Father, prior to coming upon the earth in a temporal body to undergo an experience in mortality. It teaches that all men existed in the spirit before any man existed in the flesh, and that all who have inhabited the earth since Adam have taken bodies and become souls in like manner.
>
> It is held by some that Adam was not the first man upon this earth, and that the original human being was a development from lower orders of the animal creation. These, however, are the theories of men. The word of the Lord declares that Adam was "the first man of all men" (Moses 1:34), and we are therefore in duty bound to regard him as the primal parent of our race. It was shown to the brother of Jared that all men were created in the *beginning* after the image of God; and whether we take this to mean the spirit or the body, or both, it commits us to the same conclusion: Man began life as a human being, in the likeness of our heavenly Father.
>
> True it is that the body of man enters upon its career as a tiny germ or embryo, which becomes an infant, quickened at a certain stage by the spirit whose tabernacle it is, and the child, after being born, develops into a man. There is nothing in this, however, to indicate that the original man, the first of our race, began life as anything less than a man, or less than the human germ or embryo that becomes a man.[72]

The anti-evolutionary sentiment is evident, though guarded. Did the article really constitute an authoritative pronouncement against evolution as a possibility for the origin of man's body? The likelihood that it did was strengthened by a statement in the 1910 manual for the Priests of the Aaronic Priesthood, which indicated that man's "descent has not been from a lower form of life, but from the Highest Form of Life; in other words, man is, in the most literal sense, a child of God. This is not only true of the spirit of man, but of his body also. There never was a time, probably, in all the eternities of the past, when there was not men or children of God. This world is only one of many worlds which have been created by the Father through His Only Begotten."[73]

But the statement continues, in a markedly less definitive vein: ". . . Adam, then, was probably not the first mortal man in the universe, but he was likely the first for this earth." And two pages later, the tone of indefiniteness is further continued as a matter of reasoning:

> One of the important points about this topic is to learn, if possible, how Adam obtained his body of flesh and bones. There would seem to be but one natural and reasonable explanation, and that is, that Adam obtained his body in the same way Christ obtained his—and just as all men obtain theirs—namely, by being born of woman.
>
> "The Father has a body of flesh and bones as tangible as man's; the Son also." (Doc. & Cov., 130:22). Then what is more natural than to conclude that the offspring of such Beings would have bodies of flesh and bones? Like begets like.[74]

Such sentiments were certain to evoke questions from Church members, and it was equally certain that they had to be handled at the highest level of the Church,



the President's Office. Once again, the *Improvement Era* was the platform of response, in an editorial that has, so far as we can find, not been further commented on to this day.[75] Joseph F. Smith, as president of the Church, and Edward H. Anderson, were the editors. We quote it *in toto*, from the columns relegated to instructions to the priesthood:

> *Origin of Man.*—"In just what manner did the mortal bodies of Adam and Eve come into existence on this earth?" This question comes from several High Priests' quorums.
>
> Of course, all are familiar with the statements in Genesis 1:26,27; 2:7; also in the Book of Moses, Pearl of Great Price, 2:27; and in the Book of Abraham 5:7. The latter statement reads: "And the Gods formed man from the dust of the ground, and took his spirit (that is, the man's spirit) and put it into him; and breathed into his nostrils the breath of life, and man became a living soul."
>
> These are the authentic statements of the scriptures, ancient and modern, and it is best to rest with these, until the Lord shall see fit to give more light on the subject. Whether the mortal bodies of man evolved in natural processes to present perfection, through the direction and power of God; whether the first parents of our generations, Adam and Eve, were transplanted from another sphere, with immortal tabernacles, which became corrupted through sin and the partaking of natural foods, in the process of time; whether they were born here in mortality, as other mortals have been, are questions not fully answered in the revealed word of God. For helpful discussion of the subject, see *Improvement Era*, Vol. XI, August 1908, No. 10, page 778, article, "Creation and Growth of Adam"; also article by the First Presidency, "Origin of Man," Vol. XIII, No. 1, page 75, 1909.

For clarification, the August 1908 article referred to was a response to a question raised about an even earlier article; the author of the two pieces, William Halls, had contended that Adam could not have been created full-grown, but must have gone through a natural childhood and adolescence. When pushed for documentation by *Era* readers who felt that such a view was incompatible with scriptural literalism, he answered, in the article cited by the editorial, that he could not document it, but that "When a passage of scripture taken literally contradicts a fundamental, natural law, I take it as allegorical; and in the absence of divine authority, put a construction on it that seems to harmonize with my experience and reason."

So ended the matter, apparently, so far as Joseph F. Smith was concerned: the editorial listed three options, and it is evident that not one of them agrees with a literal interpretation of Moses 3:7 or other such creation passages.

The *Improvement Era* continued to publish articles on science and the gospel (mostly articles by Frederick Pack, a University of Utah geology professor) until April, 1911. A few months before, the very touchy matter of academic freedom

in the Church school system had reared its head, regarding the propriety of teaching ". . . the theories of evolution as at present set forth in the text books, and also theories relating to the Bible known as 'higher criticism'. . . ." President Smith, in a special editorial,[76] reported to the Church on the matter. He indicated that ". . . it is well known that evolution and the 'higher criticism'—though perhaps containing many truths—are in conflict on some matters with the scriptures, including some modern revelation . . . ," and finally concluded:

> . . . it appears a waste of time and means, and detrimental to faith and religion to enter too extensively into the undemonstrated theories of men on philosophies relating to the origin of life, or the methods adopted by an Alwise Creator in peopling the earth with the bodies of men, birds and beasts. Let us rather turn our abilities to the practical analysis of the soil, . . .

A companion editorial from President Smith was aimed more directly at the youth of the Church, and appeared in *The Juvenile Instructor*.[77] Though more general in its approach, it makes a finer distinction between the President's personal feelings and the Church position. His private views seem to be embodied in the following passage:

> . . . They [students] are not old enough or learned enough to discriminate, or put proper limitations upon a theory which we believe is more or less a fallacy. In reaching the conclusion that evolution would be best left out of discussions in our Church schools we are deciding a question of propriety and are not undertaking to say how much of evolution is true, or how much is false. We think that while it is a hypothesis, on both sides of which the most eminent scientific men of the world are arrayed, that it is folly to take up its discussion in our institutions of learning; and we cannot see wherein such discussions are likely to promote the faith of our young people. . . .

But he clearly spelled out the Church position on the matter:

> . . . The Church itself has no philosophy about the *modus operandi* employed by the Lord in His creation of the world, and much of the talk therefore about the philosophy of Mormonism is altogether misleading. . . .

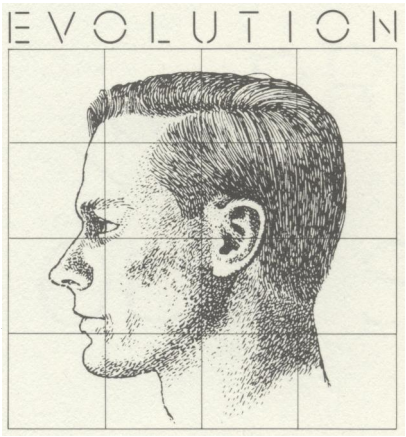
With these deliverances, President Smith let the matter rest. No further clarification of his sentiments regarding the mechanism of creation was given, though certainly this was a golden opportunity if ever one existed.

Two years later, in a conference address in Arizona, President Smith delivered himself of one further comment:

> . . . Man was born of woman; Christ, the Savior, was born of woman and God, the Father, was born of woman. Adam, our earthly parent, was also born of woman into this world, the same as Jesus and you and I. . . .[78]

When? How? And of whom? The statement is consistent with all three of the 1910 options, and these and further questions about Joseph F. Smith's beliefs on the matter can be answered only by extensive and tenuous proof-texting, a well-known and notoriously unreliable method. Certain it is that he, one of the most scripturally committed of all LDS presidents, remained consistent with his predecessors and officially left the matter open and unresolved. Articles in the *Improvement Era* ranged widely over the issue, from condemnations of the whole idea of evolution to accounts of dinosaur digging. But no further authoritative statements were made until 1925, during the administration of President Heber J. Grant.

That was the year of the famous Scopes trial in Dayton, Tennessee. Young John Scopes, a high school science teacher, was charged with the teaching of evolution,



forbidden by state law. At least Scopes was the formal defendant; the trial really developed into a classic confrontation between fundamentalist theology and contemporary science. The event was a news highlight of the year, with correspondents from around the world converging on the tiny town for the great showdown. Religious spokesmen of many persuasions felt disposed to deliver themselves of commentary on the matter.[79] During the post-trial period came the document: "'Mormon' View of Evolution," published over the signatures of Heber J. Grant, Anthony W. Ivins, and Charles W. Nibley, the LDS First Presidency.[80] In essence, it consists of paragraphs 3, 6, 7, 12, 16, and 17 of the 1909 statement by Joseph F. Smith, *et. al.*, with only a very few changes in text: deletion of a word or two, addition of several words for clarification, etc. Paragraphs 13 and 14, the 'anti-evolution' ones (quoted above), are conspicuously absent. The entire message of the statement is to affirm the spiritual pedigree of man and the common descent of all men from an ancestor named Adam, who had taken upon himself "an appropriate body."

As in its 1909 predecessor, the word "evolution" or its derivatives occurs only once, to the effect that man, formed in the image of God, ". . . is capable, by experience through ages and aeons, of evolving into a God." Seen against the background of the theological ferment of the day, this is an amazingly temperate document; none of the sloganeering and overdrawn rhetoric characteristic of the day, just a calm focussing on the critical matter of man's spiritual affinity with God. The Church was concerned for the well-being of religion in general, and thus sympathized with the plight of the religionists, but it could ill afford any extreme statements in the matter.

The subsequent years of calm were broken in 1930, though the resulting perturbation was kept quietly within the closed circle of the general authorities. The relatively young apostle, Joseph Fielding Smith, delivered a lecture to the Genealogical Conference on April 5. In his characteristic style, he enthusiastically delivered himself of his thoughts on the creation of man, acknowledging that "The Lord has not seen fit to tell us definitely just how Adam came for we are not ready to receive that truth." But he also spelled out very clearly a disbelief in "pre-Adamites," peoples of any sort upon the earth before Adam, declaring that ". . . the doctrine of 'pre-Adamites' is not a doctrine of the Church, and is not advocated nor countenanced in the Church." Furthermore,

> . . . There was no death in the earth before the fall of Adam. . . . All life in the sea, the air, on the earth, was without death. Animals were not dying. Things were not changing as we find them changing in this mortal existence, for mortality had not come. . . .[81]

Shortly after the publication of the speech, these concepts became a bone of contention: Brigham H. Roberts, the long-standing apologist of the Church, directly challenged the legitimacy of the remarks, in a letter to the First Presidency. Both Roberts and Smith were given opportunity to present their positions, both orally and in writing, to the Twelve and the Presidency. Roberts developed his ideas primarily from scripture, from science, and from Apostle Orson Hyde and President Brigham Young. Smith also used scripture, but leaned heavily on the Adam teachings of Orson Pratt, and on paragraph 13 of the 1909 statement of the First Presidency. This last item comprised his major piece of evidence. At last, convinced that continuation of the discussion would be fruitless, the First Presidency issued a seven-page directive to the other general authorities, reviewing in detail the entire discussion as described and then stating:

> . . . The statement made by Elder Smith that the existence of pre-Adamites is not a doctrine of the Church is true. It is just as true that the statement: "There were not pre-Adamites upon the earth," is not a doctrine of the Church. Neither side of the controversy has been accepted as a doctrine at all.
>
> Both parties make the scripture and the statements of men who have been prominent in the affairs of the Church the basis of their contention; neither has produced definite proof in support of his views.
>
> . . . Upon the fundamental doctrines of the Church we are all agreed. Our mission is to bear the message of the restored gospel to the people of the world. Leave Geology, Biology, Archaeology and Anthropology, no one of which has to do with the salvation of the souls of mankind, to scientific research, while we magnify our calling in the realm of the Church. . . .[82]

In addition to this written directive, the First Presidency called a special meeting of all the general authorities, the day after General Conference closed, to discuss the matter and deliver oral counsel. Apostle James E. Talmage records the following account of the meeting:

> . . . Involved in this question [Roberts' original query] is that of the beginning of life upon the earth, and as to whether there was death either of animal or plant before the fall of Adam, on which proposition Elder Smith was very pronounced in denial and Elder Roberts equally forceful in the affirmative. As to whether Preadamite races existed upon the earth there has been much discussion among some of our people of late. The decision reached by the First Presidency, and announced to this morning's assembly, was in answer to a specific question that obviously the doctrine of the existence of races of human beings upon the earth prior to the fall of Adam was not a doctrine of the Church; and, further, that the conception embodied in the belief of many to the effect that there were no such Preadamite races, and that there was no death upon the earth prior to Adam's fall is likewise declared to be no doctrine of the Church. I think the decision of the First Presidency is a wise one in the premises. This is one of the many things upon which we cannot preach with assurance and dogmatic assertions on either side are likely to do harm rather than good.[83]

The two contestants, Roberts and Smith, were thus directed to drop the matter; publication of a major manuscript previously written by Elder Roberts dealing with the subject (among others) was proscribed.

But this proscription left the public record with only one side of the story, the speech of Elder Smith, which in many ways is an avowal of the position of the nineteenth century theologians. Not everyone in the governing quorums of the Church was content with such a situation. Nor was the record long in being balanced. On Sunday, August 9, 1931, Apostle Talmage took the stand in the

Salt Lake Tabernacle worship service, and there delivered an address: "The Earth and Man."[84] Talmage's position, in light of the above restriction from the First Presidency, was admittedly a bit presumptive, which likely accounts for some of the characteristics of the text. The speech as we now have it in printed form is a rather neat bit of nimble footwork, a careful avoidance of any explicit stance that would come into direct conflict with particular sensitivities on the issue. Affirming his deep belief in the ultimate synthesis of God's word in both the rocks and the scriptures, Talmage promulgated a clear message of sensitivity to, and reception of, science and the scientific method—a point that is amply recognized in the vigorous, even scathing, denunciations of his speech by certain later commentators. Careful though he was, at least the public record was now more balanced, and Talmage (as was customary) sent a copy of the manuscript to the printers for publication.

From certain quarters within the Twelve, however, opposition developed to the speech's publication. The subject was a matter of consideration in at least four subsequent meetings of the Twelve and/or the First Presidency, but eventually the First Presidency, after going over the manuscript very carefully with Elder Talmage, directed him to send it back to the publisher for inclusion in the next *Church News*. Furthermore, they instructed him to have it published also as a separate pamphlet, to be available upon request from the Church Offices. Both publications were released to the public November 21, 1931, and the speech has since enjoyed a long and favorable treatment from the Mormon publishing fraternity.[85]

The resulting stalemate continued for over two decades. Cognizant of the fact that writings and expressions of general authorities, no matter how intended, tend to become canonized by various elements of the Church community, the First Presidency continued the proscription against publication of the Roberts manuscript. In 1933 both Roberts and Talmage died; the essence of their philosophical legacy was continued by Apostles Widtsoe and Merrill. Apostle Smith, in the immediately ensuing years, also completed a manuscript of book-length, which outlined his objections to evolutionary concepts, and once again drove home his commitment to many of the basic concepts of nineteenth-century theologians—not drawing such concepts from them, of course, but arriving at essentially the same position by a similar, strongly literalistic interpretation of the scriptures. The record indicates that his manuscript was subjected to the same publication injunction as that of Roberts.[86] Widtsoe and Merrill, not sharing the views of Elder Smith in these matters, also acted as damping forces on overly-literalistic interpretation. Their deaths in 1952 marked the end of an era.

Apostle Smith began an open exposition of his views on April 22, 1953, in a speech at Brigham Young University entitled "The Origin of Man."[87] His speech to the June 1953 MIA Conference[88] continued the same theme: scriptural literalism on scientific matters, coupled with a virtually complete disregard for scientific data. A rapid though minor updating of his book manuscript followed, and it was apparently again submitted for publication. Though it was not approved, he pushed ahead with its publication, and by mid-1954 it was made available to the public under the title: *Man His Origin and Destiny*.[89]

The work marks a milestone. For the first time in Mormon history, and capping a full half-century of publication of Mormon books on science and religion,

Mormonism had a book that was openly antagonistic to much of science.[90] The long-standing concern of past Church presidents was quickly realized: the book was hailed by many as an authoritative Church statement that immediately locked Mormonism into direct confrontation with science, and sparked a wave of religious fundamentalism that shows little sign of abatement. Others, mindful of the embarrassment which other Christian churches had suffered on issues of science, and fearful of the consequences for their own Church if the new stance was widely adopted, openly expressed their consternation. The President of the Church, David O. McKay, was a giant of tolerance; the differences in philosophy (within the Church framework) between the book's author and himself could hardly have been more disparate. But a President's actions *are* essentially authoritative; one tends to act cautiously in such a position, and a public settling of issues was apparently not acceptable to him. Though there is no formal record available of the deliberations involved, the ensuing reactions indicate a low-key, indirect, and peace-making response, at least as far as public utterances are concerned.

Apostle Smith vigorously presented his basic thesis to the Seminary and Institute teachers of the Church, assembled in their periodic summer training session at Brigham Young University, on June 28, 1954.[91] Exactly nine days later, President J. Reuben Clark, Jr., second counselor in the First Presidency and a veteran of over twenty years' service in the Presidency, delivered (by invitation) his speech "When are the Writings or Sermons of Church Leaders Entitled to the Claim of Scripture?" His message was clear and hard-hitting; it has no peer in Mormon literature. Emphasizing that only the President of the Church may declare doctrine, give interpretation of scripture, ". . . or change in any way the existing doctrines of the Church. . . ," he proceeded to an examination of the scriptural affirmation that whatever the holders of the priesthood speak "when moved upon by the Holy Ghost shall be scripture. . . ."[92] He readily acknowledged that the scripture applied with special force upon the general authorities, but that:

> . . . They must act and teach subject to the over-all power and authority of the President of the Church . . . Sometimes in the past they have spoken "out of turn," so to speak. . . .
>
> There have been rare occasions when even the President of the Church in his preaching and teaching has not been "moved upon by the Holy Ghost." You will recall the Prophet Joseph declared that a prophet is not always a prophet. . . .
>
> . . . even the President of the Church, himself, may not always be "moved upon by the Holy Ghost," when he addresses the people. This has happened about matters of doctrine (usually of a highly speculative character) where subsequent Presidents of the Church and the peoples themselves have felt that in declaring the doctrine, the announcer was not "moved upon by the Holy Ghost."
>
> How shall the Church know. . . ? The Church will know by the testimony of the Holy Ghost in the body of the members, . . . and in due time that knowledge will be made manifest. . . .[93]

President Clark continued to hammer this concept home, referring to accounts in the New Testament of doctrinal differences among the apostles, relating the concept to our own day, reiterating continually that

> . . . even the President of the Church has not always spoken under the direction of the Holy Ghost, for a prophet is not always a prophet . . . in our own Church, leaders have differed in view from the first.
>
> . . . not always may the words of a prophet be taken as a prophecy or revelation. . . .

In his final paragraphs, he moved from the position of trying to define what *is* scripture to identifying what is *not* scripture, emphasizing that when any one other than the President of the Church attempts to proclaim any new doctrine,

etc., unless acting specifically under the President's direction, the Church may know that the utterances are *not* scripture. His final expository paragraph reads:

> . . . When any man, except the President of the Church, undertakes to proclaim one unsettled doctrine, as among two or more doctrines in dispute, as the settled doctrine of the Church, we may know that he is not "moved upon by the Holy Ghost," unless he is acting under the authority of the President. . . .

Such teachings, to say the least, were not characteristic of what was usually taught over the pulpit. There was no mention in the sermon of any specific contemporary teachings to which these principles were to be applied, but there also was left no doubt that they were to *be* applied.

President McKay himself avoided any direct public statement on the matter. His closest approach to public commentary came from his beginning-of-the-school-year speech to the Brigham Young University faculty, September 17, 1954.[94] He handled therein various categories of knowledge, and touched briefly upon the matter of science and religion. He averred that it is a "stern fact of life" that all living things obey fixed laws of nature and divine commands. He referred to the creation of man thusly: "When the Creator 'breathed into his nostrils the breath of life,' (and never mind when it was), 'and man became a living soul' God gave him the power of choice." In his closing sentence, he moved to

> . . . bless you [the faculty] with wisdom to know the truth as it is given by revealed word in the authorized books of the Church, bless you with the power to discern between truth and error as given by individuals, . . .

But this public response by the First Presidency obviously would not satisfy the questions in the minds of many members. Over the years, there seems to have been an almost constant stream of inquiries, both written and oral, concerning the doctrinal soundness of Apostle Smith's book and similar teachings. The response from the First Presidency has been consistent: an avowal that the Church has taken no official position on the matter of evolution and related subjects, that it has made no official statement on the subject, that the book in question is neither "authorized" by the Church nor "published by" the Church, that it "is not approved by the Church," and that it contains only the author's personal views. On occasion the inquirer was sent two documents: the 1909 statement by the First Presidency, and the 1931 speech by Talmage, with the admonition that the entire matter should be dealt with by "suspending judgment as long as may be necessary" until the complete truth should be perceived.[95] Throughout all such communications ran the sentiment of tolerance, open-mindedness, and a dedication to final truth. Even those who sought the First Presidency's evaluation of materials to be used in their teachings got no further response.

And here, it seems, the matter rests, as far as authoritative statements are concerned. There has been no further official response, and it would appear that none is forthcoming. Rather lengthy explanations by past First Presidencies (among the materials mentioned, ref. 95) indicate that since such authoritative statements must be applicable to future developments as well as to the current state of knowledge, it is deemed wisest to let the matter rest without further development.

Authoritative statements concerning scientific matters seem neither necessary nor desirable, even if the knowledge to make them did exist—and it seems clear that it does not. Effective arguments can be marshalled to support the point that

such pronouncements, necessarily restrictive in their nature, would stifle the very experience that life is supposed to provide; they would be inimical to the very roots of the process of "evolving into a God." The 1931 First Presidency's observation that these matters do not directly relate to "salvation" is astute as well as practical. Those who argue against evolution, for instance, do so usually from the proclaimed motivation that the concept is inimical to religion, that it leads necessarily to atheism and associated evils. The position is tenuous at best. Cases where such a process is alleged to have occurred appear to be far more often the result of the intense conflict and polarization between popular expressions of theology and biology, rather than the result of the concept of evolution *per se*. Darwin perceived that his views bore no necessary antagonism to religion,[96] and a non-LDS commentator recognized that fact in the following expression:

> Evolution, if rightly understood, has no theological or antitheological influence whatever. What is evolution? It is not an entity. It is a mode of creation. It leaves the whole field of Christian faith where and as it found it. Its believers and advocates may be theists, pantheists, or atheists. The causes of these radically different religious views cannot be sought in the one theory. They are to be found elsewhere.[97]

There are too many devout religious evolutionists to argue defensibly that a belief in evolution *per se*, stripped of the "*either* God *or* evolution" polemics, leads to religious deterioration; indeed, there are many both within the Church and without who will argue from personal experience that the concept of evolution can have precisely the opposite effect: a deepening of religious sentiment and spirituality due to the recognition that God is a God of law, of order, of rational behavior, rather than a deity of mystery, of transcendent and capricious whims. At the same time, there can be no denying the fact that the intense polemics of the theology-biology debate has polarized people into opposite camps detrimental to the cause of both. In our day and time, we do not need further schism; what the world is crying for is synthesis. People have been driven to opposite extremes in this matter because of respective truths that they found in whatever position they finally choose. Is it not time to recognize that each camp *has* truth, and try to take the best from both?

Mormonism is committed to the concept of a lawful, loving, orderly Deity to whom capriciousness and deceit are anathema. The concept that God works through universal law, that He *is* God because of His obedience to and operation within the framework of such law, is fundamental. This gives Mormonism a basis for synthesis that exists in few if any other Western religions; it cannot be ignored with impunity. Mormonism's view that truth can be obtained empirically or pragmatically,[98] must also be kept constantly in mind; God speaks in more ways than just scripture or open revelation.

It would appear that teachers in the Church cannot be honest in their teachings if they present only one point of view as the position of the Church. Whoso among them picks just one position from among the many articulated on these matters by Church leaders becomes guilty of teaching a part-truth, and witnesses immediately that he "is not moved upon by the Holy Ghost." And will not students who permit such teaching without clarifying the matter be equally guilty of perpetuating part-truths? It would seem to be high time that we insist on a greater honesty and scholarship in our gospel discussions; we owe future generations far better teaching than the current ones have been getting. In these

respects, it is encouraging to note that the current Gospel Doctrine manual,[99] which deals directly with the creation scriptures from both the Bible and modern scripture, steers deliberately clear of any interpretational hang-ups. It propounds with Brigham Young that the critical message is not what method was used in creation, but that God was responsible for creation.

Above all, it would appear that teachers should grow beyond pushing their own views or those of their favorite general authority, to embark on a quest for truth rather than an indoctrination of one-sided dogma. Perhaps the sentiments of Apostle John Taylor are relevant:

> I do not want to be frightened about hell-fire, pitchforks, and serpents, nor to be scared to death with hobgoblins and ghosts, nor anything of the kind that is got up to scare the ignorant; but I want truth, intelligence, and something that will bear investigation. I want to probe things to the bottom and to find out the truth if there is any way to find it out.[100]

And further:

> . . . our religion . . . embraces every principle of truth and intelligence pertaining to us as moral, intellectual, mortal and immortal beings, pertaining to this world and the world that is to come. We are open to truth of every kind, no matter whence it comes, where it originates, or who believes in it. . . .
>
> A man in search of truth has no peculiar system to sustain, no peculiar dogma to defend or theory to uphold; he embraces all truth, and that truth, like the sun in the firmament, shines forth and spreads its effulgent rays over all creation, and if men will divest themselves of bias and prejudice, and prayerfully and conscientiously search after truth, they will find it wherever they turn their attention.[101]

Notes

[1]By "evolution" in this article we refer only to the general concept that living things as we know them today have over a long period of time been developed by differentiation from a single or several primordial entities; i.e., descent with modification. Other tighter or more specialized definitions do not generally apply here; we shall be content with just the very general concept portrayed by Darwin, in his closing sentence to *The Origin of Species* (2d and all subsequent editions): "There is grandeur in this view of life, with its several powers, having been originally breathed by the Creator into a few forms or into one; and that, . . . from so simple a beginning endless forms most beautiful and most wonderful have been, and are being evolved."

[2]Cf. Lerner, I. M., "The Concept of Natural Selection: A Centennial View," *Proc. Am. Philosophical Soc.*, 103(2):173-182, 1959; reprinted in Laetsch, W. M. (ed), *The Biological Perspective* (Little, Brown & Co., 1969). An excellent statement of what natural selection is, and isn't, is Dobzhansky, Th., "Creative Evolution," *Diogenes*, 60:62-74, 1967. Materials pertinent to the current level of acceptance of the main body of evolutionary concepts are: Muller, H. J., "Biologists' Statement on Teaching Evolution," *Bull. Atom. Scientists*, 23:39-40, 1967, and S. Tax (ed.), *Evolution After Darwin* (U. of Chicago Press, 1960), which encompasses in three volumes the proceedings of the Darwin Centennial Celebration (symposium) at the U. of Chicago in 1959. A rather critical but factually reliable appraisal of the current status of evolutionary knowledge, particularly as it applies to invertebrate animals, is Kerkut, G. A., *Implications of Evolution* (Pergamon Press, New York, 1960). Reviews of this work by Bonner, J. T., *Am. Sci.*, 49:240-244, 1961, and Dobzhansky, Th., *Science*, 133:752, 1961, will also prove valuable. The review by Bullock, W., *J. Am. Sci. Affil.*, 16(14): 125-6, 1964 will be of particular interest to those interested in religious correlations.

[3]*Improvement Era* (hereafter *Era*), 6:233, 1903; H. B. Lee, *Ensign*, 2(12):2-3, 1972.

[4]First Presidency (Joseph F. Smith, *et. al.*) *Deseret News*, Aug. 2, 1913 (also in Clark, James R., *Messages of the First Presidency*, 4:284-286, 1970); H. B. Lee, *Era*, 73(6):63-65, 1970; *Ensign*, 3(1):104-108, 1973.

[5]*The Doctrine and Covenants of the Church of Jesus Christ of Latter-day Saints*, 68:2-4.

[6]Clark, J. Reuben, Jr., "When Are Church Leader's Words Entitled to Claim of Scripture?"

Church News section of *Deseret News*, July 31, 1954, pp. 2f; (text of a speech to LDS Seminary and Institute Teachers, BYU, July 7, 1954) is by far the most candid and valuable analysis of this problem by a general authority.

[7]The best statement known to me on the intimacies of this relationship is in Joseph F. Smith's pledge to the church upon assuming its Presidency, November 10, 1901, *Conference Reports*, p. 82; also in Clark, James R., *op. cit.*, 4:4-6, 1970.

[8]To be very precise, it appears that no statement or revelation even from a President of the Church is binding on the Church as a body unless accepted by them by vote in conference (Testimony of President Joseph F. Smith in *Proc. before the Committee on Privileges and Elections of the U. S. Senate* (the Reed Smoot Case); 1:95-97, 1904). This distinction seems quite unnecessary in the current discussion, however, since neither lay-members nor general authorities take cognizance of it in general practice.

[9]Barbour, I. G., *Issues in Science and Religion* (London: SCM Press, Ltd., 1966), analyzes the "gaps" problem nicely. Cf. also Dobzhansky, Th., *The Biology of Ultimate Concern* (New York: World Publishing Co., 1967), pp. 12-34.

[10]We make no attempt here to analyze the validity of the argument. As with all other points to be discussed, we are here interested only in presenting positions. Those who wish to pursue the subject would do well to begin with D. R. Burrill (ed.), *The Cosmological Arguments, A Spectrum of Opinion* (Garden City, New York: Anchor 1967).

[11]Cf. deBeer, Sir Gavin, *Charles Darwin, A Scientific Biography* (Garden City, New York: Anchor, 1963), pp. 266-275; also F. Darwin (ed.), *The Life and Letters of Charles Darwin* (New York: Appleton, 1887), 2:146, and *More Letters of Charles Darwin* (New York: Appleton, 1903), 1:395.

[12]McKay, David O., "A Message for LDS College Youth," BYU Address, October 10, 1952, *BYU Extension Publications*, pp. 6-7. The published version is poorly edited and proofed. We have corrected here the spelling of Millikan's name and added for clarity the word "to" shown in brackets. The deleted material is all consistent with the sentiments of the quote as here rendered, but too garbled for precise reconstruction.

[13]An introduction to the non-LDS literature can be gained from: White, A. D., *A History of the Warfare of Science with Theology in Christendom* (1896, reprinted by Dover Publications, Inc., New York, 1960, 2 vols.), and Loewenberg, B. J., *Darwinism Comes to America, 1859-1900* (Philadelphia: Fortress Press, 1969). There is as yet no satisfactory review and introduction to LDS materials on the subject.

[14]Cf. White, O. K., Jr., "Mormonism—A Nineteenth Century Heresy," *J. Religious Thought*, 26:44-55, 1969. That Brigham Young perceived these deep distinctions is evident: ". . . we differ from the Christian world in our religious faith and belief; and so we do very materially. I am not astonished that infidelity prevails to a great extent among the inhabitants of the earth, for the religious teachers of the people advance many ideas and notions for truth which are in opposition to and contradict facts demonstrated by science, and which are generally understood," *Journal of Discourses* (hereafter *JD*), 14:115, 1871.

[15]Of the many books available, L. Eiseley's *Darwin's Century* (Garden City, New York: Doubleday, 1958) is probably the best single general work. Also recommended are W. Irvine's *Apes, Angels, and Victorians* (Cleveland: World Publishing Co., 1955), and Sir G. deBeer's *Charles Darwin, A Scientific Biography* (Garden City, New York: Anchor, 1963).

[16]Mayr, E., "The Nature of the Darwinian Revolution," *Science*, 176:981-989, 1972.

[17]It is a distortion to characterize the dispute as one between science and religion. The dispute was with specific *theologies*, not religion *per se*. The distinction is critical but usually overlooked.

[18]The dispute over some of these issues, particularly the fourth, cannot be directly attributed to Darwin. There can be no doubt that his proposals intensified the concern over them, however, and they eventually became all part of one intermeshed debate. The inclusion here is thus not unjustified.

[19]*The Catholic Encyclopedia* (New York: Robert Appleton Co., 1908), 4:470.

[20]Morris, H. M., *Biblical Cosmology and Modern Science* (Grand Rapids, Mich.: Baker Book House, 1970), p. 68. Cf. White, A. D., *op. cit.*, 1:2-7 for variations on the theme.

[21]*Times and Seasons* (hereafter *T&S*), 5:615, 1844. An expanded and variant version of this statement appears in *History of the Church*, 6:308-309, edited by B. H. Roberts (2nd ed., 1962). In Smith, Joseph Fielding, (compiler), *Teachings of the Prophet Joseph Smith* (Salt Lake City: Deseret Book Co., 1958 printing), the same quote is given, pp. 350-352. Though the latter compiler cites the *Times and Seasons* as his source, he actually gives the *HC* account.

[22]See, for example, *Journal of Discourses*, 11:120 (1865); 13:248 (1870); 14:116 (1871); 16:167 (1873), 18:231-232 (1876).

[23]A good discussion of creation *ex nihilo* as it applies to Mormon thought is found in O. K. White, "The Social-Psychological Basis of Mormon New-Orthodoxy," MS thesis, Univ. of Utah, 1967, 87ff; also: "The Transformation of Mormon Theology," *Dialogue*, 5(2): 9-24, 1970. White maintains, quite justifiably, that Mormon authors consistently miss the deeper or even essential meanings of the doctrine, that of *necessary* versus *contingent* being. We emphasize, however, that the pre-occupation on the simpler level, creation out of nothing, is not that of Mormon writers alone; it is so used and defended by non-Mormon Christian writers on a broad front. White correctly points out that either interpretation of the doctrine is contradicted by Mormon theology and pronouncements. Cf. also Madsen, Truman, *Instructor*, 99:96-99, 1964, and *Instructor*, 99:236f, 1964, and, for the most detailed treatment available in Mormon literature on the subject, McMurrin, S. M., *The Theological Foundations of the Mormon Religion* (Salt Lake City: Univ. of Utah Press, 1965).

[24]Cf. Roberts, B. H., *Comprehensive History of the Church* (Salt Lake City: Deseret News Press, 1930), 2:404-406.

[25]Smith, Joseph, *T&S*, 5:615, 1844. As with fn. 21, an expanded version is found in Roberts, B. H., *History of the Church*, 6:310-311. It is Roberts who equates the term "co-equal" with "co-eternal." Once again, Joseph Fielding Smith, *op. cit.*, 352-354, follows the Roberts' version. Cf. also Joseph Smith, *T&S*, 3:745, 1842. The errors in grammar, spelling, etc. are in the original.

[26]Cf. *D&C*, 93:21-23, 29, 33-35; *Book of Abraham* (in *The Pearl of Great Price*, Church of Jesus Christ of Latter-day Saints, Salt Lake City, 1968 printing), 3:18.

[27]Cf. Brigham Young: *JD* 1:116 (1853); 3:356 (1856); 7:285 (1859); 8:27 (1860); and Rich, W. O., *Distinctive Teachings of the Restoration* (Salt Lake City: Deseret News Press, 1962), ch. 3.

[28]Considering just this point alone, one is mystified as to how some well-meaning Mormons have been able to align themselves with such ardent modern exponents of creation *ex nihilo* as the Creation Research Society, which exacts as part of its membership requirement a subscription to the following statement of belief: "All basic types of living things, including man, were made by direct creative acts of God during the Creation Week described in Genesis."

[29]White, A. D., *op. cit.*, vol. 1: pp. 5-10 and later. Suggestions were also made occasionally, though not forcefully, that the "days" were periods of indefinite length; cf. Greene, J. C., *Darwin and the Modern World View* (Mentor Books, 1963), pp. 18-19. Such views were lost in the melee, however.

[30]Eiseley, *op. cit.*, 233f.

[31]Opponents of this view exist, of course, both within Mormonism and without. Indeed, such dissident literature has been quite popular in Mormonism in recent years. The arguments advanced, however, have not been convincing to those professionally engaged in the specific fields of dispute—and, despite certain contrary rumors, the arguments *have* been honestly considered.

[32]*Latter Day Saints Messenger and Advocate*, 1:78, Feb. 1835.

[33]*T&S*, 5:758, published Jan. 1, 1845. Emphasis and parentheses are in the original. Certain passages from the *D&C* will be discussed hereafter.

[34]Statement attributed to Joseph Smith; Richards, F. D., and J. A. Little, (compilers), *A Compendium of the Doctrines of the Gospel* (Salt Lake City: Deseret News Co., 1882), stereotype edition, p. 287. An examination of the prophet's speeches indicates that he usually followed this distinction.

[35]*JD*, 18:231-232, 1876.

[36]*JD*, 14:115-116, 1871. Lest LDS geologists become overly smug from these statements, however, we point out that they too could share Brigham's disdain, cf. *JD*, 13:248-249, 1870; *Deseret News*, June 18, 1873, p. 308. The statements are still consistent with the above, however.

[37]There is no legitimate discussion of the word "kind" (Hebrew = *min*) in biological terms known to me in Mormon literature. For a beginning discussion, not LDS, see Jones, A. J., "A General Analysis of the Biblical 'Kind' (Min)," *Creation Research Society Quarterly*, 9(1):53-57, 1972; and "Boundaries of the Min: An Analysis of the Mosaic Lists of Clean and Unclean Animals," *Ibid.*, 9(2):114-123, 1972; and references cited therein. Most current writers consider "kind" to represent a biological grouping at approximately the Family level in the taxonomic hierarchy; few indeed are those who still try to equate it with "species."

[38]Cf. Eiseley, *op. cit.*, or any good text of the history of biology.

[39]Cf. Ruse, M., "Definitions of Species in Biology," *British Journal for Philosophy of Science*,

20:97-119, 1969, or any good text in systematics or evolution. Also of interest is C. Zirkle, "Species Before Darwin," *Proc. Amer. Philosoph. Soc.*, 103:636-644, 1959.

[40]Smith, Joseph, as taken from Wilford Woodruff's notes, in B. H. Roberts (compiler), *History of the Church*, 4:554, from a speech delivered March 20, 1842; cf. also Roberts' qualifying comments on the notes, *ibid.*, 556n, which must be kept in mind regarding all such speech texts. We have not been able to locate any earlier published accounts.

[41]*JD*, 8:29-30, 1860.

[42]*JD*, 26:20, 1884.

[43]Simpson, G. G., *The Meaning of Evolution* (New Haven: Yale Univ. Press, 1949), pp. 124-129, 263-279. Simpson, usually pictured as quite insensitive to religious viewpoints, develops some concepts of the limitations and implications of materialism that have considerable interest to Mormons.

[44]Schubert-Soldern, R., *Mechanism and Vitalism, Philosophical Aspects of Biology*, edited by P. G. Fothergill (South Bend, Indiana: University of Notre Dame Press, 1962), pp. 10-11.

[45]Hardin, G., *Biology, Its Principles and Implications*, 2nd ed. (San Francisco: W. H. Freeman and Co., 1966), p. 11.

[46]Roberts, B. H., *A Comprehensive History of the Church*, 1930, 2:392. A close friend of Joseph Smith's, Benjamin F. Johnson, makes the "light-life-spirit" equation in his 1903 letter to Elder George F. Gibbs, p. 5, typescript copy; copy available in Brigham Young University library.

[47]Andrus, H. L., *God, Man and the Universe* (Salt Lake City: Bookcraft, 1968), pp. 144-192.

[48]Roberts, *op. cit.*, 2:381-412, especially 399-401.

[49]*D&C* 131:7-8.

[50]*Deseret News*, 10(21):162-163, July 25, 1860, and 14(47):372-373, August 23, 1865; also in Clark, J. R., *Messages of the First Presidency* 2:214-223, 229-240, 1965.

[51]Compare the first edition, 1855, *Key to the Science of Theology*, printed by J. Sadler, Liverpool, with later editions.

[52]*JD*, 3:276-277, 1856. Benjamin F. Johnson, *op. cit.*, pp. 5-6 indicates that essentially this same doctrine was taught by Joseph Smith.

[53]eg., *JD*, 1:349 (1853); 3:354 (1856); 7:2-3, 285 (1859); 9:242 (1862).

[54]In Lee, H. B., "Find the Answers in the Scriptures," *Ensign*, 2(12):2-3, Dec. 1972, there does appear a passage which seems to imply an authoritative acceptance of the literal interpretation of Moses 3:7. Correspondence which we are not at liberty to release, however, indicates that this should not be construed as a pronouncement of any particular interpretation or doctrinal position.

[55]e.g., from Brigham Young, *JD*, 3:319 (1856); 4:216-218 (1857); 7:285 (1859); 15:137 (1872).

[56]Roberts, B. H., *History of the Church*, 6:476, a speech by Joseph Smith dated June 16, 1844, as taken from notes by Thomas Bullock. We have not been able to locate any earlier published sources. Cf. also fn. 40.

[57]We are well aware of the intense arguments and deeply-held opinions revolving around this doctrine, and the current propensity to deny that it was ever taught. There can be no justification for denying its historical reality; it is too well documented, and was taught by Brigham Young from 1852 until his death in 1877. cf. R. Turner, "The Position of Adam in Latter-day Saint Scripture and Theology," MA thesis, Division of Religion, Brigham Young University, 1953. A more recent and thorough account is O. Kraut, *Michael/Adam*, n.d., n.p., but published in 1972. Both sources discuss reactions of church members to the doctrine, which include problems with scriptural reconciliation. Those who attempt to prove that Brigham Young taught only doctrine that is currently orthodox are driven to an inexcusable exercise of freedom in interpreting, and even a doctoring of, his critical sermons; e.g., Widtsoe, J. A. (comp.); *Discourses of Brigham Young*, p. 159, 1925 edition. These errors are resolutely compounded and further promulgated by Smith, Joseph Fielding, e.g., *Answers to Gospel Questions* (1966), 5:121-128, excerpted in the 1972-73 Melchizedek Priesthood manual, pp. 20-22. Compare, for example, the quote from *JD*, 9:148 in its original form and as printed by Widtsoe, *loc. cit.*; by Smith, p. 124, and in the priesthood manual, p. 22.

We do not contend that President Young's concepts concerning Adam are an accurate representation of the concepts of other LDS presidents, or that they are to be accepted as basic Church doctrine. That to President Young Adam was a resurrected being is clear:

> The mystery is this, as with miracles, or anything else, is only to those who are ignorant. Father Adam came here, and then they brought his wife. "Well," says one, "Why was Adam

called Adam"? He was the first man on the earth, and its framer and maker. He, with the help of his brethren, brought it into existence. Then he said, "I want my children who are in the spirit world to come and live here. I once dwelt upon an earth something like this, in a mortal state, I was faithful, I received my crown and exaltation. I have the privilege of extending my work, and to its increase there will be no end. I want my children that were born to me in the spirit world to come here and take tabernacles of flesh, that their spirits may have a house, a tabernacle or a dwelling place as mine has, and where is the mystery? (*Deseret News*, vol. 22:308, June 18, 1873, reporting a speech of June 8, 1873).

But later presidents did not share this view. Nels Nelson, *What Truth Is* (Salt Lake City: Stevens and Wallis, Inc., 1947), pp. 60-61, reports that his request to President John Taylor for information on the subject elicited a reply which "told me without qualification that 'Adam and Eve while in the Garden of Eden were translated human beings.' " Further, a similar request from Bishop Joseph H. Eldredge of Myton, Utah, to President Heber J. Grant was answered, stating: "If what is meant is that Adam has passed on to celestial glory through a resurrection before he came here, and that afterwards he was appointed to this earth to die again, the second time becoming mortal, then it is not scriptural or according to the truth. . . . Adam had not passed through the resurrection. . . ." The letter, signed by President Grant and dated Feb. 26, 1931, is published in Clark, James R., *Messages of the First Presidency*, 5:289-290, 1971. Typescript copies, usually dated erroneously 1936, and carrying the signatures of both President Grant and David O. McKay (his counselor) have been widely circulated in Church circles for many years. Such differences in viewpoint should not be upsetting to those who have studied their Church history, but *should* serve as a caution to all who are tempted to teach any given doctrine about Adam as "the Church view." Consider also the message of J. Reuben Clark, Jr., fn. 6.

[58]Cf. Turner and/or Kraut, fn. 57, for appropriate references.

[59]*Millenial Star*, 17:297-298, 1855.

[60]*Deseret News*, 10(21):162-163, July 25, 1860. The First Presidency's statement was reprinted as part of the 1865 refutation also, cf. fn. 50. The 'revised' version of Pratt's sermon may also be found in *JD*, 7:371-376.

[61]Taylor, J., *Mediation and Atonement* (Salt Lake City: Deseret News Co., 1882), pp. 163-165; 1950 reprint, Stevens and Wallis, Inc., Salt Lake City, pp. 159-160.

[62]*JD*, 24:61, cf. also 24:257, 1883.

[63]*Juvenile Instructor*, 18:191, June 15, 1883. President Cannon appears to have addressed essentially the same theme in his Founder's Day speech at the Brigham Young Academy (University) in 1896. The best account I have been able to locate of this speech quotes Cannon only "in substance," however, so it is impossible to determine his exact statements. The basic stance, however, is anti-evolutionary, at least with respect to human origins; cf. *Daily Enquirer* (Provo, Utah), 14 (116):1, October 16, 1896.

[64]See, for example, *Millenial Star*, 23(41):651-654, October 12, 1861.

[65]Cf. Turner and/or Kraut, fn. 57, and "Journal of Abraham H. Cannon," entries of March 10, 1888, and June 23, 1889; originals in Brigham Young University Library.

[66]Bitton, D., "Anti-Intellectualism in Mormon History," *Dialogue*, 1(3):111-134, 1966.

[67]Widtsoe, J. A., *Joseph Smith As Scientist, A Contribution to Mormon Philosophy* (Salt Lake City: The General Board (of the) Young Men's Mutual Improvement Associations, 1908).

[68]Editor's Table, *Era*, 12:489-494, April 1909.

[69]*Era*, 12:505-509, May 1909, a reprint from the February 11, 1909, *Millenial Star*.

[70]*Era*, 13:75-81, November 1909; also in Clark, J. R., *Messages of the First Presidency*, 4:199-206, 1970. Actually, this statement is the work of a special committee appointed for its production. James E. Talmage, not yet one of the general authorities, was a member, and records meeting with the committee on the dates of Sept. 27 and 30, 1909, to consider the document; cf. "Personal Journal of James Edward Talmage," 12:91-92, under the above dates, originals in Brigham Young University library.

[71]This numbering counts only the paragraphs of the actual text; scriptural quotations are not counted. J. R. Clark, who does count them separately, would refer to these paragraphs as 30-32; cf. *Messages of the First Presidency*, 5:243, 1971.

[72]When this statement was reprinted in Smith, Joseph Fielding, *Man His Origin and Destiny* (Salt Lake City: Deseret Book Co., 1954), the phrase "primal parent of *our* race" was changed to read "primal parent of *the* race," cf. p. 354; and it continues to be quoted thus incorrectly in other Mormon works. To some students, this represents an alteration in meaning. Whether it would have been so interpreted by the 1909 First Presidency, however, is moot.

[73]*Divine Mission of the Savior*, Course of Study for the . . . Priests (2nd year), prepared and issued under the direction of the general authorities of the Church (1910), p. 35. The statement to this point was reprinted in the Church News section, *Deseret News*, September 19, 1936, p. 8, and is often quoted as though complete in itself.

[74]*Ibid*, p. 37. The manual at this point cites three statements, one each from Brigham Young (*JD*, 1:50); Parley P. Pratt (*Key to Theology*); and Orson Pratt (*JD*, 21:201). No attempt is made in the manual to capture the complete thought of these statements; particularly the sermons of President Young and Orson Pratt reveal some fundamental differences in total content and concept. In fairness, it must also be admitted that major sentiments in both these sermons were severely compromised by statements of subsequent presidencies.

[75]*Era*, 13:570, April 1910.

[76]*Era*, 14:548-551, April 1911. Further details of the case are found in Chamberlin, R. V., *Life and Philosophy of W. H. Chamberlin* (Salt Lake City: Deseret News Press, 1925), pp. 140f. In this rather trying incident, three BYU faculty members, Henry Peterson, Joseph Peterson, and Ralph V. Chamberlin, resigned under pressure.

[77]*Juvenile Instructor*, 46(4):208-209, April 1911.

[78]*Deseret News*, December 27, 1913, Sec. III, p. 7; reprinted in the Church News section of *Deseret News*, September 19, 1936, pp. 2, 8.

[79]The best single account is deCamp, L. S., *The Great Monkey Trial* (Garden City, N. Y.: Doubleday and Co. Inc., 1968).

[80]*Era*, 28:1090-1091, September 1925. The understandable sympathy of the LDS people for the general religious position in the 1925 Scopes episode is reflected in the remarks of various speakers, both general authorities and otherwise, during the October General Conference (cf. LDS General Conference Reports, October, 1925). Of the First Presidency, however, counselor Charles W. Nibley made no reference to the matter; President Heber J. Grant went no further than to recall favorable impressions of William Jennings Bryan, the chief religious spokesman (and prosecutor) at the Scopes trial, who died shortly after the trial. Anthony W. Ivins, first counselor, addressed the topic of evolution directly and at some length, essentially articulating a middle-of-the-road position. The speech (*ibid.*, pp. 19-28) is too loaded with hypothetical statements and qualifiers to be easily categorized.

[81]Smith, Joseph Fielding, "Faith Leads to a Fulness of Truth and Righteousness," *Utah Genealogical and Historical Magazine*, 21:145-158, October 1930.

[82]Typescript copy in author's possession, 7 pp. Cf. also fn. 54, which relates to a 1972 commentary on the question of pre-Adamites.

[83]"Personal Journal of James Edward Talmage," 29:42, under date of April 7, 1930; cf. also relevant entries under dates of Jan. 2, Jan. 7, Jan. 14, and Jan. 21, 1931, all in volume 29.

[84]Talmage, J. E., "The Earth and Man," *Church News* section of the *Deseret News*, Nov. 21, 1931, pp. 7-8. In pamphlet form it was "Published by the Church of Jesus Christ of Latter-day Saints," 16 pp. The speech has been republished various times, including by Brigham Young University Extension Publications, and was most recently published in the *Instructor*, 100(12): 474-477, December 1965, and 101(1):9-11, 15, January 1966.

[85]Cf. fn. 84. Elder Talmage discusses the matter thusly in his journal, after reviewing the Roberts-Smith episode:

> Many of our students have inferred from Elder Smith's address that the Church refuses to recognize the findings of science if there be a word in scriptural record in our interpretation of which we find even a seeming conflict with scientific discoveries or deductions, and that therefore the "policy" of the Church is in effect opposed to scientific research.
>
> In speaking at the Tabernacle on August 9 last I had not forgotten that in the pronouncement of the First Presidency mentioned under date of April 7 last it was advised and really required that the General Authorities of the Church refrain from discussing in public, that is preaching, the debatable subject of the existence of human kind upon the earth prior to the beginning of Adamic history as recorded in scripture; but, I had been present at a consultation in the course of which the First Presidency had commented somewhat favorably upon the suggestion that sometime, somewhere, something should be said by one or more of us to make plain that the Church does not refuse to recognize the discoveries and demonstrations of science, especially in relation to the subject at issue. President Anthony W. Ivins, of the First Presidency, presided at the Tabernacle meeting, and three members of the Council of the Twelve were present—Elders George F. Richards, Joseph Fielding Smith and Richard R. Lyman. Of course, Elder Smith, and in fact all of us, recognize that my address was in some important respects opposed to his published remarks, but the other brethren named, including President Ivins, expressed their tentative approval of what I had said.

I am very grateful that my address has come under a very thorough consideration, and I may say investigation, by the First Presidency and the Council of the Twelve. The discussions throughout as relating to the matter have been forceful but in every respect friendly, and the majority of the Twelve have been in favor of the publication of the address from the time they first took it under consideration. I have hoped and fervently prayed that the brethren would be rightly guided in reaching a decision, and, as the Lord knows my heart, I have had no personal desire for triumph or victory in the matter, but have hoped that the address would be published or suppressed as would be for the best. The issue is now closed; the address is in print. ("Personal Journal of James Edward Talmage," 29:68-69, under date of November 21, 1931. Cf. also the comments under dates of August 9, November 5, November 16, and November 17, 1931, all in volume 29.)

[86]Though considerable evidence verifying this account is already available in the public record, the primary documentation lies in confidential interviews conducted by the author with persons closely associated with this matter.

The title of the Roberts manuscript, still unpublished, is "The Truth, The Way, The Life: An Elementary Treatise on Theology." Consisting of nearly 600 manuscript pages, it was considered by Roberts to be "the most important work that I have yet contributed to the Church, the six-volumed *Comprehensive History of the Church* not omitted." (Letter of Feb. 9, 1931 to the First Presidency). Though it is in many critical ways contrapositive to the theology championed by Elder Smith, the reader should not infer that it is an acceptance or affirmation of evolution *per se.*

[87]Smith, Joseph Fielding, "The Origin of Man," April 22, 1953, published by Brigham Young University Extension Division, 6 pp.

[88]Smith, Joseph Fielding, "Entangle Not Yourselves in Sin," speech of June 12, 1953, *Era*, 56:646f, September 1953.

[89]Smith, Joseph Fielding, *Man, His Origin and Destiny* (Salt Lake City, Utah: Deseret Book Co., 1954).

[90]So far as I am aware, the first book in Mormonism that can really be said to be directed to a discussion of science and religion is *Scientific Aspects of Mormonism*, by Nels L. Nelson (New York: G. P. Putnam's Sons, 1904). Others followed sporadically over the years, by Widtsoe, Nelson, Pack, and Merrill. All of these, while not preaching a scientific humanism or anything of the sort, exhibit a deep recognition of the validity of scientific knowledge. *Man His Origin and Destiny* is a clean break with that long tradition, opting as it does for schism rather than synthesis.

[91]Smith, Joseph Fielding, speech of June 28, 1954, published in the Church News section, *Deseret News*, July 24, 1954, under the caption "Discusses Organic Evolution Opposed to Divine Revelation."

[92]Cf. ref. 5.

[93]Cf. ref. 6. Words in parentheses, grammatical errors, etc. are in the original.

[94]McKay, David O., "Some Fundamental Objectives of a Church University," Church News Section, *Deseret News*, Sept. 25, 1954, p. 2f.

[95]I have photostatic copies in my files of several of these inquiries and responses, and know of additional oral discussions of the matter. Before his death, Pres. McKay gave formal permission for the publication of at least one of the written responses. It is not deemed appropriate here to anticipate that publication in excessive detail.

[96]As it is expressed in the Conclusion to *The Origin*, "I see no good reason why the views given in this volume should shock the religious feelings of any one." Though Darwin, once a candidate for the ministry, came to feel that the entire question of rational evidence for design and/or the existence of God was "insoluble," he was clear that religious commitment was a matter separate and distinct from belief or disbelief in either evolution or natural selection.

[97]Thompson, W. R., *Catholic World*, 34:692, 1882.

[98]Cf. Rich, Wendell O., *Distinctive Teachings of the Restoration*, Ch. 7, "The Nature of Truth" (Salt Lake City: Deseret News Press, 1962). The First Presidency's straightforward statement: "That which is demonstrated, we accept with joy . . ." (*Deseret News*, December 17, 1910, part 1, p. 3) can be coupled with dozens of further references.

[99]*In the Beginning*, Gospel Doctrine Course Teacher's Supplement, 1972, Corporation of the President of the Church of Jesus Christ of Latter-day Saints, Deseret News Press.

[100]*JD*, 11:317, 1867.

[101]*JD*, 16:369-370, 1874.

Treasures In The Heavens: some early christian insights into the organizing of worlds

HUGH NIBLEY

The canonical writings and the apocrypha have a good deal to say about "treasures in the heavens." If we compare the "treasures" passages in a wide sampling of these writings, including those of Qumran, Nag Hammadi and the Mandaeans, it becomes apparent that "treasures in the heavens" is a part of a much larger picture, a "cosmist" view of the plan of salvation which was rejected by the official Christianity and Judaism that emerged triumphant in the fourth century but seems to have been prevalent throughout the Near East in an earlier period. There is no better approach to the study of this strange and intriguing doctrine than an examination of the Treasures in Heaven. We begin with the surprising fact that the Treasures in the Heavens were not allegorical but real.

That the life-giving treasures of earth, particularly the golden grain that was anciently kept in a sacred bin, really comes from the sky is apparent to everyone.[1] The miracle of the bounties of heaven literally pouring from "the treasure-houses of the snow . . . the terrible storehouses" is an awesome sight and a joyous one.[2] But without a benign intelligence to administer them, the same elements that bestow life on man can wreak frightful destruction; hence it is plain that a measure of knowledge, skill, and benevolence is necessary to convert the raw elements into useful gifts.[3] Thus when one speaks of treasures in the heavens, one means not only the vast secret chambers of the rain , snow, and hail, but also the deep hidden wisdom and the power necessary to control them; God's treasury is a source not only of the elements that sustain life but also of the light and knowledge that endow them with that power.[4]

The life-giving fusion of divine wisdom with primal element is often described in religious texts as a fountain, as "the overflowing waters which shine" coming from the "Treasure-chest of radiance" along with all the other shining treasures.[5] "Thou hast established every fountain of light beside thee," says Baruch, "and the treasures of wisdom beneath thy throne hast thou prepared."[6] The concept is

more than a figure of speech; "the heavenly waters . . . important for life on earth," to be effectively used must be "gathered in and assigned . . . to particular treasure-houses."[7] We are introduced to that physical part of the heavenly Treasure in a grandiose scene in which we behold a great Council in Heaven being held at the Creation of the World; there God, enthroned in the midst of his heavenly hosts, explains the Plan of Creation to them,[8] and then opens his treasure-chest before them to show them the wondrous store of stuff that is to be used in making a world;[9] but the new world is still in a preliminary state "like unripe fruit that does not know what it is to become."[10] It is not until we get to the Doctors of the Church, wholly committed to the prevailing teachings of the schools, that we hear of Creation *ex nihilo*.[11] Before then, Creation is depicted as a process of imposing form and order on chaotic matter: the world is created for the specific purpose of carrying out a specific Plan, and the Plan, like the Creation itself, requires strict organization—all creatures have their work assigned them in the coming world, to be carried out at predetermined times and places.[12] When the Plan was announced to the assembled hosts, and the full scope and magnanimity of it dawned upon them, they burst into spontaneous shouts of joy and joined in a hymn of praise and thanksgiving, the Morning-song of Creation, which remains to this day the archetype of all hymns, the great *acclamatio*, the primordial nucleus of all liturgy.[13]

The Creation drama, which is reflected in the great year-rites all over the ancient world, does not take place in a vacuum but "in the presence of God," seated in the midst of "His holy ones" with whom he takes counsel, they being his mind and mouth on the occasion as he is theirs.[14] Though the Plan from first to last is entirely God's own, he discusses it with others, "consulting with the souls of the righteous before deciding to create the world," not because he needs their advice, but because the Plan concerns them and requires their maximum participation in it. The discussion was a lively one—apart from those rebellious angels who rejected it entirely, there was a general protest that the Plan would be too painful for some parties and too risky for all; it was the generous voluntary offering of the Son of God that settled the question.[15] Those who embrace the Plan wholeheartedly on this earth are the Elect, "the people of the Plan," chosen "from the foundation of the world";[16] they form on earth a community dedicated to "the faithful working out of God's Plan" in close cooperation with the heavenly hosts;[17] they alone have access to the heavenly hidden Treasure, because they alone covet and seek it.[18]

What most thrills the Psalmist of Qumran as he sings of the bounteous fountain of God's hidden treasures is the thought that he is not only a beneficiary of God's Plan, but was actually taken into His confidence in the making of it—he was there![19] When Clement of Alexandria recalls that "God knew us before the foundation of the world, and chose us for our faithfulness," he is attesting a well-known teaching of the early Church.[20] The recurring phrase, "Blessed is he who was before he came into being," is not a paradox but refers to two states of being:[21] if (following Baruch) "we have by no means been from the beginning what we are now," it does not follow that we did not exist, for it is equally true that "what we are now we shall not afterwards remain."[22] We are dealing here not with existence and non-existence but with a passing from one state to another, sometimes explained as a passing from one type of visibility to another.[23] It is common to speak of the Creation as a renewing,[24] even as a reorganizing of old matter, nay

as the building of a world from materials taken from the dismantling of older worlds.[25] Pre-existent man had been around a long time before it was decided to create this earth: the whole thing was produced, when the time came, for his benefit; and though he was created last of all to take it over, "in his real nature he is older than any of it."[26] He is the child of an earlier, spiritual birth or creation.[27]

Nothing could be more gratifying to the ego or consoling to the afflicted spirit of mortals than the secret intimation of a glorious past and an exalted parentage.[28] The exciting foster-parent illusion was exploited by the Gnostics for all it was worth;[29] but the idea was no invention of theirs: it was the thought of his pre-existent glory that was Job's real comfort—"Where wast thou when I laid the foundations of the earth . . . when the morning stars sang together and all the sons of God shouted for joy?" is not a rhetorical question. For it was the recollection of that same Creation-hymn of joy and their part in it that sustained the Sons of Light in the midst of terrible reverses.[30] "If you could see your real image which came into being before you," says a Logion of Jesus, "then you would be willing to endure anything!"[31] The author of the Thanksgiving Hymn is simply drunk with the idea of his own pre-existent glory.[32] Such glory, according to the Johannine writings, belongs not only to the Lord but to all who follow him.[33]

But why leave one's heavenly home for a dismal earthly one? To that question, constantly reiterated in the Mandaean writings, the Gnostic answer was that we were forced to make the move as a punishment; but the "Treasure" doctrine was the very opposite—we are here as a reward, enjoying an opportunity to achieve yet greater things by being tried and tested, "that each one might be promoted, according to his intelligence and the perfections of his way, or be retarded according to his wrong-doings."[34] This is the well-known doctrine of the Two Ways: "For this reason the world has existed through the ages," says the Clementine Recognitions, "so that the spirits destined to come here might fulfill their number, and here make their choice between the upper and the lower worlds, both of which are represented here."[35] In what has been regarded as the oldest ritual document in existence, the so-called Shabako Stone from Memphis we find the concept full-blown:

> To him who doeth good will be given Life and (lit. of) Salvation (htp). To him who doeth evil will be given the Death of the Condemned (criminal) . . . according to that decree, conceived in the heart and brought forth by the tongue, which shall be the measure of all things.[36]

The element of opposition necessary for such a test is provided by the Adversary, who in the beginning openly mocked God's Plan and set up his own plan in opposition to it.[37] Being cast out of heaven with his followers by main force, he continues upon this earth during the set time allowed him by God's Plan (for the irony of his situation is that he is Mephistopheles, unwillingly if not unwittingly contributing to the operation of that Plan) attempting to wreck the whole enterprise by drawing off as many spirits and as much material as possible into his own camp.[38] The Devil and his hosts claim the Treasure for their own and attempt to pirate the treasure-ships that cruise between the worlds, and use the loot in the outfitting of their own dark worlds.[39] A neglected Leitmotif of the New Testament is the continuation on earth of the personal feud between the Lord and the Adversary begun at the foundation of the world: from the first each recognizes the other as his old opponent and rival;[40] they are matched at every point—each

claims identical gifts, ordinances, signs and wonders, each has his doctrine and his glory and his plan for the future of the race.[41] Above all, each claims to possess the Treasure, the Lord promising Treasures in the heavens while the Adversary offers a clever, glittering earthly imitation: it is the choice between these treasures (for no man can have both) that is a man's real test here upon the earth, determining his place hereafter.[42] It is the "Poor" who recognize and seek the true treasures, since they who are "rich as to the things of this world" have deliberately chosen the fraudulent imitation.[43]

In coming to earth each man leaves his particular treasure, or his share of *the* Treasure, behind him in heaven, safely kept in trust ("under God's throne") awaiting his return.[44] One has here below the opportunity of enhancing one's treasure in heaven by meritorious actions, and also the risk of losing it entirely by neglecting it in his search for earthly treasure.[45] Hence the passionate appeals to men to remember their tremendous stake on the other side and "not to defraud themselves of the glory that awaits them" by seeking the things of the world.[46] To make the "treasure" test a fair one, the two treasures are placed before us on an equal fooing (the doctrine of the Two Ways), their two natures being mingled in exactly equal portions in every human being.[47] To neutralize what would otherwise be the overpowering appeal of the heavenly treasure, the memory of its former glories has been erased from the mind of man, which is thus in a state of equilibrium, enjoying by "the ancient law of liberty" complete freedom to choose whatever it will.[48] In this state, whatever choice is made represents the true heart and mind of the one who makes it. What conditions the Elect to make the right choice is no unfair advantage of instruction—for all men are aware of the issues involved—but a besetting nostalgia, a constant vague yearning for one's distant Treasure and happy heavenly home. This theme, akin to the Platonic doctrine of anamnesis, runs through all the Apocrypha and Scriptures; it is beautifully expressed in the Hymn of the Pearl from the Acts of Thomas.

In this classic tale, a king's son has come down to earth to find a pearl which he is to return to its heavenly depository; here below he becomes defiled with the things of the world until a Letter from Heaven, signed by all the Great and Mighty Ones, recalls to him his true heritage and his purpose in coming to earth, whereupon he casts off his earthly garments and with the pearl returns to the waiting arms of his loved ones in the royal courts on high and to his robe of glory that has been carefully kept for him in the Treasury.[49] Our various "treasure" texts consistently refer to going to heaven as a return, a joyful homecoming, in which one follows the steps of Adam "back to the Treasury of Life from which he came forth."[50] A great deal is said about a garment that one changes in passing from one stage to another, the final garment of glory being often equated to the Treasure itself.[51] This garment introduces us to the very important ritual aspect of the treasure story, for it is generally understood that one can return to one's heavenly treasure only by the careful observance of certain rites and ordinances, which provide the means both of receiving instruction and demonstrating obedience.[52] In the Mandaean economy the ordinances *are* the Treasure, the knowledge of the proper procedures being the very knowledge by which the elements are controlled and the spirit of man exalted.[53] The other sectaries are hardly less concerned with ordinances, however, the paradox of Qumran being that a society which fled from the rites of the Temple at Jerusalem should

become completely engrossed in yet more rites and ordinances once it was in the desert.[54] Moreover, the most elaborate of all discourses on the initiatory rites are those of the Coptic Christians.[55]

As teacher and administrator of the ordinances, the priest holds the key to "the treasure-house of divinity," in which "the merit accruing from *ceremonial* worship is accumulated."[56] These ordinances, imported directly from that Treasury of Light to which they alone offer the means of return, are types of what is done above; through them "souls are led to the Treasury of Light. . . . Between us and the Great King of the Treasure of Light are many steps and veils," and it is only by "giving the proper replies to the Guardians" that one is able to approach and finally enter the Treasury of Light.[57] The ordinances are most secret (they are usually called "mysteries"), and it is through their scrupulous observance that every man "puts his own treasure in order."[58]

The archetype whom all must follow in the ordinances is Adam, whose true home is the "Treasury of Light," and who belongs with all his children "to the Father who existed from the beginning."[59] The pre-existent Adam, "the Adam of Light," having descended to earth fell into a deep sleep from which he awoke with his mind erased like that of a little child.[60] He was thus in a state to undergo impartial testing, but in his new helplessness he needed instruction. This was provided by a special emissary from the Treasury of Light, the "Sent One." The "Sent One" is often a commission of three, the "Three Great Men" who wakened Adam from his sleep and immediately set about teaching him what he should know and do in order to return to the House of Light from which he had come.[61] The Sent One may be Michael, Gabriel, or the Lord himself, but whoever holds that office always has the same calling, namely to assist the souls of men to return to the Treasury of Light: when the Lord, as the supreme example of the Sent One, descends below to deliver the spirits that sit in darkness, they hail him as "Son of Glory, Son of Lights and of the Treasures. . . ,"[62] Always a stranger on earth, recognized only by the "Poor,"[63] the Sent One comes to bring a treasure, and indeed he is sometimes called the Treasure, for he alone brings the knowledge men must have to return to the Father of Lights.[64] Letters sent from above to help men in their need—the prototype of those "Letters from Heaven" that have haunted Christian and Moslem society through the centuries—being directives or passports for getting to the Treasure-house if not written deeds to the Treasure itself (the Scriptures are rated as such) are themselves included among the treasures of heaven.[65]

While a treasure is anything precious and hidden, the early Christian idea of what was precious differed noticeably from the abstract and allegorical "spiritual" treasures of the philosophizing churchmen of a later time. The Patristic writers, trained in the schools, are offended and annoyed by the way in which many Christians cling to the old literalism of the Early Church.[66] When primitive Christians thought of a treasure it had to be something real and tangible; theirs was the tradition of the Jews before them, for whom the delights of the other world "though including spiritual and intellectual joys are most tangible delights of a completely pleasing physical and social environment."[67] Much has been written about early Christian and Jewish concepts of time, but where the other world is concerned the ideas of space are at least equally important. With what care Luke tells us exactly where the angel stood in the Temple and exactly where

on the map he found Mary! What tireless comings and goings and what constant concern with being in one place or another fill the pages of the Gospels! If we are not to think in terms of real time and place, why this persistent use of familiar words that suggest nothing else? Scholars have pointed out that it is impossible to take such formulaic expressions as "to visit the earth" and "he went and preached" (referring to the descensus) in any but the most literal sense.[68] The insistence of our sources on depicting the hereafter in terms of "places" (*topoi*, the *ma'man* of the Dead Sea Scrolls) is a constant reminder that "heaven is not only a state but a place."[69] True, it is so far away that our Sun "and all the world of men" look like nothing but a tiny speck of dust, "because of the vast distance at which it is removed"; but for all that it is still the same universe, and all made of the same basic materials.[70]

This preoccupation with locus assumes a plurality of worlds, and indeed in our "treasure" texts we often find "worlds," "earths," and "kosmoses" in the plural.[71] It is only the Fallen Angels, in fact, led by the blind Samael, who insist: "We are alone and there is none beside us!"[72] To the Sons of Light, on the other hand, there is opened up the grandiose vision of the "worlds" united in the common knowledge of Him who made them, exchanging joyful and affectionate messages as they "keep faith with one another" in the common Plan and "talk to each other . . . and establish concord, each contributing something of its own" to the common interest.[73] The members of the vast complex are kept in perfect accord by the sustaining Word of God which reaches all alike, since it possesses "through the power of the Treasure" the capacity for traveling for unlimited distances with inexpressible speed.[74] This Word is also the Son, who "has betaken himself to the numberless hidden worlds which have come to know him."[75] The messages may also be borne by special messengers and inspectors, angels with special assignments and marvelous powers of getting around, who constantly go forth on their missions and return with their reports.[76]

With all its perfect unity and harmony, the system presents a scene not of monotonous uniformity but rather of endless and delightful variety: ". . . they are all different from each other, and He has not made one of them superfluous; hence each one has good things to exchange with its neighbors."[77] At a new creation there is a reshuffling of elements, like the rearranging of notes in the musical scale to make a new composition;[78] it is even suggested, as we have noted, that old worlds may be dismantled to supply stuff for the making of newer and better ones.[79]

Beginning with the very old Egyptian idea, recently examined by E. A. E. Reymond, that the creation of the world was really a re-creation by "transforming substances" that had already been used in the creation of other worlds,[80] the Jewish and Christian apocryphal writers envisage a process by which the stuff of worlds is alternately organized into new stars and planets and when these have served their time, scrapped, decontaminated, and re-used in yet more new worlds. This "Urstoff" which is being constantly re-cycled is the *Tohuwabohu* of some Jewish teachers, according to Weiss, who saw the ultimate forms of matter in fire and ice.[81] Likewise, according to the same authority, the world-holocaust of the Stoics was merely a necessary preparation for the making of new worlds from old materials.[82] The whole thrust of Weiss' book is that until the early Christian Apologists we find no trace anywhere of a doctrine of

creatio ex nililo,[83] the creation being everywhere conceived of as the act of organizing "matter unorganized" (*amorphos hyle*), bringing order from disorder, the basic prerequisites for the work being space (*chora*) and unorganized matter.[84]

And so we have in the *Pistis Sophia*, continuing the Egyptian teachings, the picture of a constant remixing (*kerasomos*) going on in the universe in which old, worn-out, contaminated substances, the refuse (*sorm*) of worn-out worlds and kingdoms (247-240), is first thrown out on the scrap-heap and returned to chaos as "dead" matter (134; 41;68), then melted down in a dissolving fire for many years (366), by which all the impurities are removed from it (249), and by which it is "improved" (Ch. 41, 68), and is ready to be "poured from one kind of body into another" (251). This whole process by which souls as well as substances are "thrown back into the mixing" (14), is under the supervision of Melchizedek, the great reprocessor, purifier, and preparer of worlds (35f.). He takes over the refuse of defunct worlds or souls (36), and under his supervision five great Archons process (lit. "knead"—*ouoshm*) it, separating out its different components, each one specializing in particular elements, which they thus recombine in unique and original combinations, so that no new world or soul is exactly like any other (338).

In this full-blown pleniarism there is no waste and no shortage: "If any were superfluous or any lacking the whole body would suffer, for the worlds counterpoise one another like the elements of a single organism."[85] The worlds go on forever: "They come and come and cease not, they ever increase and are multiplied, yet are not brought to an end nor do they decrease."[86]

It was essential to the Plan that all physical things should pass away; this idea is depicted by the ancient Egyptian symbol of the *Uroboros*, the serpent with his tail in his mouth, representing the frustration of material things or matter consuming itself by entropy.[87] Indeed, the *Pistis Sophia* describes the *Uroboros* (which means "feeding on its own tail") in terms of the heat-death, when it reports that fire and ice are the end of all things, since ultimate heat and ultimate cold both mean an end to substance.[88] Though matter is replaced through an endless cycle of creations and dissolution, only spirit retains conscious identity, so that strictly speaking "only progeny is immortal," each "mounting up from world to world" acquiring ever more "treasure" while "progressing towards His perfection which awaits them all."[89] When the Apostles formed a prayer-circle, "all clothed in garments of white linen," Jesus, standing at the altar, began the prayer by facing the four directions and crying in an unknown tongue, "Iao, Iao, Iao!" The *Pistis Sophia* interprets the three letters of this word as signifying, (1) *Iota*, because the universe took form at the Creation; (2) *Alpha*, because in the normal course of things it will revert to its original state, alpha representing a cycle; (3) *Omega*, because the story is not going to end there, since all things are tending towards a higher perfection, "the perfection of the perfection of everything is going to happen"—that is "syntropy" (*Pistis Sophia*, 358).

The eternal process is thus not a static one, but requires endless expansion of the universe (*p-sōr ebol mpterf*) (193 end, 219, 225, etc.), since each dispensation is outgoing, tending to separation and emanation, i.e., fissure (220), so that "an endless process in the Uncontainable fills the Boundless" (219). This is the Egyptian paradox of expanding circles of life which go on to fill the physical universe and then go on without end.[90] Such a thing is possible because of a force

which is primal and self-existent, having no dependence on other matter or its qualities. This is that "light-stream" which no power is able to hold down and no matter is able to control in any way (*Pistis Sophia*, 227). On the contrary, it is this light which imposes form and order on all else; it is the spark by which Melchezidek organizes new worlds (35); it is the light that purifies contaminated substances (388), and the light that enables dead matter to live (Ch. 65; 134). Reduced to its simplest form, creation is the action of light upon matter (*hyle*) (64); matter of itself has no power, being burnt-out energy (65), but light reactivates it (134); matter is incapable of changing itself—it has no desire to, and so light forces it into the re-cycling process where it can again work upon it—for light is the organizing principle (50). If Melchizedek is in charge of organizing worlds, it is Michael and Gabriel who direct the outpouring of light to those parts of chaos where it is needed (130). As light emanates out into space in all directions it does not weaken but mysteriously increases more and more, not stopping as long as there is a space to fill (129). In each world is a gathering of light ("synergy"?) and as each is the product of a drive towards expansion, each becomes a source of new expansion, "having its part in the expansion of the universe" (193 end).

The mere mechanics of the creation process as described in our "treasure" texts display truly remarkable scientific insight. For the making of a world the first requirements, we are told, are a segment of empty space, pure and unencumbered,[91] and a supply of primordial matter to work with.[92] Mere empty space and inert matter are, however, forbidding and profitless things in themselves, disturbing and even dangerous things for humans to be involved with—contemplating them, the mind is seized with vertigo until some foothold is found in the void.[93] The order and stability of a foundation are achieved through the operation of a "Spark." The Spark is sometimes defined as "a small idea" that comes forth from God and makes all the difference between what lives and what does not: "Compared with it all the worlds are but as a shadow, since it is the Spark whose light moves all (material) things."[94] It is the ultimate particle, the "*ennas* which came from the Father of those who are without beginning," emanating from the Treasure-house of Light from which all life and power is ultimately derived.[95] Thanks to the vivifying and organizing power of the Spark, we find throughout the cosmos an infinity of dwelling-places (*topoi*), either occupied or awaiting tenants.[96] These are colonized by migrants from previously established "toposes" or worlds, all going back ultimately to a single original center.[97] The colonizing process is called "planting," and those spirits which bring their treasures to a new world are called "Plants," more rarely "seeds," of their father or "Planter" in another world.[98] Every planting goes out from a Treasure-house, either as the essential material elements or as the colonizers themselves, who come from a sort of mustering-area called the "Treasure-house of Souls."[99]

With its "planting" completed, a new world is in business, a new Treasury has been established from which new Sparks may go forth in all directions to start the process anew in ever new spaces;[100] God wants every man to "plant a planting," nay, "he has promised that those who keep his Law may also become creators of worlds."[101] But keeping that Law requires following the divine pattern in every point; in taking the Treasure to a new world, the Sent One (who follows hard on the heels of the colonists) seeks nothing so much as complete identity

with the One who sent him; hence, from first to last one mind alone dominates the whole boundless complex.[102] Because each planting is completely dependent on its Treasure-house or home-base, the system never breaks up into independent systems; in this patriarchal order all remains forever identified with the Father from whom all ultimately come forth.[102]

We on earth are not aware of all this because we comprehend only what *we* are like.[103] Not only is God rendered invisible by the impenetrable veil of light that surrounds him,[104] but he has purposely "placed veils between the worlds," that all treasures may be hid from those who do not seek them in the proper way.[105] On the other side of the veil of the Temple lay "the secrets of heaven," the celestial spaces which know no bounds, and all that they contain.[106] The *wilon* (veil) quarantines this polluted world mercifully from the rest.[107] "Beyond the veil are the heavens,"[108] and that goes for other worlds as well as this one, for each is shut off by its veil, for there are aeons and veils and firmaments: "He made a veil for their worlds, surrounding them like a wall."[109] Behind the ultimate veil sits Jeu, "the Father of the Treasury of Light" who is separated from all others by the veils (*katapetasmata*), [110] a veil being that which separates that which is above from that which is below.[111] When a cycle has been completed in the existence of things, "the Great Sabaoth the Good looks out," from behind the veil, and all that has gone before is dissolved and passes into oblivion.[112] Only the qualified can pass by one of these veils, of course; when *Pistis Sophia* presumed to look behind the veil before she was ready, she promptly fell from her former glory.[113] Only Jesus has passed through all the veils and all the degrees of glory and authority.[114] As one grows in faith more and more is revealed, until finally "the Watchers move the veils aside and you enter into the Presence of the Father, who gives you His name and His seal. . . ."[115]

These veils seem to serve as protecting as well as confining fences around the worlds: The light of the Sun in its true nature (*morphe*) is not seen in this place, we are told, because it passes through "many veils and regions (topoi)" before reaching us;[116] its protective function is represented by a wonderful super-bird, called "the guardian of the inhabited earth," because "by spreading out his wings he absorbs (*dechetai*) the fire-like (*pyrimorphos*) rays" of the Sun; "if he did not receive (absorb) them, the human race could not survive, nor any other form of life." On a wing of the bird is an inscription declaring, "Neither earth nor heaven begot me, but the wings of fire." Baruch was informed by an angel that this bird is the Phoenix, the Sun-bird which feeds on the manna of heaven and the dews of earth.[117] It blocks the sun with its wings outspread, suggesting solar prominences or Zodiacal light. At any rate, it is an interesting example of how the ancients explained things which most men cannot see or comprehend in terms of things which they can.

The Plan calls for universal participation in the accumulation of Treasure in a course of eternal progression.[118] The "Treasures in the Heavens" is heady stuff; E. L. Cherbonnier has observed that the discovery that man really belongs to the same family as God, "to share in the same kind of existence which God himself enjoys," is "like learning that one has won the sweepstakes."[119] The Evangelium is good news—the only *good* news, in fact, since all else ends in nothing. But it is also *news*, the sort of thing, as C. S. Lewis points out, that no human being could possibly have invented. Granted that the Treasures in the Heavens are

something totally alien to human experience, something which "eye hath not seen, nor ear heard, neither hath entered into the heart of man," they must be none the less real.[120] "For the plan of Salvation," as E. Soggin has recently put it, "only exists when we are dealing with reality, not with artificial contrivances . . . as Hesse notes, 'We are only interested in what really took place, all the rest being of little or no concern whatever.' "[121] Likewise the religion of Egypt "n'est pas une mystique, mais une physique" as we are now discovering.[122] This attitude, diametrically opposite to that of Christian and Jewish scholars (e.g., C. Schmidt) in the past, is gaining ground today. The old literalism has been dismissed as Gnostic, and indeed much of the appeal of Gnosticism lay in its exploitation of certain "cosmist" aspects of early Christian teaching; but the basic teachings of Gnosticism and Neoplatonism were spiritualized concepts which followed the prevailing line of the schools and ran directly counter to the old literalism of the Treasures in Heaven.[123]

While our sources contain "extremely confused and contradictory records of creation," all seem to betray "a single organic foundation."[124] And while the relationship between them all still remains to be established, it becomes clearer every day that there was a relationship.[125] The cosmist" idea is not the monopoly of any group, Gnostic or otherwise. Indeed, cosmism was essentially anti-Gnostic.[126] The Doctors of the Christians and the Jews who adopted the Neoplatonic and Gnostic ideas of the schools opposed the old literalism with all their might, so that to this day cosmism has remained the very essence of heresy.[127] Still, the very Fathers who opposed the old teaching admitted that it was the original faith of the saints, and they could not rid themselves of it without a real struggle.[128]

In view of its age, its universality, its consistency, and its scientific and aesthetic appeal, the doctrine of the Treasures in the Heavens should be studied more closely than it has been. What we have presented in intensely concentrated form is enough to show that references to treasures in religious writings may well conceal far more than a mere figure of speech.

NOTES

[1]We have treated this theme in "Sparsiones," *Classical Journal*, 40 (1945), 515-43.

[2]*Secrets of Enoch*, v:1, cf. vi:1; Jerem. li:16; Ps. cxxxv:7; Job xxxviii:22; *I Enoch*, xviii:1; *Slavonic Enoch* (in J. A. T. Robinson, *Apocrypha Anecdota* [Cambridge, 1897], II, lviii); *Pseudo-Philo*, xxxii:7 (in M. R. James, *Antiquities of Philo* [SPCK, 1917], 176). "Clouds of radiance drip moisture and life," *Psalms of Thomas*, i:11 (A. Adam, in *ZNTW*, Beih. No. 24, [1959], 2); text in *A Manichaean Psalm-book* (Stuttgart, 1938), 203-228. On the heavens as a general storehouse and treasure-house, K. Ahrens, in *ZMDG*, 84 (1930), 163, discussing *Koran*, xv:21; cf. *Ben Sirach*, xliii:14ff. In the *Enuma Elish*, Tab. vii:8, God's "treasure is the abundance which is poured out over all." On the relevance of this source, see W. Bousset, *Hauptprobleme der Gnosis* (Göttingen, 1907), 246.

[3]They are "for a blessing or a curse as the Lord of Spirits willeth," *I Enoch*, lix:1ff.; lx:22. They must undergo a transformation to be useful to man: Deut. xxviii:12; *I Enoch*, xviii:2; and lx:15, 21-22; *III Baruch*, x:9-10. They may serve "against the day of battle and war," Job xxxviii:22, for unless benignly restrained they are dark and destructive, J. A. T. Robinson, *Apocrypha Anecdota*, lviii, citing *Testament of Levi*, iii:2; cf. *Od. Sal.*, xvi:16; *Pseudo-Philo*, xv:5.

[4]"I am the Treasure of Life who descended upon the King of Glory, so that he was radiant in his understanding," M. Lidzbarski, *Das Johannesbuch der Mandäer* (Giessen, 1905), 203, No. 57. God holds the keys to control and administer the treasure, K. Ahrens, in *ZMDG*, 84, (1930), 163; he restrains the elements as by a dam, *I Enoch*, lx:1ff., keeping them "sealed up,"

Pseudo-Philo, viii:6-10, in places of peace and order, *I Baruch*, iii:15. His treasury is a shrine of wisdom, Jerem. li:16-17; cf. Pindar, *Olymp.* vi:64ff., 109. For the Mandaeans "treasure" means "capability, ability, worthiness," E. S. Drower, *The Thousand and Twelve Questions* (Berlin: Akad.-Verlag, 1960), 117, n. 8. An impressive treatment of the theme is in the *Thanksgiving Hymns (IQH)*, especially 1 (Plate 35), 3 (Pl. 37), 10f. (Pl. 44f.), 13 (Pl. 47).

[5]Quotation is from E. S. Drower, *A Pair of Nasoraean Commentaries* (Leiden: Brill, 1963), 69, n.1. Cf. *II Baruch*, liv:13; *Od. Sal.*, iv:8. The treasure is a fountain, Proverbs viii:24. "He has a multitude of waters in the heavens . . . ," Jerem. li:16. The source of all earthly treasure is a pool in heaven, *III Baruch*, x:1-10. The "treasures of glory" are the clouds and earthly fountains, says the *Battle Scroll (IQM)*, x:12, the latter being fed by the former, *Pseudo-Philo*, xix: 10, cf. N. Sed, "Une cosmologie juive du haut moyen-age," in *Revue des Etudes Juives*, 124 (1965), 64-5. In the treasuries of the heavens are "the living waters," *I Enoch*, xviii:2; blessings pour from "the holy dwelling and the eternal fountain that never deceives," *IQSb*, i:3 (this is also temple imagery, *I Enoch*, xxxix:5). God's creative intelligence is "a strong fountain," *IQH*, xii:11. Pindar, *Olymp.* i:1ff.; iii:65ff.; ix:19, and Aeschylus, *Persians*, 234, 1022, equate the life-giving gold and silver of the divine treasure-house of oracular wisdom with golden grain and silver fountains. The light of the treasure is also a stream, *Pistis Sophia*, 65 (132f.). The creative process is an ever-flowing Jordan of Light, *Ginza*, 67 (M. Lidzbarski, *Ginza* [Göttingen, 1925], 61f.).

[6]*II Baruch*, liv:13.

[7]K. Koch, "Wort and Einheit des Schöpfergottes im Memphis und Jerusalem," in *Zeitschr. f. Theol. u. Kirche*, 62 (1965), 276. This is one of many recent studies pointing out the relevance and importance of early Egyptian texts for the study of Jewish and Christian concepts. So L. V. Khybar, in *JNES*, 13 (1954), 87; R. Anthes, in *JNES*, 18 (1959), 169-212; L. Speleers, *Les Textes des Cercueils* (Brussels, 1946), xxviii. The five *stoicheia* "gush forth" from the five treasure-houses, *Manichäische Handschriften der Staatl. Museen Berlin* (Stuttgart, 1940), I, 30.

[8]Such a scene is depicted in the archaic text of the so-called *Shabako Stone*, K. Sethe, *Das 'Denkmal Memphitischer Theologie', der Schabakostein des Br. Museums* (Leipzig, 1928), 23-32, 60-70, in the *Pyramid Texts*, e.g., #468 (895); and *Coffin Texts*, e.g., #39 (166-67); in *Enuma Elish*, Tab. iii: 132-38; iv; vi. On the general Near Eastern background of the Council in Heaven, see F. M. Cross, in *JNES*, 12 (1959), 274-77; H. W. Robinson, in *Jnl. Theol. Stud.* 45 (1944), 151-57. On the presentation of the Plan, see J. Fichtner, in *ZATW*, 63 (1951), 16-33. The scene is presented in the *Serekh Scroll (IQS)*, x:1ff.; *Ben Sirach*, xvii: 11f.; *Pastor Hermae*, Vis. i:3; *The 1012 Questions* (Drower), 112.

[9]Thus in the Shabako Stone (see note 8) as rendered by J. Breasted, *The Development of Religion and Thought in Ancient Egypt* (London, 1912), 46; "Then he assembled all the gods and their kas (saying to them): 'Come ye and take possession of the "Meb-towe," the divine store-house . . . whence is furnished the "Life of the Two Lands." ' " Cf. Pindar, *Pyth.*, xi:5: "Come to the hidden Melian treasury of the golden tripods . . . the storehouse of true counsels, where the host of heroes assembles." Cf. Jerem. x:12; *4 Ezra* viii:20; *Ben Sirach*, xxxix: 12-17; *IQH*, i:10, xiii:1; *IQS*, x:1-2; *Od. Sal.* xv and xvi; xix:1ff.; *Acts of Thomas*, c. 136 (A. F. J. Klijn, *The Acts of Thomas* [Leiden: Brill, 1962], 137); *Psalms of Thomas*, i:7-14; cciii:11ff.; the *Second Gnostic Work*, 39a (C. Schmidt, in *Texte u. Untersuchungen*, 8 [1892], 254, 301). At the Great Council in Heaven the Son said to the Father: "If it please Thee . . . speak, open Thy treasury, and take therefrom a boon," the boon being the plan of salvation, *Prayerbook of the Mandaeans*, No. 250, in E. S. Drower, *The Canonical Prayerbook of the Mandaeans* (Leiden: Brill, 1959), 207; the scene is also described, *ibid.*, 225 (No. 318), 227 (No. 321), 228 (No. 323), 252 (No. 358, cf. 365-68), 269 (No. 375) 271ff. (No. 376). There is a dramatic description of the opening of the chest in the *Alma Rishaia Zuta*, iii:199ff. (in Drower, *Nasoraean Commentaries*, 69). So *Ginza* (Lidzbarski), 493. There are five treasuries of the senses; when the mind *(enthymēsis)* wants to create, it opens the appropriate treasure-chest to get the things it needs, *Manichäische Handschriften der staatl. Museen Berlin* (Stuttgart, 1940), I, 138-40, the things being the elements in an unformed state, *ib.* 54. Though they were later corrupted by mixture with a lower state of matter or ground-substance, the physical elements are in themselves pure and holy, *ib.*, 239; in their corrupt earthly form they are gold, silver, copper, lead, and tin, *ib.*, 33. God also opens a treasure-chest to bring forth healing elements for man, *Manichaean Psalm-book*, II, 46.

[10]*Gospel of Truth* (M. Malinine, *et. al.*, *Evangelium Veritatis* [Zürich, 1956], fol. XIVV, 5-7. Smoke, fire, wind, and water were the chaotic contents of the divine Store-house, *Manichaean Psalm-book*, II, 9. In the *Ginza*, 259, there is a leavening substance, a "Sauerteig der Welt," kept in the divine Treasure-house, and from this the world and the planets are created, as higher worlds are created of a like substance, 261. God furnishes "the whole creation" from "the

treasuries of all the winds," *I Enoch*, xviii:1, which are in the midst of "secret things" amidst mountains of precious stones and minerals, *ib.* lii:5. On wind as the "Urstoff," *Coffin Texts*, Spell 162 (A. de Buck, ed., Univ. of Chicago, 1938, II, 401). On water, W. Lambert, in *Jnl. Theol. Stud.*, 16 (1965), 293.

[11]For a thorough treatment, H. F. Weiss, *Untersuchungen zur Kosmologie des hellenistischen und Palästinischen Judentums* (Berlin: Akademic-Verlag, 1966), 59-74, and notes 81 to 84, below; also W. Richter, "Urgeschichte und Hoftheologie," *Biblische Zeitschr.*, NF 10 (1966) 97; H. A. Brongers, *De Scheppingstradities bij de Profeten* (Amsterdam, 1945), 3-18.

[12]The idea is carried over into the widespread ritual dramatizations of the Creation, the essence of which is the strict regulation of persons, times, and places, S. Mowinckel, *Religion und Kultus* (Göttingen, 1953), 53-9. See esp. *Pistis Sophia* 128-135.

[13]This is an unfailing part of the picture: the Hallelujah chorus with its refrain of "Forever and ever!" is the closing section of almost any ritual text. See W. F. Otto, *Die Musen und der göttlichen Ursprung des Singens und Sagens* (Düsseldorf-Köln: E. Diederich, 1956); H. Nibley, "The Expanding Gospel," *B.Y.U. Studies*, 7 (1965), 5-27.

[14]K. Koch, in *Zeitschr. f. Theol. u. Kirche*, 62 (1965), 271, 281-82, shows that the "creative word of God" originally refers to a conversation, a discussion with others. The Egyptian concept is discussed by H. Junker, *Die Götterlehre von Memphis* (Berlin Akad. d. Wiss., 1940), 36f., 42, 55; the holy ones are "as it were extensions of the Great God," H. Grapow, *Das 17. Kapitel des aeg. Totenbuches* (Berlin, 1912), 40. See above, notes 8 and 9. May not the Logos of John I also be a "council" "discussion"?

[15]Quotation from D. Winston, in *History of Religions*, 5 (1966), 212, citing Jewish and Persian sources. It was a real discussion, in which many divergent views were expressed, as described in Timothy Abp. of Alexandria, *Discourse on Abbaton*, fol. 10a-12a (E. A. W. Budge, *Coptic Martyrdoms* [Br. Mus., 1914], 232-34); *Ginza* (Lidzbarski), 331-33; *Mandaean Prayer-book*, No. 361 (Drower, 255); *Alma Rishaia Zuta*, iii, 215ff (67, 70); *Alma Rishaia Rba*, iv, 150ff. (7); *Pistis Sophia*, 33ff.

[16]*IQM*, xii:2-3; *IQSa*, i:1ff. The world was created on their behalf, *Ascension of Moses*, i:12; *4 Ezra* ix:13. All the elect were known and the kingdom with "the riches of his glory" (i.e. the treasure) appointed to them "from the foundation of the world," Matt. xxv:34,41; Rom. ix:23; *Od. Sal.*, xxiii:1-3; *Psalms of Solomon*, xviii:30; *Didache*, x:3; *Test. Dom. nostri J. Christi*, xxiv (J. E. Rahmani, ed.; Mainz, 1899). They are the Pearls in the Treasure-house of Life, *Ginza*, 59of. They alone share the secrets of the treasure, *ibid.*, 296, cf. *IQH*, xvii:9.

[17]*IQM*, xiii:2; vii:6; xv:13; *IQSa*, ii:8f, 14f, 20: *IQH*, iii:2of. Every major event in the N. T. is marked by the presence on the scene of heavenly beings participating with the saints in the activities.

[18]*IQM*, x:10; *Clementine Recognitions*, iii:53f, 58; v:5-7; *Oxyrhynchus Frg.*, No. 654:5ff; *Gospel of Thomas*, 80:14-18; 94:14ff, 19; 1ff; *Gospel of Truth*, fol. IXr, 2-4; Lactantius, *Div. Inst.*, IV:ii. "The Chosen people alone understand what the others have rejected," K. Koch, *Zeitachr. f. Theol. u. Kirche*, 62 (1965), 292.

[19]*IQH*, i:21; II:7, 13, 17; iii:19ff; iv:27; v:25; vi:10-11; vii:26-30; x:4, 14ff, 22ff, 29; xi:4-8, 10, 27f; xii:11f; xiii:18f; xv:21f. Cf. *IQS*, xi:6f; ix:16-18; Isaiah xlv:3; Matt. xi:25ff; Rom. xi:33, 12; Eph., iii:8f; Col. ii:2f, 26f; Phil. iv:19; *I Enoch*, lxiii: 3; *Ep. Barnab.*, vi; *Od. Sal.*, vi:4-5; xxx:1; *Gospel of Truth*, fol. XVIr, 17; *Test. Dom. nostri J. Christi*, xliii (Rahmanie, 103); *Ben Sirach*, xvii:11-13, *Manichaean Psalm-book*, II, 120, 126. "In a certain way, election is pre-existence," writes J. Zandee, in *Numen*, 11 (1964), 46, citing Logion No. 49 of the *Gospel of Thomas*. Not only the Son of Man but Isaac, Jacob, Jeremiah, the Twelve Apostles, Peter, etc., are specifically said to have been chosen and set apart in the pre-existence.

[20]Clement of Alex., *Paedagog.*, I, vii (in Migne, *P. G.*, viii:321), citing Jeremiah i:7,5; cf. Ephes. i:4; I Pet. i:20. The awards and assignments handed out at the Creation must have been earned in a pre-existent life, Origen, *De princip.*, I, viii, 4; II, ix, 6-8; cf. *Zaddokite Document*, ii:7; *IQS*, iv:22; iii:15; *IQH*, 1:7.

[21]The expression occurs in *Gospel of Thomas*, 84:17; *Gospel of Philip*, 112:10; cf. *Secrets of Enoch*, xxiii:4-6; *IQH*, i:19; xiii:8; *Od. Sal.*, vii:10.

[22]*II Baruch*, xxi:16. Cf. *Gospel of Philip*, 112:10: "For he who is both was and shall be." "By not yet existing, I do not mean that they do not exist at all . . ." *Gospel of Truth*, fol. XIVr: 35-36. The formula "out of the eternities and into the eternities" is found in *IQS*, ii: line 1, and *Ep. Barnab.*, xviii, and indicates an endless past as well as an endless future for man, ". . . for Thou didst establish them before eternity," *IQH*, xiii:8. "When he prepared the heavens I was there. Then I was by him, as one brought up with him; and I was his daily delight," *Proverbs* xiii:21ff; see H. Donner, in *Aegypt. Zeitschr.*, 81 (1956), 8-18, for Egyptian parallels.

[23]With a new creation things become visible on a new level, *Secrets of Enoch*, xxiv:5-xxv:1; xxiv:2; xxx:10-11; lxv; *II Baruch*, li:8. This is consistent with the doctrine that one sees or comprehends only what one is like, see below, note 103. In the Genesis creation hymn, "everything is as it were created twice, in two different ways," J. B. Bauer, in *Theol. Zeitschr.*, 20 (1964), 7; Albright has shown that "in the beginning" does not refer to an absolute beginning but to the start of a new phase in a going concern, *ib.*, 1. *Ex ouk onton* refers to such a phase rather than to creation *ex nihilo*, W. Richter, in *Biblische Zeitschr.*, NF 10 (1966), 97, citing 2 *Macc.* vii:28, and *Homil. Clem.*, xix:4, 9, 16, 18.

[24]The concept of Gen. i and Psalms xciv and civ is the same as the old Egyptian idea that the Creation was the beginning of a new cycle of time following a different kind of age, K. Koch, *Zeitschr. f. Theol. u. Kirche*, 62 (1965), 257. At the Creation God showed his children "what they did not know before, creating new things and abolishing old agreements, to establish that which should be eternally," *IQH*, xiii:10-12; *Ben Sirach*, xxxvi: 6-8. Passing from one life to another is a renewal, *IQH*, xi: 12ff; one's existence does not begin with the womb, though a new life begins there, *IQH*, xv:12-15; *Apocalypse of Adam*, 78:1. When the "treasury of the heavenly King is opened" the saints become heirs to a new kingdom by a renewal of the mind, *Acts of Thomas*, Ch. 136. To become a Christian is to accept a new creation, *Epist. to Diognetus*, xi.

[25]Below, note 79. The Egyptians taught that a creation was the reuniting of existing things in new forms, R. Anthes, in *Aegypt. Zeitschr.*, 82 (1957), 3. Untamed chaotic matter is represented as a raging beast, e.g., *Pistis Sophia*, 54 (104); 55 (105); when the beast is subdued an orderly world is composed of its substance, *ib.*, 70 (154). Can this be the origin of the common tradition of creation from the body of some slain monster?

[26]*Clementine Recognitions*, i:24. So *Ginza*, 506, 508-10, 438. The spirits are equal in age, but not in power and glory, in which they compare as fathers to sons, without any rivalry or jealousy, *Sophia Christi* (ed. W. Till), 97:2ff.

[27]Every man has a *dmuta*= "likeness, counterpart, image," which is the "spiritual or ideal counterpart or double. . . ," E. S. Drower, *1012 Questions*, 11; it is "the pre-existent pneumatic part of man," *ib.*, 122, n. 5, 161, 173, n. 3. Thus Paul (in the *Apocalypsis Pauli*, xviii:22ff) and Tobit (in an Aramaic text of *Tobit* from Qumran) both see their spiritual doubles. In the remarkable Vision of Kenaz in the *Pseudo-Philo*, xxviii:8, that early prophet sees the spirits of men walking about in another spirit-world while waiting for this world to be created. This is the Mandaean Ether-Earth, E. Drower, *Prayerbook of the Mandaeans*, 290, n. 4. Before the creation of the world "the soul still sat in the Kanna, without pain and without defect. . . ," Lidzbarski, *Johannesbuuch der Mandäer*, 55 (No. 13). All creatures are double, *Pastor Hermae*, II (Mand., viii), 1, and all souls existed before the formation of the world, *Secrets of Enoch*, xxiii:4. The related Platonic doctrine "became a prevailing dogma in later Judaism," according to R. H. Charles, *Apocrypha & Pseudepiographa of the Old Testament* (Oxford, 1913), II, 444.

[28]"God has shed upon man the splendor of his glory at the creation of all things," *IQH*, xvi:9; vii:24ff; *Secrets of Enoch*, xxiv:1, 5; xxii: 8b; *Od. Sal.*, xxviii:14-15; xli; xxiv:5; xxxvi:3-5; *Gospel of Thomas*, 90:2; *Gospel of Philip*, 112:12, 14f. *The Nature of the Archons*, 144:20 (in *Theol. Literaturzeitung*, 83 [1958], p. 668); *Pastor Hermae*, Simil. I:1; Mandaean texts cited by R. Bultmann, "Die neuerschlossenen mandäischen u. manichäischen Quellen . . . ," *ZNTW*, 24 (1925), 108f. One is overawed by the thought that this thing of wet dust once "praised among the praising ones . . . was great among the mighty ones . . . ," *IQS*, xi:20-22; *IQSb*, iii, 28. To know one's true identity is the great treasure, *Gospel of Thomas*, 80:26; 81:3f; 87:1f. "I am a Son and come out of the Father . . . descended from the pre-existing Father," etc., *Apocryphon of James* (ed. W. Till), i:333, 15f.

[29]Thus a fragment from Turfan, cited by Bultmann, 126: "I come from the light as one of the gods, and here I have become a stranger." With characteristic vanity the Gnostics reserved such glory for themselves alone, Irenaeus, *adv. Haeres.*, I, vi. cf. *Od. Sal.* 41:8, *The Pearl*, 11, 31-44, 56.

[30]Job xxxviii:3-7, 21, this last is not stated as a question in the MT, but a flat declaration; *IQM*, xvii:20-27; ". . . peace was prepared for you before ever your war was," and God will not take back the promises made at the creation, *Od. Sal.*, iv:12-14.

[31]*Gospel of Thomas*, Log. 84. When Adam complained of his hard lot on earth, a heavenly messenger shamed him by reminding him of the throne awaiting him in heaven, Lidzbarski, *Mand. Johannesbuch*, 57 (No. 13). "Endure much; then you will soon see your treasure!" *Ginza*, 493; cf. The *Apocryphon of John*, 20:19-22; 17.

[32]E.g., *IQH*, iii:22; vii:32; x:1ff, and above, note 19. Cf. Acts i:23,26.

[33]Those who will go to heaven are they who came from there in the first place, John iii:13. They recognize the Lord on earth even as they once acclaimed him above, John xvii:8; xvii:10-12.

[34]Justin Martyr, *Apol.*, i:10, 59; ii:4-5, 7. So *Zadokite Frg.*, ii:3-6. "When you lay your hand on the treasure the soul enters the scales that will test her," *Alma Rishaia Rba* (Drower), 44-46. Only when you have overcome here "is your name called out from the Book of Those Who Were Valiant, and you become the heir to our Kingdom . . ." *The Pearl*, lines 46-48. For the reward aspect, Origen, *De princ.*, I, viii, 4; II, ix, 6-8. Cf. *Manichaean Psalm-book*, II, 4, 58, on this "world of testing. . . ."

[35]*Clementine Recognitions*, i:24.

[36]K. Sethe, *Dramatische Texte* (Leipzig, 1928), I, 64-65.

[37]A specific counter-plan is mentioned in *Clementine Recognitions*, iii:61; cf. *IQM*, xiii:4; *IQS*, ii:4ff.; *4Qflor.*, i:8; *Gospel of Philip*, 123:2ff.; 103:14ff.; *Apocryphon of John*, 74:1ff.; 36:16ff.; 72:10ff; *Sophia Christi*, 122:1ff. There are those in the Church who preach the doctrine of the Serpent, according to the Pseudo-Epistle of Paul to the Corinthians in *Bodmer Papyrus*, X:54:15, describing his ambitious opposition to God's plan in the beginning, *ib.*, X:53:11-15.

[38]"Now the Prince, not being righteous and wanting to be God . . . enchains all the flesh of men . . . ," *Bodmer Papyrus*, X:53. So Irenaeus, *adv. Haer.*, V, xxv; *Creation Apocryphon (Ursprung der Welt)*, 151:11ff. (A. Bohlig u. P. Labib, *Die Koptisch-Gnostische Schrift ohen Titel aus Cod. II von Nag Hammadi* [Berlin:Akad. Verlag, 1962], 48f.), 155:25ff.; 150:27,35; 151:3,7,15,18,24; 154:19ff., 14f.; 156:1; *Psalms of Thomas*, ii:1-2; 1:30-37, 22-25, 43-47; vii:1-3; *Test. Dom. nostri J. Christi*, xxiii:43; *Acts of Thomas* (A. J. Klijn), 204:22-25; *Book of John the Evangelist* (ed. M. R. James), 187-89; *Vita Adae et Evae*, xv:3; xvi:1,4 (in R. H. Charles, *Apocrypha & Pseudepiographa of the Old Testament*, 137) *Hypostasis of the Archons* 134:9 (after Isaiah xlvi:9); 140:26; 141:1. *Abp. Timothy Ep. on Abbaton*, fol. XIIIa; *Pseudo-Philo*, xxx:5; xxxiv:2f; *Sibylline Oracles*, iii:105ff. (in Charles, 381); *Ascension of Isaiah*, ii:9; vii:3-5, 9f., 15; *Secrets of Enoch*, x:18; xxxa:3f.; M. Lidzbarski, *Mand. Johannesbuch*, No. 2, 3 (14f., 17ff.); *Alma Rishaia Zuta*, iii:215ff. (70); *Ginza*, 18, 263.

[39]When God sent forth a ship of light "laden with the riches of the Living," Satan and his pirate crew coming "I know not from where" seized "the treasure of the Mighty One" and "distributed it among their worlds" until they were forced to give it up, *Psalms of Thomas*, iii: 1-15, 29-32, 35; *Manichaean Psalm-book*, II, 53, 163, 178; cf. the image of the three ships, *ib.*, 168, 171, 174; *Berlin Manich, Hs.*, I, 50; *Psalms of Thomas*, xii:1-xiii. *The Second Coptic Work*, 14a (ed. C. Schmidt, in *Texte u. Unters.*, VIII:236, 286) has Christ coming out of the monas of Setheus "like a ship laden with all manner of precious things," so also the *Manichaean Psalm-book*, II, 151f; in the *Mand. Johannesbuch*, No. 58 (206), a ship moves between the worlds bearing the glory of the Treasure of Life from one to the other. In the Egyptian *Victory over Seth*, i:19-22, the god passes through dangerous straits in his ship while Seth and his robber band try to waylay him. (In the *Book of the Dead* the battle of the gods takes place on board a ship, H. Grapow, *Das 17. Kapitel des Totenbuches*, 37). When Adam returns to "the Treasure of Life" he is asked by the guardians "what wares he is bringing in his ship," J. Leipoldt, *Religionsgeschichte des Orients* (Leiden: E. J. Brill, 1961), 86. In numerous Acts of Thomas the Captain of the ship or the rich merchant is Christ in disguise, e.g., A. Klijn, *Acts of Thomas*, ii-iii. The same commercial imagery of the ship in the *Mand. Johannesbuch*, No. 18, 84-86; cf. *Ginza*, 324. The seven planets are described as floating ships, *Mandaean Prayerbook*, No. 286, 288; these seven try to rob man of his treasure, *Psalm of Thomas*, v:4 (in *ZNTW*, Beih. 24, [1925], 123); *The 1012 Questions*, 251, 258. The Ark itself was not a ship but a luminous cloud in space, according to the Apocryphon of John, 73:5f.

[40]Mark v:5ff; Luke iv:34f. The recognition is mutual, Luke iv:41; viii:27f; x:17. The contest is continued in the desert, Matt. iv:1, with Satan still claiming the rule and challenging the Lord's title, Matt. iv:10, 3. The war we wage here (Eph. vi:12) is a continuation of the conflict in the beginning, *Hypostasis of the Archons*, 134:20. Those who follow either leader here, followed the same there, John viii:44, 7; *Od. Sal.*, xxiv:5, 7.

[41]*Apocryphon of James*, liii:12ff (the gifts); *Apocryphon of Adam*, 85:1f (ordinances); *The 1012 Questions*, II, iiib, 86 (Drower, 226-27) (signs); 2 Thess. ii:9 (wonders); *Bodmer Papyrus*, X:54 (doctrine); *Apocalypse of Elias*, i:8ff (glory); they are even rival fishermen, Logion, No. 174, in M. Osin et Palacias, "Logia et agrapha D. Jesu," *Patro. Or.*, XIX, 574.

[42]Matt. vi:19-21; xiii:10ff; xix:21, 29; Mark x:21; xii:41ff; Luke xviii:21f; xii:21, 32; Rom. ii:5, I Tim. vi:17-19; Jerem. xlviii:7; *Ben Sirach*, v:2. Many Logia deal with the theme, M. A. Palacios. *Logia et agrapha*, Nos. 34, 42, 44, 50, 53-55, 77 (in *Migne, P. O.*, XIII, 357ff.). So the *Gospel of Thomas*, 37, 137, 147; *Apocalypse of Elias*, viii:12f.; *Psalms of Thomas*, i:17-19; *Apocryphon of James*, ii:53; *Acts of Thomas*, 37, 137, 147; *Gospel of Thomas*, 85:6ff.; 86:27; 92; 94:14; 95:15; 98:31; 99:4; *Slavic Adam and Eve*, xxxiii:1. It is important not to confuse the treasures or to falsify, *Ginza*, 19, 40, 123f., 334, 392, 395, 433; cf. *Pistis Sophia*, 100 (249-51). *Berlin Manich. Hs.* I, 223, 228f.; *Manichaean Psalm-book*, II, 75, 79, 82.

[43]Hence the paradox that the "Poor" are the rich, *Epist. to Diognetus*, v; *Manichaean Psalm-book*, II, 157. See below, note 45.

[44]Treasures now "prepared" and awaiting the righteous on the other side, Mark x:40; *Gospel of Truth*, fol. XXIv, 11-17, can only be claimed by meeting certain stipulations, *Gospel of Philip*, 108:1ff. All treasures are held in trust, "dedicated," I Chron. xxvi:20; *Pseudo-Philo*, xxxix:3, and will be handed over when the time comes, *I Enoch*, li:1. The righteous "without fear leave this world," because they have with God "a store of works preserved in treasuries," *II Baruch*, xiv:12; xxiv:1. Whatever part of the Treasure we enjoy on earth is not ours but has only been entrusted to our keeping, *The 1012 Questions*, I, i; 111f.; 122f. On the "treasury of good works" as "an old Oriental doctrine," K. Ahrens, in *ZMDG*, 84 (1930), 163. "One's good works are his deposits," says Ignatius, *Epist. ad Polycarp.*, vi. The Christian (Manichaean) and Chinese versions are compared by A. Adam, in J. Leipoldt, *Religionsgeschichte des Orients*, 109; for the Iranian version, D. Winston, in *History of Religions*, 5 (1966), 194f., who also mentions concealing the treasure under God's throne, 212, to which parallels are supplied by *II Baruch*, liv:13, *Ginza*, 281; the *Shabako Stone*, line 61, and the Ark of the Covenant "under the feet of the statue of God," W. H. Irwin, in *Revue Biblique*, 72 (1965), 164. This is the theme of *The Pearl*.

[45]Matt. xxv:14-29. Dives is welcome to his treasures on earth, but cannot claim treasures in heaven, Luke xvi:20-5, Matt. xix:21, 24; vi:19f.; Mark x:25; Luke xviii:25; xii:33f. *II Baruch*, xliv:13-15; *Secrets of Enoch*, i:5; *Gospel of Thomas*, 88:34f.; 89:1ff.; *Acts of Thomas* 146; *The 1012 Questions*, II, iv, 159 (245). It is a Jewish, Christian, and Mandaean tradition that earthly prayers are laid up in God's treasure-house, Lidzbarski, *Mand. Johannesbuch*, 10, n.2; *Mand. Prayerbook*, No. 379 (293). If a righteous one strays "his treasure will be taken from him," *Alma Rishaia Zuta*, i, in E. Drower, *Nasoraean Commentaries*, 55; *Berlin Manch. Hs.*, I, 73.

[46]*Apocalypsis Pauli*, 19 (text in *Orientalia*, ii [1933], 22). Cf. *II Baruch*, lii:7; *The 1012 Questions*, vib, 379 (Drower, 279).

[47]*IQS*, iv:16-18. This is an "Abbild" of the cosmic struggle, J. Schreiner, in *Biblische Zeitschr.*, NF 9 (1965), 180; J. M. Allegro, in *Jnl. of Semit. Stud.*, 9 (1964), 291-94.

[48]For the erasing of the memory, see below, note 60. The "Law of Liberty" (*khōq kherut*) of *IQS*, x:6, 11, is "the Ancient Law of Liberty" of *Clementine Recognitions*, ii: 23-25; iii:26, 59; iv:24, 34; x:2; cf. Minucius Felix, *Octav.*, xxvii; Cyril of Jerusalem, *Catehesis* iv:19f, (in Migne, *P.G.*, xxiii:481). Having such freedom, the wicked have deliberately rejected God's plan, *IQS*, iv:25-26. Though the evil spirits are fiercely opposed to this liberty (*Clementine Recognitions*, i:42) the "testing of election for every single individual" goes on without coercion in "truth, righteousness, humility, judgment," etc., while the self-willed are free "to go the way of their own heart . . . according to the plan of his own devising . . ." *IQS*, v:3-5, the spirit being "immortal, rational and independent," *Const. Apostol.*, vi:11; Tatian, *Adv. Graecos*, vii. The present test was appointed from the beginning, *IQM*, xiii:14ff. "This is the condition of the contest which every man who is born on the earth must wage: if he be overcome, he shall suffer . . . if he be victorious, he shall receive what I said . . ." *4 Ezra*, vii:127, cf. *IQH*, xiv:23. It is "a testing-time in the common light," *Sibylline Oracles*, frg. 1:5, 18, 25-27. See further J. B. Bauer, in *Theolog. Zeitschr.*, 20 (1964), 2-3.

[49]A. Adam, "Die Psalmen des Thomas u. das Perlenleid," Beiheft 24 of *ZNTW*, 1959, 49-54. The Syriac text is given by G. Hoffman, in *ZNTW*, 4 (1903), 273-83, bearing the title, "Song of Judas Thomas the Apostle in the Land of India." Thomas' situation in India resembles that of the hero in the Land of Egypt. The pearl itself comes from the other world and is that part of the heavenly knowledge which is to be found here, *Mand. Prayerbook*, No. 252, 208f.; when it is taken away the world collapses, *Ginza*, 517; it is "the pure pearl which was transported from the treasuries of Life, *Mand. Prayerbook* No. 69. The robe of glory, left behind with the Treasure, is to be regained with it, Bartholomew, "*Book of the Resurrection of Christ*," Fol. 18b (in E. A. W. Budge, *Coptic Apocrypha*, 208); *Pistis Sophia*, 6 (9f.).

[50]J. Leipoldt, *Religionsgeschichte des Orients*, 86; *Abp. Timothy on Abbaton*, Fol. 20b. The joyful homecoming is a conspicuous Egyptian theme from the beginning: There is rejoicing among the Great Ones for one of their own has returned, *Pyramid Texts*, No. 606 (1696); 217 (160); 222 (201); 212, 213, etc. *Coffin Texts* (de Buck), II, Spells 31, 132. The theme is discussed by H. Brunner, in *Aegypt. Zeitschr.*, 80 (1955), 6; cf. Pindar, *Olymp.*, viii:13. The righteous are homesick, *I Enoch*, xiv:4; xlii:1ff.; *Manichaean Psalm-book*, II, 197-200, 87. Going to heaven is a return, *4 Ezra*, vii: 78; *John* xvii:5f.; iii:7-13; *Rev.* v:12. The saints desire "to be received back again" into "the first Church (that) . . . existed from the beginning," before the creation, *II Clem. Epist.*, xiv; *Clementine Recognitions*, iii:26; *Test. Dom. nostri J. Christi*, xxviii (61); *Timothy on Abbaton*; Fol. 20b; 12a; *Gospel of Philip*, 115:18. The saints find the Kingdom because they came from there, *Gospel of Thomas*, 89:27; *Pastor Hermae*, III (Simil. i, the Pearl

motif); *Apocalypsis Pauli*, xxiii:9; xxiv:6ff.; *Apocryphon of James*, i:27: 5ff., 12; xxxi:13:25; ii:58:2ff. "The Living Ones will return again to the Treasure which is theirs," *Psalms of Thomas*, i:49; cf. xviii:1ff.; xvii:2off. In the end everything returns to its "root," *Creation Apocryphon*, 175:4; cf. J. Zandee, in *Numen*, 11 (1964), 66. Those above are equally impatient for the reuniting, *Pistis Sophia*, 10 (16-19); *Manichaean Psalm-book*, II, 201, 72, 136.

[51]In reclaiming its treasure the spirit "becomes what it was before removing its garment," *Apocryphon of James*, ii:56:11ff.; cf. *Gospel of Philip*, 105:19; *Gospel of Truth*, fol. XXIv, 24; *Psalms of Thomas*, ii:70-72, 74, 77; *Acts of Thomas*, vi-vii (lines 35-55 of The Pearl); *Second Gnostic Work*, i-a; *Ginza*, 487, 26f; *Od. Sal.*, xi:10; *Pastor Hermae*, III, Simil. viii, 2. The garment is the treasure for both men and angels, *Ginza*, 13; the garment of Adam and Eve "was like the Treasure of Life," *ib.*, 243; it is a protection for the righteous which the evil ones try to seize and possess, *ib.* 247, 259, 132.

[52]The garment represents ritual in general, C. Schmidt, in *Texte u. Unters.*, 8 (1892), 347.

[53]E. Drower, *The 1012 Questions*, 212, 241; the ordinances are "the treasures that transcend the world," *ib.*, 245. "Ginza" means "a treasure, mystery, sacrament . . . what is hidden and precious . . . ," *ib.* 12. As guardian of these secrets and mysteries the Eldest Son is called "the Treasurer," *Ginza*, 150. The Eldest are they who observe the ordinances secretly in this world, *ib.* 153-54, and their highest duty is to transmit and explain these rites to their children, *Mand. Prayerbook*, No. 373, 266. See S. A. Pallis, *Mandaean Studies*, 192.

[54]Discussed by B. Gärtner, *The Temple and Community in Qumran and the New Testament* (Cambridge Univ., 1965), 16ff. The Temple with its rites is the earthly counterpart of the heavenly treasury, *II Baruch*, iv:3-5. Since the Creation the ordinances have been essential to God's plan, *Jubilees*, vi:18; *Pseudo-Philo*, xxi:2. It is in the cultus that the cosmic plan is unfolded, N. A. Dahl, in W. D. Davies and D. Daube, *Background of the New Testament*, 430f., and the return of the Temple is the return of the heavenly order, *4 QFlor.*, i; vi.

[55]I.e., I and II *Jeu* and the *2nd Coptic Gnostic Work*. Without the "mysteries" one has no power and no light, *Pistis Sophia*, 55 (107); this is a Hauptthema of the *Gospel of Philip*, 124. The old Temple rite of the shewbread is an initiation to the Treasury of Light, *Pistis Sophia*, iv: 370. One's station *(taxis)* hereafter depends entirely on the mysteries one has "received" on earth, *ib.*, 90 (202); 86 (195); 32 (52); *Gospel of Philip*, 125 (317); 129 (329). Without the performance of certain ordinances, no one, no matter how righteous, can enter into the Light, *Pistis Sophia*, 103 (263). Hence the rites are all-important, *ib.*, 107, 11 (279), 100 (249f). One becomes "an heir of the Treasure of Light by becoming perfect in all the mysteries . . ." *II Jeu*, lxxvi; *I Jeu*, v; *Apocryphon of John*, liii:11ff.

[56]K. Ahrens, in *ZDMG*, 84 (1930), 163; quotation is from D. Winston, *History of Religions* 5 (1966), 195, giving Jewish and Avestan sources; cf. *IQS*, x:4; ii:3; *Secrets of Enoch*, xl:9f. At the fall of the Temple "the heavens shut up the treasure of the rain" and the priests "took the Keys of the Sanctuary and cast them into the height of heaven," *II Baruch*, x:18. The key to the Mandaean kushta (initiation rites) is held by the Master of the Treasurehouse, *Ginza*, 429f. So also in the *Pistis Sophia*, iv (336), the ordinances are "the keys to the Kingdom of Heaven." The keys which Christ gave to Peter were those to "the Heavenly Treasure," *Epistola XII Apostolorum*, Frg. 2, in Migne, *P.O.*, II:147.

[57]*II Jeu*, lxxiii (in T. U., VIII:211f.); the same image in *Pistis Sophia*, 14 (23). Cf. *IQH*, xvii:21: "God has chosen his elect . . . instructed him in the understanding of his mysteries so that he could not go astray . . . fortified by his secrets." Through definite ordinances one progresses in the community and helps others to progress, *IQH*, xiv:17-18, teaching of "the Creation and of the Treasures of Glory," *IQM*, x:12f, and testing the knowledge of the members, *IQM*, xvii:8; *IQSb*, iii:22-26. In the Coptic works all the rites "serve a single *oekonomia*, i.e., the gathering in of the spirits who have received the mysteries, so that they can be sealed . . . and proceed to the *kleronomia* (heritage) of Light . . . called in the literal sense of the word the Treasure of Light," C. Schmidt, in *Texte u. Unters.*, 8 (1892), 365. In *Pastor Hermae*, I, Simil. iii:5, the saints are raised up by degrees, being tested at each step, to the precious tower.

[58]E. Drower, *The 1012 Questions*, 212, 241. See Morton Smith, *The Secret Gospel* (N.Y. Harpers, 1972), 96, 115, 83.

[59]J. Zandee, in *Numen*, 11 (1964), 45. Adam is the type of the initiate, *Ep. Barnab.*, vi:11-16, from whom the mysteries have been handed down, *Apocryphon of Adam*, lxxxv:19ff. He was privy to the whole plan of creation, *II Baruch*, iv:2; *Secrets of Enoch*, xxx: 13ff, being in the "Creation Hymn" (Gen. i:26ff) "God's counterpart as a speaking, active, personal being," J. B. Bauer, in *Theol. Zeitschr.*, 20:8, a historical, *not* a mythological, character, *ib.*, 7. He "came forth out of the light of the invisible place . . ." *Pseudo-Philo*, xxviii:9, and received the first anointing, *Creation Apocryphon*, 159:5; *Clementine Recognitions*, i:47. It is "the light of Adam"

that leads men back to the Light, *Psalms of Thomas*, iv:9; and the faithful are promised "all the glory of Adam," *IQS*, iv: line 23; *Zadokite Doc.*, iii:20. He is called "the son of the Treasuries of Radiance" in the *Mandaean Prayerbook*, No. 379, 290.

[60]On the sleep of forgetting, *The Pearl*, line 34; *Psalms of Thomas*, xv:5; *Apocryphon of John*, 58:15ff; *Apocryphon of Adam*, 65:14-21; *Abp. Timothy on Abbaton*, fol. 15b; *Sophia Chr.*, 106:1-10; *Creation Apocryphon*, 158:25; *Apocryphon of James*, I xxviii, 14, 22f; *Hypostasis of the Archons*, 137:1-5. It is the "Sem-sleep" of the Egyptian initiation rites. It is also expressed in terms suggesting Plato's Cup of Lethe, *Manichaean Psalm-book*, II, 7, 57, 117, and as the dropping of a veil, *Sophia Chr.*, 120 (in *Texte u. Unters.*, 60:280); *Pistis Sophia*, 131 (336-38); *Ginza*, 34; the Cup-of-Lethe plays an important role in the Greek mysteries, to a lesser extent the Cup of Memory is discussed by C. Schmidt, in *Texte u. Unters.*, 8 (1892), 405f.

[61]Called "Three Great Men" in *Apocryphon of Adam*, 66:12ff., they are three arch-angels, *Creation Apocryphon*, 152:23; *Sophia Christi*, 96:3ff.; *2nd Gnostic Work*, 19a. They are sent down to instruct and accompany Adam, *Ginza*, 15, 33-35; they are the Three Uthras, "sent into the world to fetch the Elect . . . back to the House of Light," R. Bultmann, in *ZNTW*, 24 (1925), 132. Thus Enoch is fetched by three men in white, *I Enoch*, xc:31; who also visit Abraham, *Genesis Apocryphon*, ii:24; xix:23ff.; xx:1-8; xxi:21f.; xxii:22f. For the Jewish version of the Three Men in White, R. Goodenough, *Jewish Symbols in the Greco-Roman Period* (N.Y.: Panteon 1958), IX, 102-4, 84-89; X, 91-96. Cf. J. Barbel, "Zur Engel-trinitätslehre im Urchristentum," in *Theological Review*, 54 (1954), 48-58, 103-112; K. Rudolph, *Die Mandäer*, I, 162, noting that these three were the arch-types of the Sent Ones in general.

[62]*Od. Sal.*, xxix:1ff; xxii:1; *Psalms of Thomas*, v:28; *Gospel of Truth*, fol. XLv, 22; *I Jeu*, 3; *Epistle of the Apostles*, xii (23); *Berlin Manich. Hs.*, I, 56; not only Adam but every patriarch after him is instructed by a Sent One, *Mand. Johannesbuch*, Nos. 13, 14 (57ff) 60, n. 6. Indeed the Sent Ones are to help every mortal back "to the place from which he came," *Ginza*, 244; cf. *IQS*, xi:1; Luke i:78-79 (John the Baptist as a Sent One). The Adversary also has his sent ones, *Pistis Sophia*, 66 (136).

[63]Being rejected like the Poor, the Sent Ones may be identified with them, R. Bultmann, in *ZNTW*, 24 (1925), 124. The evil spirits accuse the Sent Ones of being aliens and meddlers in the earth, *Ginza*, 263f., and accuse Adam and his descendants of the same thing. The Poor are the true heirs, *4QpPs 37*: iii:10; *Od. Sal.*, viii:6-13; see K. Romaniuk, in *Aegyptus*, 44 (1964), 85, 88, citing Old Testament and New Testament parallels to Egyptian teachings. Their "angels" have unbroken contact with the Father, Matt. xviii:10.

[64]The Sent One is the Treasure, C. Schmidt, in *Texte u. Unters.*, 8 (1892), 349. The saints receive the Law "by angels" (lit. "sent ones"), Acts vii:52, each dispensation having its special angel, *Pastor Hermae*, I, iii, 4. "There has come from the plains of heaven a blessed man . . . and he has restored to all the good wealth (treasure) which the former men took away," namely, the ordinances of the Temple, *Sibylline Oracles*, v:414-33. "Thou didst appoint from the beginning a Prince of Light to assist us," *IQM*, xiii:10. Enos, Enoch, Moses, and Joshua were such Sent Ones, *Const. Apostol.*, vii:38, as was John the Baptist, restoring lost ordinances and preparing the people for things to come, *John* 1:6; *Luke* i:16f; *Heb.* i:14; cf. *IQS*, ix:11. Those who accept the Plan had a pure begetting through the First Sent One, *Sophia Chr.*, 82:12. Like Adam, everyone is awakened from the sleep of forgetfulness by a Sent One, *ib.*, 94:5ff. Angels and prophets are sent to bring men "what is theirs," *Gospel of Thomas*, 96:7, instructing them in the mysteries, *Mysteries of Heaven and Earth*, iv,1, in Migne, *P.O.*, VI, 428; *Bodmer Papyrus* X:53. Adam himself became a Sent One to help his children, *Psalms of Thomas*, v:26-8; iv:1-10, 12-17. The instructions to the Sent One and his two counsellors were to teach Adam and his posterity what they must know and do to return to the Light, *Ginza*, 16, 17, 18, 41, 57ff., 113 (on the teaching of ordinances), 119; for the Sent One is in special charge of the Treasure of Life in this world and the other, *ib.* 96.

[65]It was by "a letter of command from the Father" that "the Son of Truth inherited and took possession of everything," *Od. Sal.*, xxiii:15-17; *The Pearl*, lines 35-39, 63f., 50. The "King's Letter" is one's passport to heaven, The *1012 Questions*, 198. As a knowledge of the ordinances, the Treasure is an actual scroll, written by the hand of the Lord of Greatness, *Alma Rishaia Zuta*, 72. Writing is one of the Ten Treasures of the Creation, *Pesachim*, Fol. 54a. The heavenly books are "Beweisdokumente," L. Koep, *Das himmlische Buch* . . . (Bonn: Hanstein, 1952), 54-61; e.g., The Book of Deeds is a written contract between Christ and Adam, *ib.*, 64. "Thou hast engraved them on the Tablets of Life for kingship . . . ," *IQM*, xii:3, discussed by F. Notscher, in *Revue de Qumran*, 3 (1959), 405-12. For the Mandaeans the holy books *are* heavenly treasures, E. Drower, *The 1012 Questions*, 158f, 170, 252. The holy books were often literally treasures, being inscribed on precious metals and buried in the earth like other treasures, H. Nibley, "Qumran and the Companions of the Cave," *Revue de Qumran*, 5 (1965), 191f. The idea of books as treasures

is a natural one. "The treasures of the wise men of old are the books they have left us," *Xenophon, Memorab.*, I, vi, 14.

[66]We have given some examples in "Christian Envy of the Temple," *Jewish Quarterly Review*, 50 (1959), 97ff.; reprinted in *When the Lights Went Out* (Salt Lake City: Deseret, 1970), 54ff.

[67]J. B. Frey, in *Biblica*, 13 (1932), 164.

[68]For the first formula, M. R. James, *Biblical Antiquities of Philo*, 56, 44. Luther called the second "locus vexatissimus," and indeed it "makes impossible a spiritual interpretation" of the kerygma, M. H. Scharlemann, in *Concordia Theological Monthly*, 27 (1956), 86, 89.

[69]Quotation from J. Frankowski, in *Verbum Domini*, 43 (1965), 149. See also below, notes 91, 96, 97.

[70]*Pistis Sophia*, 185, 186, 189; on the basic materials, *id.* 247-48.

[71]In the *Genesis Apocryphon*, ii:4, Abraham and Sarah swear by "the King of all the Worlds," (cf. the common Moslem expressions); God made the "worlds," *Od. Sal.*, 10; xvi:16; xii:4, 8; all the worlds worship the Sent One as "Illuminator of their worlds," *ib.*, xii:12; so *Psalms of Thomas*, viii:13, 6ff; *The 1012 Questions*, 112; "other worlds" have been going on forever, *Gospel of Philip*, 106:18f. God "arranged all the kosmois in his glory," *Apocryphon of John*, xxi-xxii; the worlds assemble before him, *Psalms of Thomas*, viii:13. The angel who came to Isaiah was "of another firmament an another world," *Ascension of Isaiah*, vi:13. The Adversary opposed the plan of God "to create another world" and put Adam in charge, *Secrets of Enoch*, xxi:3. A Logion depicts the saints hereafter moving freely through space among the spheres, *Logia et agrapha*, No. 127, in Migne, *P.O.*, XIX: 547; cf. *II Baruch*, xlviii:9. The Father is in the worlds (kosmois) and the Son is first and highest among those worlds (en toisde tois kosmois) according to an early Liturgy, in Migne, *P.O.*, XVIII:445f., 448. Each heaven is completely equipped with thrones, dwellings, temples, etc., and there are many such heavens, *Creation Apocryphon*, 150:18ff., 23-25. The Archon Jaldaboth created beautiful heavens for his sons, *ib.*, 150:9f.; *Hypostasis of the Archons*, 144:5-10, furnished with stolen materials, above, note 39.

[72]*Ascension of Isaiah*, x:12; *Creation Apocryphon*, 148:29f; *Ginza*, 80, they say, "There is only one world—ours!"

[73]*Od. Sal.*, xii:3, 10; xvi:14-16; *Gospel of Truth*, fol. XIVr, 11-16; *Apocryphon of John*, xxvi:2f.; xxi:1ff.; *I Enoch*, ii:1, 4; xliii:1; *II Baruch*, xlviii:9; *Epist. I Clement.*, xx. When God created this world, all the other worlds rejoiced together, *2nd Gnostic Work*, 47a. The worlds borrow light from each other and exchange all they know, *Ginza*, 10-11; they form a single lively community, *Mand. Prayerbook*, No. 379, 303, 298-99, all the mysteries being "shared out amongst the worlds of light," *The 1012 Questions*, 112, 164. In a pinch the "Treasures" help each other out, *Psalms of Thomas*, xii:25.

[74]Quotation is from the *Mand. Johannesbuch*, No. 59, 207. So also *Od. Sal.*, xii:4-9; *The 1012 Questions*, 213; *Mand. Prayerbook*, No. 379, 296. This seems to be an Eastern tradition, the others being more concerned with emissaries and messenger; see the following notes.

[75]*2nd Gnostic Work*, 45a. Cf. *Manichaean Psalm-book*, II, 23, 66. On his visits each world implores him to stay, "and be our King and bring peace to our city!" (l.c., *Ginza*, 258)—i.e. it is a true Parousia, *Psalms of Thomas*, viii:1-13f.; cf. John x:16.

[76]Two hundred angels act as interplanetary messengers, *Secrets of Enoch*, iv:1. The business of the angels is to coordinate the working of the central plan among the worlds, F. Dieterici, *Thier und Mensch vor dem König der Genien* (Leipzig, 1881), 78f. The heavenly bodies receive commands from a single center, M. R. James, *Biblical Antiquities of Philo*, 43, the highest heaven being the "indispensable exchange-center between the spheres," K. Koch, in *Zeitschr. f. Theol. u. Kirche*, 62 (1965), 275; the affairs of "the incomprehensible expanse of the structure of heaven," are directed from a command-post in the center, *Creation Apocryphon*, 146:15-20. The rulers dispatch "letters from world to world and reveal the truth to each other, and there are some souls that travel like an arrow and cleave through all the worlds," *The 1012 Questions*, 192, cf. 164. Adakas "is a 'go-between' between the worlds," E. S. Drower, *Mand. Prayerbook*, 293, and Manda d-Haiai, called "the Capable" by his brother 'uthras, is called "to regulate and to station the 'uthras in their places" among the words, *ib.*, 294. In the beginning of the *Apocalypse of Paul*, i:1f., Paul is ordered "to go down and speak to the planet earth," (*le 'alma d^{e}arga*). Visitors to celestial regions in the various Testaments (Abraham, Isaac, Isaiah, the XII Patriarchs, Adam, etc.) report a traffic of chariots in the spaces, e.g., *I Enoch*, lxxv:8. By whatever means, they circulate ceaselessly among the worlds with marvellous ease, *Ginza*, 13, 42. The Mandaean faithful are urged to "be informed about all worlds" as far as possible, *1012 Questions*, 289. The worlds of darkness also communicate, but on another level, *Berlin Manich. Hs.* I, 32.

[77]*Ben Sirach*, xlii:23-5; *Od. Sal.*, xii:9; ". . . each is more wonderful than the other!" *Ginza*, 11-13; so also *Mand. Johannesbuch*, No. 59, 207, explaining that it is "the power of the Treasure" that makes such rich variety possible. Among ten-thousand times ten-thousand worlds "every world is different from the others," *Ginza*, 152. Even the worlds of darkness are all different, *Berlin Manich. Hs.*, I, 68. One cannot describe how another world differs entirely from every other, *Pistis Sophia*, Ch. 88 (199); no other world can be described in terms of this one, so different are they all (84, 133).

[78]*Wisdom of Solomon*, xix:18. On the letters of the alphabet as elements of creation, see *Sefer Yeshira*, texts by P. Mordell, in *JQR*, N.S. III (1913), 536-44.

[79]The Creation is compared to the smashing of inferior vessels to use their substance for better ones, *Gospel of Truth*, fol. XIIIf., 25ff.; or the melting down of scrap-metal for re-use, *Manichaean Psalm-book*, II, 11; or with the breaking of an egg that a more perfect form might emerge, *Clementine Recognitions*, iii, 27-29; cf. *The 1012 Questions*, 183; the *Ginza*, 83f. God sparks some worlds from dismantling until they have fulfilled their purpose, *Psalms of Thomas*, ii:30-31. While treasure-ships carry matter through space (above, note 38), the Seven Planets "intercept all the goods bestowed by the constellations and divert them to the use of the demons" in furbishing out their worlds, D. Winston, *History of Religions*, 5 (1966), 2ff.; the fullest treatment in *Berlin Manich. Hs.*, I, 109, 111-14, 177; where it is even necessary to decontaminate older materials before re-using! *ib.*, 113-14, 130. *Pistis Sophia*

[80]E. A. E. Reymond, *The Mystical Origin of the Egyptian Temple* (Manchester Univ. Press, 1969), 187.

[81]H. F. Weiss, *Hellenist. Judentum*, 92-99.

[82]*Ib.*, 22ff.

[83]*Ib.*, 146.

[84]*Ib.*, 29-36, citing many sources. It is the business of the Demiurge to *organize* rather than to produce out of nothing, *ib.*, 44ff.

[85]*The 1012 Questions*, 164. "There is abundant room in thy Paradise, and nothing is useless therein . . ." *Od. Sal.*, xi:20. There is a remarkable picture of the struggle for survival, however, when life began in the waters: ". . . they attacked one another and slew one another, saying to one another: 'Move off out of my way . . . Move on that I may come!' " *The 1012 Questions*, 184.

[86]*The 1012 Questions*, 111; *Gospel of Philip*, 104:18f.; the physis itself is "imperishable, complete, and boundless," *Creation Apocryphon*, 146:11.

[87]It represents "die Begrenzung und Begrenztheit der Welt," E. Horning in *Aegypt. Zeitschr.*, 97 (1971), 78.

[88]*Pistis Sophia*, 323-4; L. Kakosy, in *Aeg. Zeitschr.*, 97 (1971), 104-5.

[89]Worlds come and go, only progeny (sonship) is eternal, *Gospel of Philip*, 123:6-10; "The man of heaven, many are his Sons, more than the man of earth. If the Sons of Adam are many but still die, how much more the sons of the perfect man, they who do not die but are begotten at all times," *ib.*, 106:17. "Mounting up from world to world" is from *The 1012 Questions*, 192, and "towards His perfection" from the *Gospel of Truth*, fol. XXv, 4-14. The ultimate objective is to receive the same glory which the Son received from the Father in the beginning, John xvii:22; the *Epistle to Diognetus*, x, tells us not to marvel at this—man must become the heir of divinity in the fullest sense, C. Schmidt, in *Texte u. Unters.*, 8 (1892), 319f.; *Gospel of Philip*, 100:1ff, 11; 101:1ff; *Psalms of Solomon*, i:3-4. It is important not to get stuck "in the middle" and so delay progress, Schmidt., *op. cit.*, 335, this world being merely a bridge, according to the famous Logion (Migne, *P.O.*, XIII, No. 75). The fundamental nature of Godhood is to beget and create, *Sophia Christi.*, 87:1-88:1.

[90]G. Thausing, in *Mitt. dt. Inst. Kairo*, VIII (1939), 63-64.

[91]This is the *ametretos bathos* in which a sector is staked out for a new creation, *2nd Gnostic Work*, 9a. Ptahil-Uthra is ordered: "Go down to a place where there are no Shkinas (dwellings) and no other worlds, and make thee a world as the Sons of Salvation do . . ." *Ginza*, 98. God plans for the occupancy of all the "spaces" ahead of time, *Gospel of Truth*, fol. XIVr, 11-16. One seeks release by moving "from the more confined to the more spacious places," *Pistis Sophia*, 47 (83). The role of space in creation is vividly depicted in Egyptian temple-founding rites, in which the King, representing God creating the world, takes sightings on the stars in a pure and empty place, A. Moret, *Du caractere religieux de la royaute pharaonique* (Paris, 1902), 130-42; R. T. R. Clark, *Myth and Symbol in Ancient Egypt* (London: Thames, 1959), 80. Preparing for the Creation of the world, "Marduk went into the heavens, inspecting the places, and there he established a new one, an exact replica . . . of the dwelling of Ea," *Enuma Elish*, iv:142.

"Space and time are the plan of the world-system . . . ," G. S. Fullerton, in *Philosophical Review*, 10 (1910), 595.

[92]The work begins with *hyle*, C. Schmidt, *Texte u. Unters.*, 8 (1892), 365, 372, although "We do not know whether Hyle was already present in the Treasury of Light or not," there was a "kerasmos in which Light and Matter are mixed in various proportions," *ib.*, 383. "Kenaz" in the *Visio Kenaz* (M. R. James, *Apocr. Anecdota*, II, No. 3 [Cambridge, 1893], 178-79) sees "flames that do not consume and fountains stirring into life," amid a vague substance taking form at the Creation. Those who were with God "before his works of old" are later "to inherit substance, and fill their treasures," Proverbs viii:19-22, referring perhaps to a new, material, phase of creation—see above, notes 80-84.

[93]It is well for men not to contemplate the bathos too intently, *Gospel of Truth*, fol. XIXr, 8f.; *I Enoch*, frgs. in R. H. Charles, *The Book of Enoch* (Oxford, 1912), 297; *Evang. Barthol.*, Frg. iii, in *Revue Biblique*, 10 (1913), 326. Matter having no fixity or stability," is repellent, *Gospel of Truth*, fol. XIIIv, 15ff; *Pistis Sophia*, 39 (63). *Apocal. of Abraham*, 16-17. Sophia's first advice to her son was, "Get a foothold, O youth, in these places!" *Creation Apocryphon*, 148:12; 149:6. The foothold idea may have inspired the ubiquitous image of the "Rock," e.g., *IQS*, xi:5; R. Eisler, *Iesous Basileus* . . . (Heidelberg, 1930), II, 286f. Preparing for the Creation, Marduk, having found his space, established the stations (fixed points of reference) beside the star *Nibiru*, firmly bolted on the left and on the right, *Enuma Elish*, v:8-10.

[94]*2nd Gnostic Work*, 2a-3s; 18a. The *fundamentum* of a world begins to take form when touched by a *scintilla*, but "the spark ceases and the fountain is stopped" when the inhabitants transgress, *Visio Kenaz*, *l.c.* Matter without Light is inert and helpless, *Pistis Sophia*, 55 (107); *Berlin Manich. Hs.*, I, 130; it is the "first light" which reproduces "the pattern of the heavenly model" wherever it touches, *Creation Apocryphon*, 146:20. For "rays from the worlds of light stream down to the earthly world" for the awakening of mortals, "*The 1012 Questions*, 199f.; sometimes a column of light joins earth to heaven, *Synax. Arab.*, in Migne, *P.O.*, XI:754, even as the divine plan is communicated to distant worlds by a spark, *2nd Gnostic Work*, 29a-30a; it is the "dynamis of Light" that animates one world from another, C. Schmidt., *Texte u. Unters.*, 8 (1892), 331. God's assistants, "the faithful servants of Melchizedek," rescue and preserve the light particles lest any be lost in space, Schmidt, *Texte u. Unters.*, 8 (1892), 404, cf. *2nd Gnostic Work*. The spark is also called a "drop," *Sophia Christi*, 104:7ff.; it is "the divine drop of light than he (man) brought with him from above," *ib.*, 119:1ff. The Spark can re-activate bodies that have become inert by the loss of former light, *Pistis Sophia*, 65 (134). It is like a tiny bit of God himself, "die kleine Idee," Schmidt, *Texte u. Unters.*, 8 (1892), 396; *I Jeu*, 7; H. Zandee, in *Numen*, 11 (1964), 67. Thus Christ calls upon the Father, addressing him as "Spinther," to send light to the Apostles, *Pistis Sophia*, 130 (35). This light comes from the Treasury, *Berlin Manich. Hs.*, I, 44.

[95]C. Schmidt, *op. cit.*, 333. Knowledge of the divine plan is communicated to the worlds by a spark, *2nd Gnostic Work*, 29a-30a; the Father "let an idea come out of His Treasury . . ." *I Jeu*, 7, even as "the Son of Radiance" is sent forth to enlighten the worlds, *Psalms of Thomas*, viii:12; such an ambassador is himself a "treasure-chamber of Life . . ." *ib.*, iii:18. All the mysteries are "shared out" among 380 Worlds of Light "as they emanate from that Supreme Celestial world," *The 1012 Questions*, 112. God is "pure radiance, a precious Treasure of Light, the Intelligence which correcteth the hearts of all our kings!" *ib.* 123. The "Emanation" (probole) is a sharing of treasures, so that "das Lichtschatz ist also der Gipfelpunkt des Universums," C. Schmidt, *Texte u. Unters.*, 8 (1892), 325, 266. "The sparks from the Crown scatter to every Place," *Ginza*, 7; the Power of the Light, radiating into surrounding Chaos, produces a higher type of *topos* wherever it goes, *Pistis Sophia*, 58 (112), the creation process being the adding of Light and its power to dark chaotic matter, *ib.*, 50 (94), 48 (85f.), 50 (90). Every *phōster* goes back to the same Root, *Manichaean Psalm-book*, II, 26, 138.

[96]An important part of God's plan is the providing of a proper *topos* for the saints, *Pastor Hermae*, III, Simil. v:6. Each topos awaiting occupants is the result of the diffusion of the Treasure, *I Jeu*, 11. For "there has previously been prepared a topos for every soul of man," *Secrets of Enoch*, xlix:2; lviii:4ff., "mansions without number," lx:2. The work of Jesus was to collect the treasures of the Father into one blessed topos of meeting, *Acts of Thomas*, xlviii. While the Elect have their mansions, *I Enoch*, xli:1-9, there are special places set apart for spirits in transition, *ib.*, xxii: 3, 9. For each specific group yet to be born a place has been prepared, *II Baruch*, xxiii:4. The earthly and heavenly hosts alike have their assigned places, *IQM*, xii: 1-2. There is an assigned place of glory for each hereafter, *Epist. I Clem.*, v, vi; Polycarp, *Epist. ad Phil.*, ix; *Apocryphon of Adam*, 69:19ff.; everyone should know to what topos he has been called and live accordingly, *Epist. II Clem.*, i; v; Ignatius, *ad Magnes.*, v; Polycarp, *op. cit.*, xi; *Oxyrhinchus Frg.*, No. 654:22. No one gets a topos without earning it,

Ignatius, *ad Smyrn.*, vi; *Pastor Hermae*, III, Simil. viii, 3, 5, 8; *Apocalypse of Elias*, vi:6ff. The topothesias of the angels greatly interested the early saints, Ignatius, *ad Trall.*, v.

[97]The central topos is the Treasury of the true God, C. Schmidt, *Texte u. Unters.*, 8 (1892), 367; it is "the topos from which all aeons and all cosmoses take their pattern and their origin . . ." *Sophia Christi*, 116 (in *Texte u. Unters.* 60:266ff.). It is "the self-produced and self-begotten topos" from which all others are derived, *2nd Gnostic Work*, 1a; it is called "the God-bearing" topos, or "land of the begetting of gods," *ib.*, 21a. The Egyptians regarded the "werden der Welt als ein Kolonisati onsvorgang . . ." W. Richter, in *Biblische Zeitschr.*, NS, 10 (1966), 101f. The colonization is always a family affair: God wants "all of those he raised up for Himself" to "fill the face of the universe with their seed . . ." *Zadokite Doc.*, ii:10. The inhabitants are the progeny or seed of those who sent them, *I Enoch*, xxxix:1; *The 1012 Questions*, 118, 170f.; *Sophia Christi*, 88:7ff.; 98:1-99:5ff.; *Apocryphon of James*, 1:43:5ff; called "chosen seed, or seed of promise . . . ," J. Zandee, in *Numen*, 11 (1964), 45f., 72f. When "the elect . . . descend from heaven . . . their seed will become one with the children of man," *I Enoch*, xxxix:1. Simat-Hiia, the primordial Eve is "mother of all kings, from whom all worlds proceeded," *Alma Rishaia Rba*, vi:388ff. (29). A colonizing activity is described in *Pistis Sophia*, 26f. (36f.), 24 (34f.). Lactantius presents the idea of real seeds floating around in space, *Div. Inst.*, III, xvii.

[98]"Planting" can here mean create, beget, establish or assist, i.e., it is the proper work of the "Sent One," according to M. Lidzbarski, *Mand. Johannesbuch*, 60, n.6, and *Berlin Manich. Hs.* I, 53f. Eden was God's planting on earth, W. Richter, *Biblische Zeitschr.*, NF, 10 (1966), 101f. "I said that the world should be . . . (saying) I will plant a great vineyard, and out of it I will choose a plant," i.e. the Chosen People, *Pseudo-Philo*, xxviii:4; the Qumran community calls itself a planting, *IQS*, viii:5, 20-2; ix:15, as does the Early Church, Irenaeus, *adv. haeres.*, V, xxxvi, 1. God's "planting in the world of men" includes providing necessary physical substances, *Psalms of Thomas*, iii:29-35, and the "planting" of light in a place of darkness, *ib.*, vii:17. God before the world existed planted the earth and then planted the Garden in it, *4 Esdras* 3:4, 6; He is the "Greatest of Gardeners," "the Planter" par excellence, H. F. Weiss, *Hell. Judent.*, 50. Those who share in God's Plan are his "plants," *The 1012 Questions*, 127, 140, 150, who in turn have their disciples or plants, *ib.*, 130, 216f. The human race is Adam's "planting," *Mand. Prayerbook*, No. 378, 283, 286; No. 386, 290. The Elect are "the plants that God has planted," and must plant their own plants through marriage, *Ginza*, 61f. The "planting" of the earth is described as a colonizing enterprise in *Ginza*, 335, 337; they move from place to place in winged wagons, looking for places to settle, *ib.*, 337-40; the Planter is expected to provide the necessary Helpers for new settlers, *ib.*, 404. Ritually, the planting is a *sparsio*, a sowing or begetting of the race, H. Nibley, "Sparsiones," *Classical Journal*, 40 (1945), 515ff.

[99]On the "Treasure-house of Souls," see R. H. Charles, note on *4 Ezra*, iv:35 (*Apocrypha & Pseudepiographa of the Old Testament*, II, 567); II Baruch, xxx:2; *Pseudo-Philo*, xxxii:13; C. Schmidt, in *Texte u. Unters.*, VIII:368. The souls of the righteous like the Treasure itself are beneath the throne of God, *Bab. Sabbath*, fol. 152b; cf. Rev. vii:9. The "planting" of a world is always from the "House of Light, the shining Home," i.e., the Treasure-house, *Mand. Johannesbuch*, No. 63, 218. It is "through the power of the Treasure" that "earths of radiance" are created, "thrones of glory are established and Chiefs of worlds appointed," *ib.*, No. 59, 207; the treasure being the source of everything within as well as between the worlds, *ib.*, No. 57, 203-5. Every world comes into existence by a sort of fission from the Treasure of the Secret Mysteries, *Oxford Mand. Scroll*, 55f. What Adam plants then grows and so increases his Treasure, *Mand. Prayerbook*, 285. The bestowing of the "Treasure of the Mighty One" on men to test them is called a "planting of plants," in *Psalms of Thomas*, xiii:5-14; iii:24-7; *Acts of Thomas*, Ch. 10.

[100]On the hierarchy of emanations, Schmidt, *Texte u. Unters.*, 8 (1892), 367. In the system of *I Jeu*, 5-7, one put in charge of a new "topos" as "Chief" is a Jeu, who then becomes the Father of "other emanations to fill other toposes," each of which in turn becomes a "Father of Treasures"; in the end "myriads of myriads will go forth from them," *ib.*, 6. Every Son begets sons, and these in turn consult in the making of "other worlds," *Ginza*, 240; just so "a Jordan produces Jordans without number and without end—living waters," *ib.*, 65-67. Through the power of the Treasure earths are created, places made inhabitable, "chiefs or worlds are appointed," so that the Treasures may be handed down from the older worlds to newer ones, *Mand. Johannesbuch*, No. 59, 207. It is perhaps from his Manichaean experience that St. Augustine derives the image of sparks springing from a central fire, each becoming a focal center for more sparks, an idea conveyed in the *Berlin Manich. Hs.*, I, 35f.

[101]Quotation from the *2nd Gnostic Work*, 49a. He who is begotten is expected to beget, Gen. i:29; ix:1. In the Egyptian rites the First Born is commanded "to create men, to give birth to the gods, to create all that should exist," R. Reymond, in *Chroniques d'Egype*, 40 (1965),

61; the work of the Creation is repeated indefinitely and daily in ritual, H. Kees, in *Aegypt. Zeitschr.*, 78 (1942), 48. One becomes a Son in order to become a Father; one receives in order to give, *Gospel of Philip*, 123:10-14. The Son is commanded, "Go, confirm kings, create new Jordans, and help Chosen Ones (to) arise with thee to the Father," *The 1012 Questions*, 123. The Sent Ones say to the Father, "O our Lord, Lord of all worlds, Thou didst command that we should create worlds and propagate species!" and God informs them that that is the secret Treasure, bestowed only on "one who is our son (plant)," *ib.* 137. All who behold the creative process have a normal desire to become creators themselves, *Ginza*, 67f., creation being the essence of godhood, see above, notes 8, 9, 14.

[102]The patriarchal line is never broken: "Let us, Father, create other worlds in order to raise to *Thee* a planting . . . ," *Ginza*, 241. One does not create without the express permission of the "Creator of the Treasures," *ib.*, 67f. He who is "planted from above" does his own "pure planting" under the auspices of *his* Planter, *Mand. Johannesbuch*, No. 59, 207. Hence "all gloried in the knowledge that their Father had transplanted them from the House of Life," *Alma Rišaia Rba*, 1; in the end, all come "into existence for his sake," *Mand. Johannesbuch*, iv, 30-35, 70. Even to the greatest Sent Ones he is the "lofty King by Whom our Treasure ascends!" *Alma Rishaia Zuta*, 64f. At the Council in Heaven the Son was hailed as "the Father of those who believe," *2nd Gnostic Work*, 29a-30a; this identity of Father and Son to and with believers is a basic teaching of the Fourth Gospel, R. Bultmann, in *ZNTW*, 24 (1925), 122.

[103]"The dwellers upon the earth can understand only what is upon the earth . . ." and the same applies to other worlds, *4 Ezra*, iv:21. Beings comprehend only what they are like, so that the Lord must take the form of those to whom he appears, C. Schmidt, *Kopt.-Gnost. Schrift*, I, 341; *Gospel of Philip*, 101:27-36; 105:29-106:10; *Ascension of Isaiah*, vii:25; *Pistis Sophia*, 7 (12); cf. U. Bianchi, in *Numen*, 12 (1965), 165; *Manichaean Psalm-book*, II, 42.

[104]*Gospel of Thomas*, 95:20-23; *II Jeu*, 54; cf. *Gospel of Truth*, fol. xv, 20-23; Exod. iii:6; Matt. xvii:5-6; Mark ix:5-6; E. L. Cherbonnier, in *Harvard Theological Review*, 55 (1962), 195-199. So also the Son, *Gospel of Thomas*, 87:27, whose "true name man is not able to hear at this time," *Psalms of Thomas*, xiii:14, xiv. "He . . . is within the Veil, within his own shkinta" (dwelling, tabernacle), *Mand. Prayerbook*, No. 374, 267; His topos is completely out of our cosmos, being the ultimate Treasure, "the Treasure of the Outer Ones," *I Jeu*, 47; 59; *2nd Gnostic Work*, 2a, surrounded by veils and guarded gates, C. Schmidt, *Texte u. Unters.*, 8 (1892), 402; hence it is "beyond the veil, a place of shadowless light," *ib.*, 366; *Sophia Christi*, ix:116, "the great secret Dwelling of Light," *The 1012 Questions*, 163. By night all the outer worlds strain to see the Father . . . because of the invisibility that surrounds him," *2nd Gnostic Work*, 5a, even as the angels yearn to see the ultimate place of the saints, L. Guerrier, in *Patrol. Or.*, IX, 153; cf. I Peter i:12.

[105]*Sophia Christi*, ix:118; *2nd Gnostic Work*, 47a; *Berlin Manich, Hs.*, I, 118; "the veil at first concealed how God controlled the creation," *Gospel of Philip*, 132:23; there is a veil between us and the heavens, N. Sed, in *Revue des Etudes Juives*, 124 (1965), 39. All treasures are hidden treasures until God reveals them, *Zadokite Doc.*, v:1; *II Baruch*, li:7-8; *Evang. Barthol.*, iii:2-7; *Gospel of Thomas*, 86:4f., 24. "If you want to go to the Father you must pass through the veil," *I Jeu*, 42. God isolates hostile worlds from each other lest they unite against him, *Ginza*, 177. "As the doctrine of the body is hidden in its treasure-house, so God the Father is hidden in his Kingdom, invisible to the wastelands without," *Berlin Manich. Hs.*, I, 151.

[106]A. Pelletier, in *Syria*, 35 (1958), 225f.

[107]M. J. bin Gorion, *Sagen der Juden* (1913), I, 59.

[108]N. Sed, in *Revue des Etudes Juives*, 124 (1965), 39.

[109]*2nd Gnostic Work*, 47a; *Pistis Sophia*, 317; in *Texte u. Unters.*, 60:118.

[110]C. Schmidt, in *Texte u. Unters.*, 8 (1892), 368.

[111]*Hypostasis of the Archons*, 143:20.

[112]*Pistis Sophia*, 366.

[113]*Ib.*, 42-44.

[114]*Ib.*, 23.

[115]*I Jeu*, 39; *Pistis Sophia*, 317-18.

[116]*Pistis Sophia*, 184.

[117]*Apocalypse of Baruch* (3rd Bar.), VI, 3-6.

[118]The progress of the soul in the afterworld, with three main degrees of glory is found in Egyptian funerary literature, e.g. *Book of Breathings*, lines 2-3, in Biblioth. Egyptol. 17:113. So Pindar, *Olymp.*, ii:75. For Jewish and Christian concepts, H. P. Owen, in *New Testament Studies*, 3 (1956), 243f., 247-49; K. Prumm, in *Biblica*, 10 (1929), 74; K. Kohler, in *Jewish Quarterly Review*, 7 (1894/5), 595-602; C. Schmidt, in *Texte u. Unters.*, 8 (1892), 478, n. 1, 489-91,

496f., 519-21, 524f. Eternal progression is indicated in *IQH*, vii:15, and in the formula, "out of the eternities and into the eternities," *IQS*, ii:1; *Epist. Barnab.*, xviii; ". . . press on from glory to glory," says a Hymn of Serverus, in Migne, *P.O.*, v:683; *I Jeu*, 54f., 58f.; *2nd Gnostic Work*, 5a; *Gospel of Thomas*, 90:4ff. (". . . a forward motion, and then a resting-time . . ."). You master the places in this world so that you can master them in the next, *Gospel of Philip*, 124:33f.; *Gospel of Truth*, fol. XIIr, 11-14, the ultimate object being to "share in the treasury of light as immortal gods," *II Jeu*, 58. He who receives all the ordinances "cannot be held back in the way," *Ginza*, 19.

[119]E. L. Cherbonnier, in *Harvard Theological Review*, 60 (1962), 206.

[120]This idea is forcibly expressed in the *Pistis Sophia*, 88f. (199), 84 (183); *Ginza*, 14, 493-94.

[121]J. Soggin, in *Theologische Literaturzeitung*, 89 (1966), 729. Those who receive the Mysteries of the Gospel will also come to know the mysteries of the physical Cosmos, *Pistis Sophia*, 232.

[122]A. Piankoff, in *Inst. Francais Archeol. Orient.*, Bibl. Et., 19, 1.

[123]The Schoolmen have always avoided "cosmism" and still do, H. F. Weir, *Hell. Judaism.* 79ff; Klaus Koch, *Ratlos vor der Apokalyptik* (Gütersloder Verlag, 1970) esp. 55ff.

[124]The contradictions are emphasized by S. A. Pallis, *Mandaean Studies*, 1, 2, 4, 8, 188, and A. Brandt, *Mandäische Religion*, 48ff., while the "einheitliche und organische Grundlage" is noted by K. Rudolph, *Mandaer*, I, 141, following H. Jonas. The Mandaeans frequently refer to other sects, Jewish and Christian, as bitter rivals, not because of the differences but because of the many resemblances and common claims between them, e.g. *Ginza*, 28-30, 48-52, 135, n.4, 223-32; *Mand. Prayerbook*, No. 357, 251; *Berlin Manich. Hs.*, I, 21. While A. Loisy, *Le Mandeisme et les Origines Chretiennes* (Paris: Nourry, 1934), 142, maintains that "le Mandeisme n'est intelligible qu'en regard du chretianisme," M. Lidzbarski, *Ginza*, ix, insists that it is older than the captivity of 587 B.C. Such disagreements are typical.

[125]See K. Rudolph, *Mandäer*, I, 19-22, 36-41, 59ff., 112ff., 173-75, 251-54, seeing the common source in the early Taufsekten. Since the rites are "sinnlos und unerklärbar" without the peculiar doctrines (K. Rudolph, *Mandäer*, I, 254), the common rites indicate a common doctrinal tradition, E. Drower, *Nasoraean Commentaries*, vii.

[126]In their main points the two doctrines are in striking contrast, e.g., (1) The idea that all matter is evil heads the list of "orthodox" charges against the Gnostics, *Bodmer Papyrus* X:51:10: *Const. Apostol.*, vi:10; C. Schmidt, *Texte u. Unters*, 8 (1892), 402f.; cf. *Clementine Recognitions*, iv:23: ". . . absolute dicimus in substantia nihil esse mali." Cf. the Gnostic denial of a physical resurrection with the attitude of the *Gospel of Philip*, 105:9-19. (2) The Gnostic idea that Adam was "predisposed to evil" and that souls come to the earth to be punished is the opposite to that of man's preexistent glory, J. Zandee, *Numen*, 11 (1964), 31; *Creation Apocryphon*, 171:10ff.; Cyril of Jerus., Migne, *P.G.*, XXXIII:481. (3) Gnostic dualism—between physical and non-physical states of being—is *anti*-cosmist, U. Bianchi, in *Numen*, 12 (1965), 165-66, 174, 177; S. Giverson, in *Studia Theologica*, 17 (1963), 69f. (4) The Gnostics put God utterly beyond man's comprehension, not in the same family as the "Treasure" concept does, *Bodmer Papyrus* X:51:10; *Const. Apostol.*, vi:lo; Ignatius, *Tartens.*, incip., Israel means "man who is God," according to the *Creation Apocryphon*, 153:25. (5) Whereas the True Gnostic achieves complete spirituality on earth and goes directly to heaven (or the sun) at death, Schmidt, *Texte u. Unters.*, 8 (1892), 521ff.; *Epist. to Rheginos*, Puech in *Vigiliae Christianae*, 8 (1956), 44-46, the idea of a long and gradual progress of the soul is older than the Gnostics, K. Kohler, in *Jewish Quarterly Review*, vii:598; cf. *IQS*, ii:23ff; *IQH*, x:28. (6) Whereas pessimism is the hallmark of all Gnostic systems, in Numen, 11 (1964), 17; Bianchi, in *Numen*, 12 (1965), 165, the "Treasure" doctrine is completely optimistic and joyful. (7) The Gnostics show the influence of the schools, Bianchi, 162, while the other teaching is chracteristic neither of the schools nor of religions in general, K. Koch, *Zeitschr. f. Theol. u. Kirche*, 62 (1965), 263. (8) Following the schools, Gnosticism shuns literalism and turns everything in abstraction and allegory: it is not a real system but poetic fantasy, C. Schmidt, *Texte u. Unters.*, 8 (1892), 397, 413, 421-22; but "of mystical rapture there is no hint" in the other tradition, H. P. Owen, in *New Testament Studies*, 3 (1965), 251; Koch, *loc. cit.*

[127]C. Schmidt, *Texte u. Unters.*, 8 (1892), 345f.: there was nothing the Patristic Fathers combatted more vigorously than "the cosmist heresy." Having chosen the way of the Gnostics ad Neoplatonics, they condemned all literalism, *ib.*, 421, and *Texte u. Unters.*, XLIII:524-25.

[128]Tertullian and Irenaeus wavered between the two views, Schmidt, XLIII:520f. The fundamental "Treasure" doctrine of the descensus disappears after the 3rd century, F. Kattenbach, *Das Apostolische Symbol* (Leipzig, 1894), I, 104; II, 913f. The *Epist. to Diognetus*, vi, compromises, but for Athanasius, Basil, John Chrysostom, etc., heaven has become a state of mind pure and simple.

A DIALOGUE WITH HENRY EYRING

EDWARD L. KIMBALL

ILLUSTRATION BY ROGER HUYSSEN

Henry Eyring, Distinguished Professor of Chemistry and Metallurgy at the University of Utah, is probably the most widely known scientist in the Church. He was born in 1901 in the Mormon community, Colonia Juarez, Chihuahua, Mexico. As a boy he helped his father wrangle cattle on their ranch. In 1912, the family fled as refugees from the Mexican Revolution and settled in Pima, Arizona.

Over the years Henry Eyring's status in the first rank of scientists has become secure. He has produced a staggering volume of research publications in the fields of his interests: application of quantum mechanics and statistical mechanics, radioactivity, theory of reaction rates, theory of liquids, rheology, molecular biology, optical rotation, and theory of flames. He is a longstanding member of the National Academy of Science. His work has led to seventeen major awards, thirteen honorary degrees, and leadership in numerous professional organizations, including terms as president of the American Association for the Advancement of Science and the American Chemical Society.

Henry Eyring is a man of warmth and wit. For the past sixteen years, he has put up prize money for the first four places in a fifty-yard dash run by his ten to twenty graduate students. He is a regular competitor, though the students seem to run faster than they once did.

He has served faithfully in various Church positions. He was district president in New Jersey while teaching at Princeton, presiding, as he says, over 3,000,000 persons, "though most of them were blissfully unaware of the fact." He served on the General Board of the Sunday School for twenty-five years and presently serves as a stake high councilman.

Edward L. Kimball, Professor of Law at Brigham Young University, conducted the interview for Dialogue. *His mother is Henry Eyring's eldest sister.*

Kimball: To what do you trace your strong commitment to education?

Eyring: My grandfather Eyring spoke seven languages and had a good education and was very much in favor of education. My father went to Brigham Young Academy when it was still a high school. Although my mother only went through fifth grade, she was well-educated and later taught school. She was a quick person who read a great deal and learned readily. I grew up in a family that spoke good English. I think I had all the advantages I would have had if my parents had had college degrees. My uncle, Carl Eyring, went to BYU and started his Ph.D. with Milliken at Chicago and finished at Cal Tech. My oldest sister motivated me very much. She came back from school in Utah and told me I ought to get a Ph.D.

I never had any other idea but that I would go to college. My parents were poor, but not so poor that they could not let me go, providing I could work my way through school. I was quite able to do that. As a matter of fact, the first year I had a $500 scholarship and that meant I had money to send home.

Kimball: How did your career in science begin?

Eyring: I took my bachelor's degree in mining at the University of Arizona and then was an engineer in the Inspiration Copper Company in Miami, Arizona, and in Sacramento Hill in Bisbee, Arizona. Rather early in my mining career I was working as a timberman repairing a squareset when a rock about as big as my head came down and hit my foot so that my boot filled with blood. I was glad to get out of that place. It was a death trap. I left, not so much because I was frightened as because it seemed stupid to stay where one was gambling without enough to win to justify it. I neither wanted to work in the mine myself nor to send other men into it.

I went back to get my master's degree in metallurgy and then worked at the United Verde Smelter in Clarkdale, Arizona. I remember very well the day when I was in the blast furnace aisle where there were about twenty blast furnaces belching out sulphur dioxide. I had my handkerchief dipped in bicarbonate and was putting it over my face. The superintendent of the smelter came up behind me and said, "Eyring, I like the way you are working out here at the smelter. If you stay here another three weeks, I am going to put you in charge of these blast furnaces." That is when he lost a metallurgist. I took up chemistry. I got a Ph.D. from Berkeley, taught briefly at the University of Wisconsin, spent time as a National Research Fellow in Berlin, and taught for fifteen years at Princeton before coming to the University of Utah in 1946 as dean of the Graduate School.

Kimball: You were on the General Board of the Sunday School for many years, weren't you?

Eyring: Yes, in fact, they asked me before I came. Milton Bennion, my wife's uncle, had inside information that I was coming to the University of Utah. He was dean of the School of Education and wrote me a letter before I even left Princeton, and I accepted. I was on the Board for twenty-five years.

Kimball: Were there assignments you particularly enjoyed as a member of the Board?

Eyring: I particularly enjoyed my assignment as chairman for the Gospel Doctrine committee. We had to prepare a new set of lessons every year, though of course we had help. Associating with faithful Sunday School workers throughout the Church was tremendously rewarding.

Kimball: I understand you were part of a high-level meeting to plan the new Church magazines.

Eyring: That is an amusing story. I got a letter from Richard L. Evans to come down to a two o'clock meeting for the new magazines, along with a great many other people. I was visiting your parents and I said, "I am going to a meeting for the magazines." Your father said, "I am going, too, at nine o'clock." I had forgotten in the meantime that mine was for two o'clock and assumed it was the same meeting. My secretary was not there that morning and I was a little bit late, so I hurried down to the Church Office Building. When I got there, I went in and said to the receptionist that I was supposed to go to a meeting. He said, "Well, isn't it this afternoon?" I said, "No, it is this morning." And so he took me in and there were four apostles—your father, Marion Romney, Brother Evans and Brother Hunter—and the magazine editors. I was quite surprised that there was no one else from the Sunday School but I thought, well, they must regard me very highly, and so I just sat down. Your father shook my hand, so did Marion, and everyone—I knew them, you know—so I sat down. The discussion went around and I was willing to offer my views quite freely. However, Brother Evans said, "Your turn will come in a few minutes."

When they got around to me, I told them that the Church magazines never

would amount to a damn if they did not get some people with independence in there who had real ideas and would come out and express themselves. If they were going to rehash old stuff, they would not hold the young people. I told them I thought that *Dialogue* had caught the attention of more people and had more influence than our own Church magazines did. It has some of the kind of independence that I think is a good thing. I think it is walking a very dangerous road and could easily go sour, but so far it has been good. And I told them that if they left out people like Brother Wheelwright, who had been working with the *Instructor*, they would be making a big mistake, and so on. I gave them quite a bit of very fine advice and I damned a little when I wanted to and when I got through, Brother Evans said, "I do not know anyone who characterizes the idea of independence any more than you do; are you applying for the job?" I said, "No, I am not applying for the job, but I think I have given good advice." Everyone was very nice to me.

I did not have any feeling, even after I had been there, that there was anything wrong, and thought that they must have a high opinion of my wisdom. When I got back to my office, my secretary asked, "Where have you been?" I said I had been down to that Church magazine meeting. She said, "That is this afternoon at two o'clock."

What is so funny is not that I made a mistake, but that I was so insensitive as to not realize it. I did not go to the two o'clock meeting. I felt I had done my work. Brother Evans got up in that meeting and, I am told, said that they had had a meeting in the morning and that very useful advice had been supplied by Brother Eyring. He did not say I had not been invited.

I am amazed at the graciousness of the brethren in making me feel I belonged, when any one of them might well have been annoyed. They are a most urbane group. On my part, there was no holding back; I just tried to help them all I could.

Kimball: The scientist sometimes finds himself in the middle on things like the age of the earth controversy. What has been your experience?

Eyring: When President Joseph Fielding Smith's book, *Man, His Origin and Destiny*, was published, someone urged it as an Institute course. One of the Institute teachers came to me and said, "If we have to follow it exactly, we will lose some of the young people." I said, "I don't think you need to worry." I thought it was a good idea to get the thing out in public, so the next time I went to Sunday School General Board meeting, I got up and bore my testimony that the world was four or five billion years old, that the evidence was strongly in that direction. That week, Brother Joseph Fielding called and asked me to come in and see him. We talked for about an hour. He explained his views to me. I said, "Brother Smith, I have read your books and know your point of view, and I understand that is how it looks to you. It just looks a little different to me." He said as we ended, "Well, Brother Eyring, I would like to have you come in and let me talk with you sometime when you are not quite so excited." As far as I could see, we parted on the best of terms.

I would say that I sustained Brother Smith as my Church leader one hundred percent. I think he was a great man. He had a different background and training on this issue. Maybe he was right. I think he was right on most things and if you

followed him, he would get you into the Celestial Kingdom—maybe the hard way, but he would get you there.

The Church, according to a letter from President McKay, has no position on organic evolution. Whatever the answer is to the question, the Lord has already finished that part of His work. The whole matter poses no problem to me. The Lord organized the world and I am sure He did it in the best way.

Kimball: Members of the Church often express pride that an eminent scientist is a faithful Latter-Day Saint.

Eyring: I think that is the wrong point of view. I have told this story often: I serve on the Board of the Welch foundation. A man named Robert A. Welch struck oil and left what is now an endowment of about 120 million dollars dedicated to the development of chemistry in Texas. Each year we have had the ablest people in the world come to discuss some subject. At the first discussion, which was on the nucleus of the atom, there were about a dozen of us sitting around the lunch table. One of them turned to me and asked, "How many of these people believe in a Supreme Being?" I said, "I don't know; let's ask them." There was no objection. I said, "Now, let's put the question as clearly as we can. How many of you think that 'There is a Supreme Being' best represents your point of view, and how many think that 'There is no Supreme Being' best represents your point of view? Let's not have a long discussion about what we mean, but just choose between these two propositions." All twelve said they believed.

I do not think there is anything unusual in physical scientists believing in a guiding, all-wise Being who runs the universe. They might differ in their kinds of theology, in men's interpretation of this big idea, but the best exact scientists in my experience are overwhelmingly believers.

Kimball: Does it have anything to do with their being scientists?

Eyring: I think they do not see how there could be all of the order in the universe unless there was something back of it. It is hard to believe that we just happened. It is not, of course, a matter of proof. Actually you do not ever prove anything that makes any difference in science or religion. You set up some postulates from your experience or your experiments and then from that you start making deductions, but everything that matters is based upon things you accept as true.

When a man says he will believe religion if you can prove it, it is like asking you to prove there are electrons. Proof depends upon your premises. In Euclidian geometry, you learn that three angles of a triangle total 180 degrees and that two parallel lines never meet; the whole argument proceeds very logically. But there are other kinds of geometry. In elliptical geometry, parallel lines do meet and in hyperbolic geometry, they diverge. If you go up to the north pole and draw two parallels of longitude, they will hit the equatorial plane at right angles. That makes 180 degrees, plus the angle at the pole. And the lines are perfectly parallel at the equator, and the fellow that does not know they are curving will find that two parallel lines meet. It is a perfectly good geometry. It is two dimensional on the surface but it is curving in a third dimension. Analogously we do not know whether or not this three dimensional space we live in is curving in a fourth di-

mension. You can build your logic perfectly, but whether your postulates apply to the world you live in is something you have to get out of either experiment or experience.

Every proof in science depends on the postulates one accepts. The same is true of religion. The certitude one has about the existence of God ultimately comes from personal experience, the experience of others or logical deductions from the postulates one accepts. People sometimes get the idea that religion and science are different, but they are not different at all. There is nothing in science that does not hinge on some primitive constructs you take for granted. What is an electron? I can tell you some things about the electron we have learned from experiment, and if you accept these things, you will be able to make predictions. But ultimately you always get back to postulates.

I am certain in my own mind of the truthfulness of the gospel, but I can only communicate that assurance to you if you accept my postulates.

Kimball: May I ask you some questions about your professional life? What would you consider your most important scientific contribution?

Eyring: In 1935 I wrote a paper called "The Activated Complex" and practically everybody in the world who treats rates of chemical reactions uses it. It has stood now since 1935. It is a very simple equation. It says that how fast two molecules change partners depends on how hard they bump into each other. If they hit hard enough, the electrons that are holding the two pairs together reorganize and allow a change of partners. The rate of a reaction depends on how hard you have to push to come to the point of no return. It is the same equation that has to do with the fact that there are not many molecules of gas on top of high mountains because it takes work against gravity to get up there. There won't be many molecules that have energy enough to go over the gravity barrier. In fact you use exactly the same equation to calculate the barometric pressure as you do to calculate the rate of chemical reaction.

Kimball: You don't mind if I do not understand that, do you?

Eyring: But you do understand it. Let me tell you a typical chemical reaction. If you could look at a molecule closely, you would see that gravity acts like a spring that pulls it to the center of the earth. The chemical bond is not unlike the force of gravity. If in India you have a molecule and you want to have it go over a pass in the Himalayas into China, you have to stretch that spring. Since not many molecules stretch the bond that much, only a few drift over the pass into China. If you go high enough you won't find any molecules. That is analogous to a chemical reaction. You can write that as an equation: the rate of reaction is the chance of being at the top of the energy barrier times the rate of crossing it multiplied by the chance of not coming back across the barrier.

Kimball: Would you mind telling about some of the projects you have worked on recently?

Eyring: One relates to cancer. What we have found out is a theory of mutation that explains the way chromosomes are changed inside the cell. There are forty-six chromosomes inside the human cell, twenty-three from each parent. Inside these chromosomes are genes. A gene is simply a pattern for making particular molecules. Some of these molecules promote bodily reactions. If you have those reactions going fast enough, the tissue grows. There are other molecules which inhibit growth. If you lose the ability to make these inhibitors because a certain part of the gene is damaged, you may have cancer. The forty-six chromosomes have about a million genes and a small number of them have to do with the crucial function of controlling rate of growth. They can be damaged by radiation or chemicals so that the genes are not coded to make the right molecules. The wrong molecules often are lethal, but the body's defense mechanism, the immune reaction, acts to destroy them. However, some of them leave the cell enough like it was that the body does not recognize it as an intruder. It is a Greek bearing gifts. This cell without the inhibitors grows out of control. That is what cancer is. The cells are much like they were before, but out of control.

I have collaborated with Miss Betsy Stover who has been working the last twenty years on cancer mechanisms by injecting dogs with radioactive materials. Together we have written a number of papers interpreting the results of her experimentation. I have read these papers at about twenty universities. The theory that I write down is an equation which fits the data and gives insights into possible causes of cancer that one did not have before. I did not participate in the laboratory research, but I have a facility for seeing how one can explain the experimental results in terms of mechanisms and write equations for them.

Kimball: Is that immediately useful?

Eyring: Yes, because you can make deductions from it. You can start systematizing and interpreting experimental facts. Some facts are very simple. We are overengineered against damaging mutations. Chromosomes are getting damaged all the time, but they are also being repaired. While we are young, the repair process goes so fast that cell divisions which result in a seriously modified cell only rarely take place. In their youth, maybe five people per hundred thousand per year will get cancer. But by the time they get up to seventy, it will be 18,000 per hundred thousand because their reserves are used up. If you think of scissors cutting things and needles repairing them, they are running out of needles and thread, so they stay damaged and you get uninhibited growth. What is it that uses up the needles and thread? Bad living. Anything that makes you grow old will increase the likelihood of cancer.

Kimball: I remember some research you did in wool fibers and in luciferase.

Eyring: Yes, that is related to rates of chemical reactions. And we are still working on these questions. Rates of cooking, or growth of muscles, or tightening of muscles, or using the brain—everything involves the speed of some reactions. It really means getting acquainted with the molecules as if they were your friends and knowing what their nature is and what they will do, how hard you have to throw them at one another so they will change partners. It is like a detective story;

it is the same kind of systematizing. Every time you get a nice new tool there are some puzzles you can solve.

Kimball: Is there any way of identifying the quality in yourself that makes you so successful in this kind of enterprise?

Eyring: I would think that I have a facility for seeing analogies. And I am not easily deterred by criticism. I do chemistry to suit myself. I am glad if other people like what I do, but fundamentally I do it for my own understanding.

I think I get along well with people so others like to work with me. I have had the privilege of training and directing 110 Ph.D's. By and large, I think of chemical research as my collaborators and I pitted against the complexities of nature. I never make my students do something alone if I know how to help them do it more easily. I do not put them on little jobs to find out how smart they are. I think they sense this attitude and give maximum cooperation.

Kimball: Can you tell whether someone is going to be a good chemist when you meet him?

Eyring: There are some factors I look for. One is whether he reacts quickly. You can talk with him and tell whether he sees things and grasps ideas. But he has to be more than bright if he is going to be a good scientist. He also has to be interested. That takes longer to discover, but you can work with him for a little while and find out. Unless he just gets lost in his work and feels that knowing molecules is like knowing people, he probably won't get far. If he is a time server, if he just likes to work eight hours and then go do something else, he won't change the world.

There are unsuccessful bright people who are so overcritical that they cannot even stand their own creativeness. Being critical slows down creativity because when you first get an idea, it generally does not come full-blown like Athena from the mind of Jove. If you are horrified because it is not perfect to begin with, you may abandon it. To be a successful scientist, it is often useful to be a happy muddler.

Kimball: Do you ever publish papers that you are later embarrassed about?

Eyring: Not that I *am* embarrassed about, but that perhaps I *should* be embarrassed about.

I have published over five hundred scientific papers, frequently with collaborators. I have written nine books, also with collaborators. And I have been editor of about twenty annual reviews of physical chemistry, and co-editor of eleven volumes of physical chemistry. No, there is no paper I am ashamed of, because at the time it was written, it was the best we knew. I have no apologies. Each paper was the best I could do at the time. That I was not born smarter is really not my fault. Maybe as important as anything in whatever success I have had is the ability to go ahead continually without worrying whether other people like what I do. If an idea is wrong, it will fail; if it is right, nothing can stop it.

I would say the same thing about the Church. The gospel, I am convinced, is

true and I do not care about little things. I do not think anybody understands everything completely about the gospel. I think the best man in the world is human. The Lord does not just open and shut his mouth. I follow the Prophet Joseph for his moments of insight when the Lord showed him things. I have no objection to his making any number of mistakes. Of course he did, and I like it. I like to see some of the brethren make mistakes because then I think that the Lord can use me, too. I mean, it gives me comfort; it does not worry me. I know they are mortal, so I never worry about small things in the gospel. The brethren are wonderful, but they make mistakes. Of course, there are things they do not understand, just as there are many things I do not understand.

Kimball: In your opinion, who is the greatest scientist in history?

Eyring: Some professional mathematicians would pick Archimedes, Newton and Gauss as the three greatest. I would think that as a mathematician, Gauss was the greatest of them all. He started so many things! And he made almost no mistakes. He was a phenomenon, a tremendous person. He was also quite religious.

Kimball: What about chemists?

Eyring: I would say one of the greatest physical chemists was Peter Debye. He died recently. I knew him well; he was about fifteen years older than I. He was a very great man. Emil Fischer, a German, in organic chemistry was tremendous. Again, to pick out any one can give the wrong impression. There are many others of comparable attainments.

Kimball: Einstein was at the Institute for Advanced Study at Princeton when you were there. He is the scientist laymen know best. What is your view of him?

Eyring: He was first rate, there is no question about it. It was no accident that he was good in many fields, but the picture some people have of him as a lone intellectual giant is a wrong one. I prefer to think of him as a man with few peers. There are other people who are comparable. Neils Bohr was another physicist of comparable scientific influence.

Kimball: The only thing most people know about Einstein is his theory of relativity.

Eyring: Yet he did not get the Nobel prize for that, but for the photoelectric effect. The photoelectric effect has to do with the emission of electrons when a ray of light strikes certain chemicals. And the color of the light determines the speed at which the electron will come out. As he explained it, light is made of particles. Just as the electron is a particle, so light is a particle. The light particle has energy in it which is transferred to the electron. The more violet the light, the more energy it has.

Kimball: Does the fact that he received the Nobel prize for this discovery mean that it was a more valuable contribution than the theory of relativity?

Eyring: No, it means that the discovery of photoelectric effect was clean cut. It was true; it was a discovery you could write something simple about, and it was his. All of those things go into a Nobel prize. They tend to give the prize to people who have done other important things, but they ordinarily identify it with some specific contribution.

Kimball: The head of one of the departments at the University of Wisconsin mentioned that he thought you ought to have had the Nobel prize long ago.

Eyring: I am available.

Kimball: Have you made some kind of specific contribution that might attract their attention?

Eyring: Possibly the reaction rate theory. Although I made it almost forty years ago, it might fall in that category.

Kimball: Wouldn't it be embarrassing for them to go back that far? It would be something of an admission that they waited a generation too long.

Eyring: They sometimes make the award for overall contributions. A case could be made for the idea that reaction rate theory has been the most influential concept in chemistry since its formulation. And my work on theories of liquids might also be considered.

Kimball: Is there anyone, outside science, you particularly admire?

Eyring: I admire your father. He is a remarkable man. He seems to me a selfless person who has found something to serve that is bigger than himself. I think that is always a great thing.

Kimball: He works at the Church much as you work at chemistry.

Eyring: The same way. He forgets himself in it. He is a great man. I know others. I know many people in the Church for whom I have that kind of feeling, but none that I know who are more devoted than your father and my mother. My mother had that same quality of selflessness.

Kimball: What is most important to you?

Eyring: I think the gospel and my family and friends. And I enjoy science. I am interested in it like some people get interested in a game, or in making money. It is fun to try and understand how things fit together. Life is to me an exciting game, and the concept of eternal progression which the gospel teaches gives meaning to it all.

DIALOGUES ON SCIENCE AND RELIGION

CLYDE A. PARKER
WITH THE ASSISTANCE OF
BRENT MILLER

In the late 1960s I was invited to prepare a chapter on the religious development of college students for a commissioned handbook of research on religious development edited by M. P. Strommen (*Research on Religious Development: A Comprehensive Handbook*, 1971). My research confirmed what popular opinion held: the general effect of college on students' religious beliefs was to make them more liberal and, therefore, less fundamentalistic or orthodox. The research also revealed some major weaknesses in methodology: the lack of carefully controlled studies and the lack of a rationale regarding what should happen to religious beliefs during the college experience, particularly concerning the effects of the academic experience on individual students.

Since that time the work of William Perry (*Intellectual and Ethical Development in the College Years*, 1970) has become available. Perry's work with a group of students at Harvard showed a systematic change from a dualistic framework (ideas are either right, good, and mine or wrong, bad and yours), through several stages of relativism, to a recognition of the need to make commitments and finally to making commitments as to the worth and truth of ideas. This framework provided a possible way to examine the development of religious beliefs of college students and led us to ask whether Perry's general intellectual development model fit religious data in particular.

To answer that question we needed to create some instruments with which we could gather the data. We are currently engaged in that instrument-building phase. As one step in that process, we interviewed several well-established LDS academicians located at various institutions of higher education in the United States. We attempted to interview one from each of the several academic disciplines in order to get a cross section of the possible areas of conflict that may have been encountered by established professionals who had had a thorough grounding in LDS theology and Church practice.

The interviews exceeded our expectations. The men (unfortunately, none were women) were candid, open and cooperative. The results provided some excellent material for our instrument-building phase. The interviews were conducted by Brent Miller, a graduate student in sociology at the University of Minnesota. His gentle manner and carefully thought-out questions established the conditions under which such sensitive material could be gathered.

We had collected the data with the explicit promise that they would be kept confidential. For this special issue of *Dialogue*, we selected three interviews with scientists which we thought were representative of the range and nature of the content of all and requested permission to publish them anonymously. Each person was gracious in granting such permission. Additional interviews will appear in subsequent issues of *Dialogue*.

The reader should be cautioned about making any generalization from these interviews, especially in regard to the academic discipline of the respective respondents as it relates to their religious beliefs. These are simply three very interesting and highly individualistic scientists who openly and honestly discuss their religious feelings and beliefs.

DIALOGUE WITH A SOCIAL SCIENTIST

We are interested in religious development in the sense that you have used that term in your work with family problems. Not that it is cumulative, but that there is an ebb and a flow, and like everything, it has stress and crises. Those same experiences exist in the lives of everyone as far as religion is concerned. Would you reflect for us upon the time when you felt most involved in the Church?

I am sure that it was during the period when I was in the mission field in France and Belgium. I would have to place that probably highest and then the period when I was a branch president during the time I was a graduate student. These two periods were periods when my involvement was substantially more out of my own initiative rather than participation for the sake of duty. I think it was a period when I could speak convincingly, bear testimony and not hedge and hem and haw about it with caveats and reservations.

I am interested to know if those times when you felt most involved, in the mission field or as branch president, were also the times when you felt most enthusiastic about the Church?

There were periods when I was more concerned with internal operations of a local

branch or ward of the Church and less concerned about the relationship between the Church as a whole and the society in which it was operating. These were periods in which I felt very responsible for day-to-day and week-to-week performance by others. It was a period of managerial and promotional activity, not of great reflection. During the time I was branch president, I gave talks representing the Church in other churches, largely Protestant churches, and I took a positive stance. I saw some of the achievements in the larger Church in a kindly fashion. These were exceptions, I should say, to my concern with the internal operations in my branch. I was released from the presidency when I left for a position at a university in the Midwest. I probably became more reflective as far as the larger Church is concerned and this reflectiveness may possibly have come through as more negative criticisms of the Church.

We can come back later to this more reflective period. Would you see your family as having a great effect on your activity in the mission field and as a branch president?

I was the oldest member of a family of six boys and two girls, and it was my position as the oldest to be an example to the rest. We had daily family evening hours in which we systematically went through the scriptures. Sometimes these hours were devoted to the history of Mexico, Utah and of the Church, linking these together. I received the kind of orientation to the Church that would make it difficult for me to argue about whether or not my membership was voluntary. I cannot remember when I did not sense that my forebears had participated in an epic of great significance. Some of my earliest memories are of stories of the pioneers. My great-grandfather, Erastus Snow, with Orson Pratt, was one of the first to enter the Salt Lake valley. Another great-grandfather was a personal bodyguard of Brigham Young and Joseph Smith, a U.S. marshal and a missionary to the Indians. As a member of my family, I considered myself one of the elite of the Church. I felt responsible early as a child for maintaining that sense of being among the chosen. And that elite included John A. Widstoe, who had been president of Utah State and president of the University of Utah; I knew him personally and saw him as one of my heroes. It also included Franklin Harris who was president of BYU and later Utah State. It included David O. McKay. There just was no avoiding an integration into this elite group chosen to lead the Church. My parents knew personally each of the presidents of the Church during their lives. Joseph F. Smith was the first; he married them. This continued with Heber J. Grant, who personally called me on my mission and told me he was putting through a call for me to go to France. David O. McKay set me apart for my mission, and later, he was the choice of my bride to marry us since she was also a member of the closely knit McKay family network. So for me to doubt or to deviate seriously was to deny a heritage important to me and hurt people important to me and significant in the Church.

This is why I say that the high point in my participation in the Church on my own initiative was in the mission field and as a branch president. I literally had been brought into the world to a position where it was expected that I would fulfill patriarchal blessings and heritages, unearned but nevertheless mine. It was a heritage I have valued but have underutilized because I could perhaps have built

upon that to have made a career within the Church. I had all the right ancestors, all the right genealogy, all the right connections, and I could have utilized those connections. I recognize that you do not do those things unless you are called, but if I had been so minded, and some of my associates were so minded, I could very well have built upon those particular connections. No other member of my family knew that as clearly as I did. Do you see why my belonging to the Church was something more than voluntary?

With that personal heritage in the Church, how do you assess the period after you left graduate school and took your first professorial position? You mentioned that you experienced possibly a more reflective, critical period in your life regarding the Church.

It is hard to assess what happened. We were the only Mormon family in the town and the closest Church was about eighty miles away. We became active in the Methodist Church; my wife and I were invited to serve as co-superintendents of Sunday Schools and I played the pipe organ for the Methodist Church. The pastor of the Baptist Church was doing his master's thesis with me and the Congregational Church minister had me fill in for him when he went away for conferences. We were active as Methodist Church members, but we were known everywhere as Mormons. It was a good religious experience for us, but it was during that period that I received a wire from the Church Commissioner of Education notifying me that I had been appointed president of Ricks College, a position for which I had not applied. The appointment did not seem to be contingent on my accepting it. I countered with, "I am not free to take a position of this sort." I was head of a small department and could not be freed immediately. But I told him that I would come out and look it over if he would send me expense money. He countered that my appointment had been cleared, the Brethren had approved my appointment. He was not asking me "if I would accept"; I *had* been appointed! Finally I went out and spent some two weeks between quarters looking the situation over and decided not to take it. I indicated that I could only be interested in the position if there were a separate board of trustees made up of local people from the region. This was probably the first opportunity that I had to return to the Rocky Mountain country and to resume my rightful place among the elite. But when I got there, I just did not take advantage of it. I was told that if I made a go of it at Ricks, I would be the new president at Brigham Young University. I suppose I was appalled that there would be no more competition than that.

President George Albert Smith once visited us and gave me a view of my life's mission that I had not considered before. I told him that I was one of the first scholars ever to be employed full time to do nothing but teach and do research in my area of specialization. I told him that I occasionally found that invitations to serve the branch or in the district interfered with responsibilities that were emerging in my profession and that this disturbed me. He put his hand on my knee and said, "You can tell any district president, any branch president who asks you to serve in a Church capacity to go back and pray again. Tell them that you have a mission, that your mission is as important as far as the Church is concerned as anything that you could do within the Church itself. Your mission is to discover, if you can, the

secrets of your particular field. And that is a lifetime mission, not a mission that you can take on for two years and then be released. That it is a lifetime mission and you are in this central position of leadership in a rapidly growing field. The Church is interested in the development of that particular field, and you want to do your very best. You do not have to be apologetic about it; you can be assertive about it." This was almost a complete reversal of what I had been taught from childhood on: "Never question if a person in authority asks you to serve. He would not have asked you if he had not given it thoughtful consideration. He is a representative of the Lord. And you must accept his call." Now here was the President of the Church telling me to have respect for my professional mission and to tell local authorities that when Church activities interfere with that mission that I was justified to indicate, "I have to be about my Father's business." It brought a certain resolution to what would be very difficult role conflicts later in my career. I have accepted some church assignments since, but I have kept President Smith's reminder that if I did not value my time, and if I did not value my mission, I could not expect a local Church leader to value it. Somewhat later I was asked by a stake president to become the stake Sunday School superintendent, which would require me to travel throughout the entire area. I told him that I respected his judgment but what he could not know was the nature of the commitments that I had, and I had to tell him "No." He was impressed and said no one had ever turned him down since he had been stake president. I asked him to think about it and pray about it. Before he got back to me with his answer, he had been released as stake president. He later told me he guessed that I was wise to have turned his call down because if I had accepted it that I would have found myself under a stake president who did not share his views of what was involved in the task. He added, "Sometimes we do make errors."

This is rambling a little bit, but I have to say that part of my upbringing in the Church was colored by an enormous status difference between the faculty members who lived in the local ward of my youth and the essentially poor, unlettered, unskilled immigrant members of that ward. Our family provided continuous leadership in all aspects of the ward, but we never really felt we belonged. I always had a sense, while I was growing up, that I was somehow or other a cut above the rest of the members of the local Church. This was not good, because it tended to make me marginal to that particular ward. While I exercised leadership, it was a relief not to have to attend when I was away. That marginality has continued in other places I have lived. Converts with much less education, suspicious of people with education, sure that the educated cannot possibly believe, and sure that they are really unbelieving members of the Church—I had the feeling that if this is what the membership of the Church thinks, then I must not be worthy of membership in the Church. There are perhaps a half dozen wards in the course of my growing up where I felt fully at home, mainly those connected with universities or Institutes of Religion. These were places where I felt there was understanding and friendship, where I could explore all thinking in depth. This affected, I think, in my own development for most of my career, a sense of marginality to the official Church and to the local ward in which I was a member. I think they accept me in my own ward now largely because they accept my wife and because I never turn down an opportunity to serve at the organ; but they are hostile and disturbed by the questions which I raise in group discussions.

Are there any assumptions in the social sciences in which you have been trained that raise issues with the doctrines of the Church?

Unfortunately, yes. Many, many questions. I start with the nature of man and the evolution of man, and the historicity of the Bible, and with the view of the Bible as the word of God. It seems to me that the social and biological sciences do not have answers, but they bring to bear different assumptions with respect to these issues. I find substantially more comfort in the findings of science in these matters than I do in the assertions of Church doctrine, because I think that over time science will be able to break the barriers of lack of knowledge, to fill in corners where we presently do not have answers. The scientific method can and will make sense out of the phenomena that are currently treated as miraculous, as spiritual, which we are told in the Church are not to be understood but to be accepted on faith. My training in psychiatry leads me to see the speaking of tongues, the driving out of spirits not so much as evidences of the devil as the need to heal people with distorted minds. I find no need whatsoever to posit the existence of the devil to account for disordered behavior in people. My reading of the Bible and of other scriptures with my training in social science leads me to see these disturbed people as representatives of their time and place; the accounts of miracles largely as myths reflecting a limited knowledge of man at the time.

These beliefs reach the utmost absurdity to me when they designate the current black population as the descendents of Cain and of Ham and when they use the Bible accounts of the sins of Cain and Ham as explanation for the present benighted state of the blacks in the United States. This is the most extreme case, but it seems to me that social science and a number of Church policies, if not doctrines, collide. I think the glorification of the husband-father as the patriarch and the monopoly by men of the priesthood signify in some kind of curious sense that white men are like gods, which women and blacks can never be. These views that justify priesthood meetings, segregating men from women, when decisions are to be made with respect to the local Church, collide with my professional views with respect to the family and with my egalitarian views that men and women are equal in the sight of God. I think I can trace patriarchal ideas to a rural, agrarian past, but they are treated within the Church as if they are timeless and that in all eternity it will always be thus. Yes, I do find many, many points at which social and psychological science and ideas from psychiatry and philosophy run head on into what some would allege to be the doctrines of the Church.

In a previous conversation you told me that you thought the social sciences and behavioral sciences are of a somewhat different nature than the physical sciences in the degree to which they might raise these kinds of questions with members of the Church who pursue academic careers. I am wondering if you could recount that for me again.

It was epitomized by Lowry Nelson, who is one of the greats in sociology, and Henry Eyring, who is on the Nobel prize level in physical science. Henry Eyring is able to keep his beliefs about the nature of man, about the divine mission of the Church, and about the hereafter separate from his scientific pursuits so that he has a serene and unquestioning view with respect to the Church teachings. An

exception would be those who take Genesis as the final word about the origins of mankind. I have never encountered the anti-evolutionists within the Church who take Genesis literally, but my father who was a professor of chemistry, did have to cope with them, and he said their views were bad science.

The anti-evolutionists?

That's right. He said the story in Genesis is just plain incomplete. It picks up man as a developed being and does not show when he developed on this planet. He would assert that Genesis is primitive man's view of the growth and development of the earth and is not enough for an educated man in our day and time.

Have you resolved the conflict between evidences in the biological and physical sciences regarding the development of man and the scriptural accounts?

Not exactly, but my father seems to have done so. He reconciled Genesis and physical science for himself. It did not trouble him terribly, but he also believed that he had seen devils. He believed that he had driven devils out, by prayer and by fasting. His physical science training did not raise questions for him about alternative explanations for the behavior of "bedeviled people." In his day, as he grew up, these devils were around all the time, you saw evidence of them regularly recounted by people. You could look out in the dark of the night and see them. Our children do not see them now and I have never seen them.

My father believed fully in the efficacy of prayer and said medicine has to cooperate with faith. But he did not really believe in miracles that abrogated physical science laws, natural laws. Even more than the physical scientist, I think the social scientist has primitive man's views within the Church to cope with. They appear much more frequently in explaining social than they do in explaining physical phenomena. The social scientist finds these views of man disconcerting, whereas the physical scientist may be indifferent to them.

You were paraphrasing before something to the effect that Lowry Nelson was saying to Henry Eyring that "If you were as astute an observer of human and social phenomena as you are of physical qualities in chemistry then you would see why I have the difficulties that I do in the Church as a social scientist."

You remember my accounting of this better than I do.

You have spoken to the problem of time demands made on members of the Church in relation to President Smith's special message to you about your mission in life, and you have spoken of other confrontations between the views and doctrines of the Church and views and assumptions in the epistemology of the social and behavioral sciences. Seemingly most of these confrontations in your own mind have been decided in the favor of science and have come to a point of resolution. Are there areas of conflict about which you are still troubled and about which you have not made a resolution?

Yes, I do not find it pleasant to face death some ten or twenty years from now. I

would like to be able to believe in an afterlife. I would like to be able to resolve that particular question in favor of the Church teachings. So that if wishing would do it, I would love to have some evidence that there is an afterlife. In a sense, lacking it, I find myself terribly conscious of time, *the precious quality of time.* I am increasingly conscious of the necessity of having others catch the excitement of the business that I am in to carry on the unfinished tasks that remain in completing my mission in life. It is one of the reasons that I don't look forward to retirement at all, because at retirement you are cut off from working with young people who can get some of that unfinished work done. Immortality, in the sense of seeing the things that you stand for and work for continue after you die, becomes something that cannot be taken for granted. My resolution of the problem that death will cut short my mission occurs by relating more and more to the promising leaders I am training, in supporting them and increasing their commitment, sharpening their identities, helping them to get started early, giving them some sense of the tasks ahead. That is the opposite of the "pie-in-the-sky-bye-and-bye" notion. It is a precious reward to see that some of this passing of the torch comes about. I am thankful that my own self-discovery of a professional identity came as early as it did and that I have been able to be as influential as I have in this respect. I fondly imagine that if I do this job well, then if there is an afterlife, I will find that it was well done, and if there is not, that the work will continue, for the benefit of mankind as it were. That is one of the most troublesome, irreconcilables that I face. I am not going to lose an awful lot of sleep over it because I can't do an awful lot about it.

I have come to think that the larger issues of discrimination against blacks, women and children will work themselves out, not because the Church will get the requisite revelation to take care of them, but because the liberation will occur in the larger society in which we live whether the Church moves on the matter or not. So I am not inclined to fight on this particular front. I think it is a battle which is being won through the knowledge of evolution and the wider dissemination of social science concepts, ideas and values. So that I am not submitting my resignation from the Church over these issues as others have done.

I think a recent *Dialogue* article on this issue by Lester Bush, Jr. is beautifully done. It demonstrates that the Church has been struggling with the issue of the blacks from the beginning, that there have been diverse statements from the Church under pressure by virtually every President since the Church was organized. Bending to the expediency of the moment, precedents have been set up, reactionary precedents. Even leaders who took a progressive stand when they were marginal to power, took a reactionary stand on becoming president. They were stuck with precedents that they dared not repudiate.

The article was a case where a historian did a job of clarifying issues by providing the historical record. I have had a running battle with the people that I knew and trusted in the Church on this matter, but I have never had the clarification that was brought out in this particular article. I had not realized how long the Church authorities have been plagued with this problem!

I can't help but personally evaluate the tenor of your comments in the last few minutes. I see you in your later maturity in Erikson's stage of generativity rather than one of despair; one nurturing an incipient leadership. I glanced through the

Dialogue *article while you were on the telephone a few moments ago, and I noted the beautiful sketches of old Italian homes and I recalled the story you told me about your family home and I have wondered since if that was an important factor in your feelings toward the Church as an organization or if it was incidental.*

You mean the fact that the Church obliterated my ancestral home after purchasing it for a parking lot? It could have happened to any of the property owners adjacent to Church property. I would love to have a home that I could return to, but long ago Utah ceased to be that kind of home for me. Wolfe in *Look Homeward Angel* showed we can never go home again. It just is not possible. The city of my youth is itself just a gem of a city. But a city is not a home without people to return to. And people who return there are not our own home people but are former graduate student friends who are now colleagues. So that it would be like any other beautiful city, not a home, but one where lots of friends can be found. One of the recurring questions which I had to face as I returned to Utah was, "Do you still have a testimony?" I had to ask myself, "What is the nature of my testimony? What do I believe?" These were the recurring questions. Obviously to admit to yourself that you don't have a testimony, after having had one, is devastating—an identity crisis. One's religious development may be captured by the ebb and flow of his testimony. Now how does a scientist respond when he faces the query, "What do I know?" He can't go through a set of catechismic rituals that are implied by the eight year old or the twelve year old who is giving a testimony before a group—something approximating the memorized statement. He must make sharp, relative distinctions between "I would like to believe" and "I believe," and between "I had a past belief" and "I know." Now a testimony in the fullest sense seems to be introduced with the assertion, "I know." That is the most frequent rhetoric, "I know that," "I know that," "I know that," and "I know that." The characteristic of an educated man, on the other hand, is marked by the qualifications he puts on what he knows. Agnosticism is more compatible with education than is absolute knowledge. Growing religiously, instead of ebbing and flowing with respect to a fixed testimony of "I know," may consist of expanding the horizons of discovery of things that you know *not* well. And the goal of religious development might not be the serenity of certainty, an absolute acceptance on faith, but the capacity to sustain the tension of not knowing. To be able to live with uncertainty, to be able to cope with the insecurities of an exceedingly complex world in order to control it would be a higher achievement religiously, I think. Now this is the description of a different kind of religion, but it is a religion that is consonant with progress, growth and development.

An old friend of the family never failed, when I visited her in Utah, to ask me the question, "Do you still have a testimony?" She was the wife of a senior apostle. We traveled in Europe together when I was district president in Belgium. She was concerned about my shift from chemistry into sociology and she never failed to ask me the same question, and I resented it. I have started to redefine what a testimony is, and I now think that the testimony that I had in the mission field was not good enough—that it represented the best that I was capable of at that particular moment, but there was very little reflection in it. It represented my commitment to the mission field and to the Church. It represented my loyalty, but that is not what you are asking. I now differentiate between "I want to believe" and "I do believe,"

and there are very few times that I will use the term "I know." Well, there may be somewhere in that territory of a testimony a festering thorn that requires a bitter pulling.

I would say that one of the irreconcilables to me still is that I do not feel that my testimony, as I define it candidly and frankly, would be particularly welcome to my fellow members in the local ward. It is jarring to listeners to hear a testimony of this kind. It is jarring because of those who have gone before and those who will come afterwards. People do not come to testimony meeting to hear about doubts and uncertainties. For my part, there is something within me that is violated each time a person blandly says "I know" when I know damn well he doesn't. It irritates me just as a bland lie would. But I am imposing my own scientific standards for assessing what is true, the distinction between belief and wishfulness and knowledge, and the person giving a testimony is not making those distinctions. There are two languages, or perhaps better, two rhetorics rather than just one. And so I am irritated that members don't use these words in the way I think they ought to use them, and I am angry because I can't give my own testimony in my own way and be understood. There you have the ugly picture of marginality. There is not any place in a testimony meeting for a marginal member, even in the role of devil's advocate.

DIALOGUE WITH A BIOLOGICAL SCIENTIST

Would you describe for us the time in your life when you felt most involved in the Church? That may be now, when you were in the mission field, or some other time in your life.

I have always been involved in the Church some way or another. I have been in the elders' quorum presidency several times in my life. I guess at the time of my marriage, I was most highly involved because I had to develop up to the point that I could qualify for that important event; I did, so I guess that I have always been involved, I have always had some kind of a job in the Church. At this point, I am a high priest and serve in several capacities.

There is no one apex that you look back to as the time in your life that you felt most engaged in the activities of the Church?

I do not think that there has ever been any real high point or low point. Sometimes it is low. Maybe this is no progress.

What factors in your life have encouraged you to continue your activity in the Church?

I have a rather large family and, of course, they play a big part in my life. We continually try to maintain the standards of the Church. We have a family home evening every Monday as suggested. So my family plays a large part. I have three youngsters in college at this point. Two of them are at Utah State University. I prefer that university over Brigham Young University for scholarly

development, at least in the sciences. So that is where they are. I have one boy who is finishing up in psychology this year at the university where I teach.

So your own family, the family where you are a parent and have children, has encouraged you to remain involved in the Church.

Yes, I agree that the family is the center of our life, even though I don't spend as much time with them as I should, or possibly could, if it were not for my academic interests.

That is an area that I want to take up later, the time that is required in your profession. Could you describe your parent's family.

Most of my life we were raised in what you would call the mission field. This was in the Southwest. My family originated in Utah and Idaho and moved to Oregon and then down to the Mexican colonies. They were eventually kicked out of Mexico, and did not get very far. My parents were married in the temple and they had nine children, the first of whom died in Mexico. The other eight were raised and subsequently all were married in the temple. So we had some religious training, I guess, all the way through, or this would not have happened. Most of us met our mates either in school or down in that part of the country. We had a rather rigorous background in our religion even though we lived in the mission field.

Referring now to the question I asked earlier about your involvement in the Church, you felt that you had been pretty evenly involved over your life. Have you likewise felt about the same enthusiasm for the Church through your life, or was there a time you recall being more enthused about the gospel?

I don't know; this is a difficult question that I have evaded already once. I think that there have been more low points than there have been high points, we will put it that way. Periodically I have felt low points and I think it is probably due to my academic training, especially in the field that I have been working in. Because we deal with the species of animals, we deal with contraception, we deal with various phases of life, the growing of tissue ourselves. We deal with artificial insemination and ova transplant, which is dealing right at the heart of some of the taboos in our religious philosophy.

However, I feel very strongly about certain aspects of the work that I am doing and can rationalize with really no conflict of interest. Periodically we get to feeling that we are pretty important, and this is probably the downfall of many of us. But to separate fiction and fact and faith is very difficult at times.

When you say that in your work you deal with different species of animals and the growing of living tissue, contraception, and so on, what issues does this kind of work raise in your mind with the doctrines of the Church? What kind of conflicts would this cause for you as a member of the Church?

I will state one at the very outset. That is the phenomena of cloning. I don't know if you have ever heard of cloning or not. In a recent *Saturday Review* article

Senator Tunney states, "cloning of frogs, where a replica of an individual is developed from one of its somatic cells, has already been successful. The technology for the cloning of mammals will be available within 5 years, and, unless research is stopped, the technology for the cloning of human beings might be available within anything from 10 to 25 years." All right, now this is a reported fact. There are very few facts. Of course, this is where I must attempt to rationalize. But I do not know if I have completely—if we consider that animals were placed upon the earth, using the "Zap" idea...

The "Zap" idea?

In other words, we have the animal, we have the frog and many others, placed directly by God—"Zap"—upon the earth for the benefit of mankind, right? They have a specific regime of reproduction as you and I have. But we have been taught that even the animals have spirits of some sort. Now, if we can develop a frog out of a somatic cell, it is surely not natural, it is not a natural birth. It is not even a birth at all, it is just a growing process. This is one area that there has been a small conflict, at least in my mind. I think you can rationalize each of these. We have not created anything new. We have merely taken the things that have been placed here upon this earth for our use. But there is no reason to assume we cannot clone a human. In other words, eventually we may be able to take a piece of skin off the end of your finger and develop another you out of it. It is not unlikely that we will be able to do this in the next ten to twenty years; it is a complete possibility. Now, how are we going to put a new spirit, an exact you, into this new person? It is something to contemplate anyway.

But the second body that was cloned from one of the cells in my skin would be identical to my . . .

It would be exactly identical to you. In other words, you will grow to the same size under the same environment—so this raises some questions, you see, and it is not inconceivable that this is a "normal" process, because we don't really know how, at least I don't know how, each individual spirit was formed and we really have not been told this; I think we are not to that point yet. You see, the saving thing for me in this whole thing is that I believe and have been taught that God, the Eternal Father, has all power, and supposedly knows everything. And the only time that He has released this knowledge or given us the opportunity to have it is for our own salvation. If we are to become gods, at least in some stage of development we are going to have to develop this kind of expertise. All right, I don't think that He is going to allow us to develop any further than He wants us to at any particular time in life, if we state it that way. Any time that He wants us to fail in our experiments, He is going to provide this opportunity for us. Any time he wants us to succeed, He's going to allow us to. In other words, I don't think that He necessarily wanted His children in earlier dispensations to have all the information that we have today, the reason being that they could not handle it.

Going back to some of your earlier comments about working with different

species of animals and your comment that the gospel appears to teach a "Zap" theory of how things were created, how do you personally confront the issue of creation as taught by the scriptures and as you have been trained as a natural scientist?

Well, once again this is a confusing issue, because we don't have enough data on it in the scriptures. Apparently we don't need this information, and we probably could not understand it if we had it. We know that Adam existed; I think we know that Adam existed prior to the creation and, in fact, assisted in it; he must have been around some place, so you would almost have to think of him as being literally placed here—the "Zap" concept. This is not inconceivable. I guess that the real question arises as to how we presently date the bones and fossils which are found. Although we don't really know the date of Adam, as far as I am concerned, he could have lived in the garden for millions of years before they decided to take the step, and so . . .

The issue of historical time is of no concern to you then?

Well, not really. However, they are dating certain bones of supposed human bodies much before the time of the biblical idea of the beginning of man. But what is in your body was already here at the time of the creation; how this might affect the dating of your bones is really immaterial to me.

It may be, then, that the elements of the earth are eternal, and they were brought together at the creation, in fact they were all very old.

Yes, they could have been. I don't care, just pick a number, how old and how they were incorporated into various things. This plant here is taking nutrients from that soil that we placed there. That soil is—you tell me how old it is. Just because we happen to find Carbon 14 within the leaf of that new plant is really immaterial. Now as far as the species are concerned, again I must rationalize many things if we go to the time of Noah's Ark. This has always been a confusing issue to some. People have put their pencils to this and figured out how many bales of hay and everything else were necessary. I think each of us can realize how inconceivable this whole thing could have been. But in our day, we have created species. Right? We create a new species by a flip of the chromosomes in the placement of the genes. This is why there probably have not been enough humans born upon this earth yet to have two people who are exactly alike. I think that this is one of God's plans; through random assortment and combination and recombination of chromosomes and genes we have a tremendous opportunity for differences. This is why we are all different. This is why we grow differently and this is why we react differently. It is pretty well shown, or at least we can show now, that if Noah had taken a male and female pussycat upon the ark, there could have developed all of the various cats that we have ever heard about. Sometimes we picture the garden with lambs and cats and everything else all living peacefully together. But we don't know that this is exactly right, do we? In other words, if someone has drawn a picture of all animals, they are showing various species that we think of today, or at the time of the drawing. I am not so sure that all of them were there. You

take the sheep family and the goat family. There is only one small difference between the two species, and you can see exactly how one chromosome got split off and recombined so that you have a completely different kind of animal. You can see that, through a combination and recombination of genes, these things could actually have happened since the time of Noah.

Do you believe in Adam and Eve as personal beings?

I do and I believe all the human race came through them. I don't know really what they looked like, but look at the different types of humans we have today. My gosh, you can find anything, from giants to pygmies, different colors, different characteristics and certainly you would have to say that these have occurred through genetic assortment and genetic recombination.

It seems to me a more basic question now might be: Is there evolution from cats to cows and men, that kind of thing, not only within certain narrow families, but between them?

In general, no. I am speaking from fact, now, rather than from faith—we know that you cannot cross most species due to the fact that there is a different chromosome number between species. A few interspecies crosses have been made, but the offspring are sterile.

You are involved with faith and fact every day; you work with these kinds of things and that is why we are interested in talking to you. Does your discipline raise other issues?

Well, I guess you are wanting me to be the devil's advocate. I can do so, even though it is over matters that are not of great concern to me. For instance, you have heard a lot about the population explosion and the problems that we have as we look around at various countries, possibly our own here in a few years. The question that I really have is, "Why should there be so many people that we do not take care of properly? Why are we allowed to continue to reproduce?" This is a question which involves a fact. In our religious philosophy we are taught that we should have children—a certain number of spirits must come here—but why do some of them have to come under such horrible conditions of want and need? Why is it they are allowed to starve to death? From man's point of view, one of the ways of overcoming this is to curtail the number of people, rather than increase production. We know that we can increase production of food. But then why do you have such over-populated countries like India and China? It is an impossibility to raise enough food to keep them alive. Yet we say, yes, we should continue to have children. But we have not really been given the opportunity by the Lord to feed the world. We still have bad land, millions and millions of acres of land where the environment is so adverse that you can't do much with it. There is probably plenty of land here to raise crops for plenty of people, but we have not used them; maybe it is a challenge, I don't know. Maybe it is our job to try to feed the world, to overcome the situation.

That is right. Face squarely the question of population.

In my work we look at methods of population control. Birth control is directly against our religious philosophy so, of course, it becomes a conflict. But you see people starving to death, and you wonder why is it their lot in life, why must they be born under conditions where they never have an opportunity to be educated, where they never have an opportunity to do anything other than try to survive. So, yes, I am involved to some extent in a project on human contraception. Of course, we work with animals for the basic understanding of it. Ordinarily, I use this as a method of studying the normalcy of reproduction. This is the marvel to me in science, the scientific work that I am in—the marvel and greatness of the body. How important and how wonderful a system it really is, and how wonderful a system it was created to be, and we scratch a few surfaces now and then and we make tremendous breakthroughs. Yet, the body—human and animal—remains a challenge; the marvel is how little we really know about it.

The Church, of course, teaches that under normal circumstances we should not practice contraception. You find yourself professionally engaged in a project where you are working on this problem with animals, but hopefully for use with humans. How do you resolve this conflict in your life, then, as a member of the Church?

I feel that I have to know everything some day, and, whether or not you are stopping the conception, you are also learning about methods, either physical or physiological, and laws that govern the whole universe. I have to look at it from the standpoint that it is increased knowledge. How you use this knowledge is a different thing. In other words, if you have the knowledge of something, I think it is the application of this knowledge that becomes important, the rationale you put on the use of this newly gained knowledge. I have to come back to the idea that if we are not supposed to know how to do this, we are not going to learn it.

I mentioned earlier that I was interested in asking you about the issue of time demands made upon you by your profession and those made on you by the Church.

As far as demands are concerned, a university really makes no greater demand upon you than the eight-hour day. The only thing that occurs in this eight-hour day, especially in science, is one's own personal agenda. It is difficult for me because there are so many things I must find out. I spend, probably on the average, twelve to fourteen hours a day in my profession. There is a driving force within me that compels me to do this. My day starts early. We all get up at 5:30 a.m. so that we can eat breakfast together before the children leave for seminary at 6:00 As soon as they are gone, my day begins. I come back to work many, many times in the evening and most of all day Saturday and sometimes on Sunday, because there is this compelling, driving force in me. My knowledge has opened a tremendous number of doors for me all over the world. Not the knowledge that I have gained, but the knowledge that I have been given, to the extent that one of the real problems in my life has to do with capitalizing on some of the

findings. I like money. It seems like most everything that I touch turns towards that. I am involved in many different companies. This is a problem, too, a very serious problem.

Let me make this question more specific. Has this inner drive to achieve and to learn in your profession conflicted with the Church in the sense that possibly you have been called to do something but felt unable to do it because of the time required to learn what you wanted to learn?

I do not think that there is a direct conflict because I have not refused a position. But, by the same token, people know how busy I am and possibly leave me alone. In other words, I would have to say that my profession is more interesting to me than jobs in the Church. So if you stay busy enough, then I think that the attitude is always, "He is too busy to do that job so we won't call him," and that makes me just about as happy. I know that some people believe that Church jobs are most important and they work for these, not that they are looking for a job, but they make themselves more available for that position than some of us do. Do you understand what I am saying?

Yes, I do.

Now, my wife is Relief Society president, and to her, this is very important, and it is an important job; but she makes herself available for these things. I try not to make myself available. However, I am always available here in my work at the university because I like my work, and when my children have asked the question, "Why do you work so hard?" I have said, "Because it is not work. It is fun, it is a hobby." It would drive me nuts to have to come over here and work the extra hours that I put in if I did not like to. You see, there is a certain compelling force in some scientists to know the answer to a given question. Why, I do not know. There is no better balance of life. You have to balance certain things. We have to eat, so we rationalize to the point that we have to work. It is difficult for me to comply with the advice of the Saviour, to follow Him and give everything away, because I do not know of anyone who is going to feed me. Even welfare does not want to feed me. We see that in our little ward; they are perfectly content to let needy members be on state and federal welfare. We do not seem to turn our hands to do the job properly. We criticize rather than help many times, and this is an obvious thing in the wards that I have been in; the poor stay poor and we do not do a lot to help them out. As soon as widows get on state welfare, then ward welfare stops, and this is wrong. But my point is, that you have to still look out after yourself to a great extent.

I have just about used up the hour that I told you this would take. Are there any other things that you would like to express before I close the interview?

I think that the whole thing revolves around the faith that you have developed and the testimony that you have developed in the faith that you have. We have

to take many, many things on faith rather than on fact. There are very few facts in life. So most things come down to faith and I think that I have to rely on this principle of the gospel.

Would you give me an expression of your personal testimony then? Do you feel that it is most appropriate to say "I believe" the principles of the gospel or "I know"—as a scientist? Is there a clear distinction between what you believe and what you know *in the Church?*

"Know" is an interesting word. I have never had a vision. I have never had some of these extraordinary things that some people base their faith upon, or their knowledge upon. I guess I have probably used the term "belief" more than the term "knowledge" because there are very few facts. I guess to sum up my total concept, I would have to say when I bear my testimony that I believe with all my heart, with all my conviction, that this or that is true. There are very, very few facts, if any. Can you name me a fact? You can say there is a law of gravity. There is no law of gravity really. There is a law of gravity for this earth, but you go out 180 miles and there is no gravity. So almost nothing is a fact in my mind. And this is one of the lovely things that keeps me going. Being as there is really no fact, then you can discard evolution, you can discard a lot of things, can't you? But now, if I turned around and said, "I know that this is a fact in my religious philosophy," I think I would be a hypocrite. I believe that Jesus Christ existed and exists. All right? I have not seen Him so I cannot say I know. I have faith that He exists. So my belief is very, very strong. But again, my knowledge of this—I know that there are a lot of people that know, and I know that they feel very strongly toward this thing. And I think it is a lovely thing if they know. But I know nothing really for a fact. How does one overcome this? I do not know. Maybe you can give me the answer to it. I think that you feel that you know some of the things about which people bear their testimony, but I am not sure that they really know. They say this. And, unfortunately, I cannot say it exactly. I see there are certain bits of evidence. Now take the Book of Mormon, for example. You see, to me one of the wonderful things is that we have witnesses to it. It would be quite difficult for me to believe some of those stories. But they have signed witnesses. Now, to me, this is science. This is scientific. There were witnesses who said, "This is what occurred." More than one. Now this becomes more of a fact to me, you see, more of a fact.

Because there is more evidence in support of it?

Yes, there is more evidence for the support of the whole thing. When I perform an experiment, I do it over and over and over and other people do it over and over and over, and it almost becomes a fact, you see. Then it becomes a documented kind of thing. Likewise, something in the Church becomes more of a fact because we have certain witnesses for it.

Replication is possible by independent observers, and this is characteristic of scientific knowledge. That final clarification will be very helpful and I appreciate the sincerity and the honesty that has been evident in our discussion together.

DIALOGUE WITH A MEDICAL SCIENTIST

We are interested in talking about your religious experiences and feelings over the course of your academic pursuits. To begin with, would you describe the time in your life when you have been most involved in the Church. Was it in the mission field?

Well, I suppose that the time that I was most involved was in the mission field. I went into the mission field somewhat poorly prepared. I had only a few months of seminary and not much doctrinal knowledge about the Church. My father was not an active member of the Church, never has been in my lifetime, and my mother was only semi-active during certain periods of my youth so that my home experience did not provide as much Church background as it might have. In the mission field, I found this to be rather traumatic. Some of the most important challenges that I have ever had to face were in the mission field. In fact, at one point in the mission field I strongly considered approaching the mission president about being released because I felt I did not have sufficient convictions as to what it was all about. This wise, patient man, to whom I later became an assistant, had been a stake president for many years and had considerable experience with young people and pretty well knew how to deal with my anxieties and my conflicts and doubts. The last year I was in the mission field was one of intense religious involvement. I felt a strong and peaceful feeling almost every day of that last year. In fact, it was such a singular event in my life that I almost equate it with what I consider to be the ideal. I have often used that period as a reference point.

Coming back from the mission field, I made certain religious commitments—promises to myself—that I would read the scriptures daily, that I would accept any Church call which was given to me and that there would be nothing in the way of academic endeavours that I would allow to limit or conflict with my religious involvement.

My grades prior to going into the mission field were only mediocre. When I came back, I had five or six quarters of straight A's and was able to get into medical school. In fact, I was accepted at all of the schools to which I had applied. Part of that time, almost every day, was spent in scripture reading and in different kinds of Church involvement, and I had a strong feeling that this was a necessary component of life. As I look at my performance during that time, the ability to stick to the commitment, to work as hard as I had to work to get those kind of grades, was partly sustained by what I felt to be the religious activity that I was involved in.

When I got into medical school, I made the same commitment. In fact, when I got married, my wife and I were called by our bishop to stay in our ward rather than go into the student ward which was right on the campus. During medical school I taught Sunday School and was later an elder's quorum instructor and a ward teaching supervisor. I had some real difficulty adjusting academically to medical school and to the time commitment necessary, and did poorly in the beginning, but then I learned how to adjust and during my last two years, I was in

the top quarter of my class. That adjustment and the trauma associated with the poor performance initially have had a great impact on me.

Would you say that the last year of your mission—a period you refer to as "ideal" —was the time when you felt most enthusiastic about religious matters?

I would say that I feel enthusiastic now. I feel a great similarity between that mission field experience and my present relation to the Church. I do not know that there is a day goes by that I do not have some kind of internal manifestation as to the truthfulness of the Gospel or as to the workings of the Lord or as to the capacity of my priesthood with respect to my call. That is the main goal that I have worked at for 17 years. I feel that I have finally been able to bring the secular things into a semblance of control and into focus, in a way that is similar to that last year of the mission field, where I did not have such things to contend with. With great humility I feel that I have learned some of the secrets that are necessary in order to do that and I think that right now I have a real taste of what life can be like. Yet I am not satisfied at all with what I experience because I feel like I am just beginning to taste of an experience which can be so great and so internally satisfying and such a source of peace, that I want more of it. I am willing to pay the price that is necessary, through scripture reading, through commitment of time and other things that I can offer to the Church.

Now that you seem to be on top of the secular buffetings and internal pressures, so that you are able to feel that kind of spiritual richness in your life that you looked forward to, I am wondering if there are related problems that you confront in your life other than time demands. Were there or are there now any intellectual confrontations that you have with your religious beliefs?

Yes, the time in my earlier years when I was a Zoology major and teaching assistant in Comparative Anatomy at Brigham Young University. I have had some exposure to genetics. I have an appointment in three departments here, and I do get into genetics. Rather than there being any kind of conflict, I find it exactly the opposite. I find that everything that I learn and everything that I come to understand reinforces my testimony of the way things really are. I find absolutely no conflicts—absolutely none. Some of my colleagues might say that is because of a naive superficiality, but I do not think it is. I have delved into some of these matters deeply because I have wanted to know the answer. I think that in every area where there is a potential conflict, I find something to balance it that the Lord has helped me to realize. For those things with which there may not be something that directly counterbalances, I have found a plausible explanation in my own mind. Some explanations are rather complicated but most of them I have some documentation for from my readings or study, either secular or religious. To me, science is amazing in the way in which it is presently confirming the Gospel of Jesus Christ as restored to Joseph Smith. I think that Joseph Smith was so far ahead of his time in what he said and what he taught, that his advanced understanding is totally beyond the realm of coincidence and represents divine inspiration.

Is there a specific example you can give from zoology or genetics? Immediately you have reminded me that a man who had undergone training in those areas would confront the issue of evolution and the origin of man as taught by the Church.

Genetics to me is one basis for understanding why every individual is different from everyone else. The process of mutation and evolution within the human species is a limited evolution. There is no evidence that *Homo sapiens* have really changed at all during the time span of which we have knowledge. At the same time, one of the things that keeps overriding in my mind is the fact that things do not tend towards complex organization, the way the theory of evolution maintains that they must. Rather, things tend towards disorganization. Atmospheric conditions may have repeatedly created the potential for nitrogen, hydrogen and carbon atoms to come together to form a very simplified amino acid. But the chances of that amino acid hooking up with another amino acid are so statistically remote as to be, in my mind, completely beyond the realm of comprehension as an explanation of man's origin. When we look at the comparative anatomy of animal forms and find that there is a similarity, that there is a developmental continuity up to anthropoid forms, then as scientists we have a very difficult time really determining the exact transition between those species. If someone says to me, " Oh, there is so much that points to evolution as being the real source of man," I will say, "Friend, so much points against evolution as to call into serious question evolutionary arguments for man's creation or existence." When I look at the human body, when I look at the workings of the human body, when I see the intricacies of it in medical situations—its existence seems to me beyond the realm of coincidence. Everything about the body and the universe seems so well planned and so finely tuned. And when I look at the way in which evolution would have to have occurred to bring about the functions of man or animal, there is just nothing that I can find in anthropology, in geology or in zoology that in any way even begins to prove that in my mind.

I believe that there is a process of evolution. I believe that when we say "evolution" we have to say "Yes, Mendelian genetics are a fact; they are a reality." But to apply Mendelian genetics to an inter-species evolution from an amino acid to man is just not possible to my mind. I think that man's origin is far more explainable in the context of religious belief and by the power of the priesthood, than it is explainable by any theory originated and generated by man.

Are there any problems in your scientific training that tend to conflict with the teachings of the Church?

As far as the teachings of the Church are concerned, I am pretty orthodox. I am very conservative in my feelings. I can find some inconsistencies, yes; I can find things that are not in agreement between one general authority and another. I have also come to understand that there can be an interjection of individual interpretation into things. Individuals may have reached partial answers. I also feel that at times there is a rather harsh approach to some of the things that are psychological or that are psychosomatic. I feel that there may be more physical or chemical bases for some human illness than some may give credit for.

But no other specific things that would emerge out of your discipline naturally like. . .

Not really. In fact, to me medical practice is such that I find confirmatory evidence rather than contradictory evidence. The things that I sometimes find disturbing have to do with individuals rather than any kind of Church doctrine. I find nothing in Church doctrine which I feel to be incompatible with true science or any kind of compatible human life style.

Are there issues in your field of research and professional practice that present problems to others who do not hold as firmly as you to the teachings of the Church?

I would say that the greatest problems that I see in people who are in my profession have to do with an unwillingness to commit their time or means to the Church. If one adds to that disobedience (I put it that way knowing the harshness, perhaps, of that term) to certain laws and commandments of the Church and the attempt to rationalize such disobedience, you can account for most problems people have with the Church. Of the individuals I know who at one time had a knowledge and testimony of the Gospel and departed from it, their alienation from the Church has been caused by a love of worldly goods, by time pressures or by an inability to keep certain moral or physical commandments. A few times it has been because of implied interpersonal differences. In medicine or in science one has a way of developing something that is in a very real way independent of religion. One comes to feel sometimes that he or she has almost god-like powers of being able to thwart or turn back disease. At the same time, one also has the feeling in the research lab, such as the one next door here, that one can discover things that are new and that the discovering capacity is innate. If one finds that in the Church one does not have the commensurate satisfaction that one gains from one's scientific work, it is easy to delude oneself by saying, "My true calling in life is to be a healer and helper of people through medicine." What one really may not be saying to oneself is, "I am not getting satisfaction out of religion because I am not willing to put into it what I put into my profession or to my research endeavours." When one maintains balance, one finds, I feel, every bit as great a satisfaction in the religious experience. In fact, at times it greatly transcends what one experiences professionally, because of the fact that it is a different type of experience. Yet at the same time there can be a similarity with religious experience in everything else that one does. The discovery in the laboratory of the secrets of the universe causes at times a thrilling internal surge or burning that is similar to those feelings one experiences when engaged in priesthood functions. When medicine is practiced with the Spirit of the Lord, and when there is a seeking of divine guidance in the practice and the diagnosis or treatment of medical disease, there is a sweetness and an accompanying conviction that comes that causes one to feel, "Now I am truly doing what the Lord meant me to do with respect to my profession." As far as I am concerned, one's profession really is part of one's religion. After a period of time, it becomes not a secular endeavour but a religious endeavour. We believe that all truth is part of religion and, therefore, no matter what I do professionally, it is really part of my priesthood function.

As you have traced the history of your religious experience from your mission, through school, to the present, I did not get any indication that you were really meant to be a discoverer and let religion sit on the shelf. Have you ever experienced those feelings in your own life?

I think that one goes through an ego struggle in which one has to realize one's limitations and has to sit down and say, "I am not an Albert Einstein, I am not a Robert Good, I am not a Michael DeBakey," and to realize that if one is going to maintain a balance, there is a limit to that which one can achieve. I could tell you the names of individuals who probably spend about 70 or 80 hours a week in their medical and academic endeavours. They achieve more than I do. I have decided that in my own professional situation, my involvement will be one which has variety. I have a research lab; I administer a service laboratory operation that brings in over a half a million dollars a year. At the same time, I am involved with teaching and I see patients in clinical consultation. So the conflicts or the circumstances that have arisen in my life relate to how I am going to balance all of these things and how I am going to maintain myself at a level in which I am competent in my profession but in which I give to the Lord the time which the Lord through His chosen servants asks of me. There is a tempering that one has to go through; there is a discipline timewise that one has to exert and I think that it takes an effort to maintain the balance.

Seeing what others have gone through in becoming lukewarm or inactive in the Church has fortified me in determining that I am not going to fall prey to those deceptions mentioned previously, because I feel that they are self-deceptions. I feel that to maintain the balance one has to be willing to give that which he has promised in temple ordinances and other covenants, that is, a total commitment of one's time, one's means and one's abilities to the Lord should the Lord ask for those things at any time.

Let me probe a little bit now into the last thing you mentioned, your temple commitments. I have the feeling that your life is minutely organized and that you have made certain commitments to yourself, to the Lord, and to other people. Could you elaborate for me on the nature of those commitments? I know that in your parents' home you did not get the same kind of doctrinal foundation that a good number of Mormons do, but that you have risen, as it were, through commitments of some kind.

I think that I have come to understand somewhat my own weaknesses. I think I understand my own vulnerabilities and I work hard to avoid placing myself in situations where I might become vulnerable. I do not by any manner or means maintain that I have everything under control, because I do not. But I have learned certain defensive efforts that I can bring into play. One which I consider to be very effective relates to the promise of the Lord as given in I Corinthians 10:13 and also in Alma 18:27, that the Lord gives no temptations unto the children of men except as are common to all of us. It is helpful to know that my colleagues and my good friends have the same kinds of pressures that I do.

I have made a commitment to live the commandments of the Lord as fully as I am capable of doing. I think that this begins with the mental process. One of

the scriptures that I take greatest strength from, and I probably quote it to myself several times a day, is a scripture that has meaning that I cannot begin to describe to you because of the strength that I get from repeating the words to myself whenever there is a situation when my thoughts begin to go awry or where something comes up of a distracting nature. That scripture is found in Doctrine and Covenants 121:45-46: "Let thy bowels also be full of charity towards all men, and to the household of faith, and let virtue garnish thy thoughts unceasingly; then shall thy confidence wax strong in the presence of God, and the doctrines of the priesthood shall distill upon thy soul as the dews from Heaven. The Holy Ghost shall be thy constant companion, and thy sceptre an unchanging sceptre of righteousness and truth; thy dominion shall be an everlasting dominion, and without compulsory means it shall flow unto thee for ever and ever." And that to me is the whole process of life. My confidence—the confidence that I want to wax strong in the presence of God—is predicated upon my own mental processes. That is how I become a god, by bringing those processes under control. So if I happen to see a pretty girl who has got some kind of an enticing garment on or who does not have much of a garment on, then I keep my eyes from dwelling upon that. I have to look at people as I walk down a hall, but I keep my eyes where I can recognize facial features and not look at other body areas. If I am in a situation where there are temptations of another nature, then all I do is I just say to myself "Let thy bowels be full of charity. . ." and I repeat it to myself. It is long enough so that other things leave my mind by the time I am through. I cannot tell you how often I thrill inside from that experience.

You ask, "What commitments have you made?" Well, my commitment is that "as for me and my house, we are going to live the commandments of the Lord." I acknowledge the fact that I have got a long way to go. There are many things that I do not really have control of. At times, I still get mad or exasperated or impatient and so forth. Those are the things that I do not like, for charity suffereth long, charity wanteth not—that is my goal, that is my commitment—to be charitable, to learn to practice what the Lord has told us. When I read the scriptures and when I contemplate in the quietness of my own study just what the Lord has given us and how many keys and how many secrets He has manifested to us—it thrills me inside because I just begin to get a little bit of an inkling, a little bit of the taste of what eternity is really like—and that experience makes me hungry for similar experiences because that really is the only thing that I have ever experienced in life that has any kind of a lasting meaning.

Fortunately, I am blessed with a wife who feels the same way. I can share these things with her and I can thrill with her as we discuss these kinds of things that are of an eternal nature, and I feel very strongly that there is power on the other side of the veil that has great influence on us. There are things that go into making up the sacred nature of my testimony that I feel the Lord has given to me alone and are not to be shared. I cannot deny the presence of the Lord. I cannot deny the functionings and workings of the priesthood. Because I cannot deny it, the only logical and reasonable avenue open to me is to commit myself wholly to that which I know is the way of the Lord.

We have talked for over an hour. Are there any other things concerning your religious development you want to talk about?

There are a limited number of men that I know of who feel the same way that I do—to the same degree that I do. I sense this. There are certain individuals to whom I relate, to whom I resonate in a strong way because I know that they have the same magnitude of feeling about these things as I do.

I consider that each of us is a product of three very influential factors. The first factor is eternal intelligence. We are spirit children of God and even though our remembrances and recollections are shielded from us, there is still the influence of that innate core of our being. The second factor is that we are the product of Mendelian genetics—we are the product of the physical heritage that we absorb through our ancestors and through genetics. We are also the product of the environment in which we grow up and there are substantial influences of that environment.

I think another principle of my religious experience is that all of the things we do, as Alma points out, should be done unto the Lord, and that our counseling should be done with the Lord. I know without a shadow of a doubt that at the present time I should be here. I know without a shadow of a doubt that this is the very position that I should have right now, because of the fact that this is where the Lord through the Spirit has told me to live. I can tell you that the house I buy or the car I drive are mine or the man who runs my research laboratory works with me because of a spiritual conviction that that was the right thing to do at the time. When one comes to the point where one realizes that one learns slowly, line upon line, precept upon precept, as stated in the 98th section of the Doctrine and Covenants, and that one must bring into subjection to the will of the Lord all of the features of one's life, one then begins to realize the true measure of one's success in life. That is hard on one's ego because one must realize and acknowledge the fact that the direction, the strength, the sustenance for all those things comes from another source. Only to the degree that one learns to do that does one truly begin to realize the fullness of the cup that is there for us to drink of.

Let us just spend about five more minutes together for we have come to the end of the hour. Others we have interviewed—men who have undergone scientific training similar to yours—say they feel a little intellectual dishonesty in saying "I know" or in other people using those words without any qualification. From your comments I would guess that you have no qualms whatsoever about using the words, "I know."

To me, religion is as scientific as anything I experience, because all I have to do is to plug in the formula of keeping my thoughts clean, of keeping charitable attitudes in my mind, of living the physical commandments of the Lord, of doing the things I am asked to do, to the degree that I know the Lord would have wanted, and then I can repeat that religious experience. There is a reproducibility there that I want to convey to you that is so important to me because all I have to do is to plug into the processes of the Lord to reproduce the experience and feel the peace. That is such a sustenance to me; I cannot really say, "I don't know." If a person cannot say intellectually, "I know," in my own mind I say to them, "Friend, I am sorry that you have not experienced what I have experienced, because I feel absolutely no intellectual dishonesty in saying to my

colleagues, or to those with whom I engage in religious conversation, that it is not belief with me, it is knowledge, in the context of the way the scriptures describe to me that knowledge."

There are sacred things that go to make up the nature of my testimony, that allow me to say that I know that certain things are true—and there is no way that I cannot say that. It would be dishonest of me to say that I do not know, because I do know. I know every bit as much as if I looked with my eyes because I have another sense, I have another receptor, that is every bit as accurate as the receptor mechanisms in my eyes, my ears, my taste, my smell and my touch. It is as finely honed and as finely tuned as any of those things are. It is as reproducable as anything I can do otherwise. You know, even this kind of an interview is a spiritual experience to me, because again as I relate certain things there are feelings that come to me that I have come to recognize that are almost daily with me and are beyond the realm of coincidence. I knew, for ten days before I was called to the stake presidency, that that call was coming. And that was an experience that went on for every one of those ten days, and which was as real and reproducible as it was profound and intense—a magnificent and instructional experience. In fact, I would have been in real trouble if I had not been called to the stake presidency because it would have fouled up everything that I have learned to interpret. But it was there, it came. I feel that those who cannot intellectually feel comfortable with saying they know that God lives, they know that Jesus is the Christ, they know the Book of Mormon is true, are in some way missing the experiences that I have had. I have never been misled by that internal feeling. Now if you talk about statistics about how do you know something, that is a pretty good average.

The Book of Abraham and Pythagorean Astronomy

William E. Dibble

They called the earth a star
as being itself too
an instrument of time.[1]

The subject of Pythagoreanism is so controversial and loaded with uncertainties[2] that what follows should be considered as speculation and suggestion for future research. Also, recalling the excellent advice of Galileo in his "Letter to the Grand Duchess Christina"[3] regarding committing the Scriptures on matters of science, let me say that any interpretation of the Scriptures attempted here is likewise to be regarded as speculation and suggestion. However, there are some interesting comparisons which appear to be worth noting, and which, although some of them have been noticed before, have not been commented upon in print as far as I know.

By the Pythagorean astronomy[4] I refer to the system ascribed to Philolaus, apparently dated at about the end of the fifth century B.C. In this system the earth is a sphere revolving not around the sun, but around a central fire, which is variously termed the "Watch Tower of Zeus," the "Throne of Zeus," the "House of Zeus," wherein is located the "governing principle" and the "creative force" which gives life and warmth to the earth. The earth revolves around the central fire once a day, and also rotates on its axis once a day, thus keeping the same face directed toward the fire all the time. "Below" the earth is another planet, the counter-earth, also revolving around the central fire. Above the earth, also revolving around the central fire, are the moon, the sun, and the five planets, in that order outward from the orbit of the earth. Outside of them is the sphere of the fixed stars, and outside of that another fire surrounding the whole system. (We shall assume that, as is ascribed to the later Greek astronomy, the planets are ordered so that the slower moving ones are farther out than the faster moving ones.[5]) The sun does not shine from its own light, but transmits to the earth what it receives from the central fire, or perhaps from the outer fire. One source claims that some Pythagoreans also believed that the moon was inhabited by a superior race of plants and animals.[6]

Pythagoras himself, born early in the sixth century B.C., supposedly traveled to Babylonia and Egypt. Establishing himself in Southern Italy, he established his own order, the Pythagorean Brotherhood, with its own initiations and mysteries. There is a tradition of secrecy of doctrine among the Pythagoreans that even influenced Copernicus about two millenia later.[7]

Abraham presumably antedates Pythagoras by 1,500 years or so. According to the Book of Abraham,[8] Abraham knew Mesopotamia and Egypt and was interested, or at least informed, in astronomy; in fact, Facsimile No. 3 has "Abraham in Egypt" "reasoning upon the principles of Astronomy, in the king's court." (We

are reminded of Santillana's characterization of astronomy as the "Royal Art," or the "Royal Science," in ancient times.[9]) The astronomy of the Book of Abraham is much concerned with time reckoning, "times and seasons," a matter of concern to ancient astronomy.[10]

To compare the Book of Abraham with the system of Philolaus, we note from the Book of Abraham Chapter 3 (and Facsimile No. 2) the following: The earth moves (e.g., verse 5). There is a great star, Kolob, "nearest unto the throne of God,"[11] which is set "to govern all those which belong to the same order as that upon which thou standest" (verses 2, 3, 9). Moreover, at least according to the Egyptians, the sun borrows its light from Kolob,[12] through the medium of a "governing power" which governs, among others, "the Moon, the Earth and the Sun in their annual revolutions." (See the explanation to Facsimile No. 2, Fig. 5.) Similarities to the system of Philolaus are evident. Verse 5 indicates that the moon, "the lesser light" (see Moses 2:16), moves "in order more slow" than the earth. We are informed that "this is in order because it standeth above the earth upon which thou standest, . . ." We are reminded that in Greek astronomy the slower planets are above the faster ones.

Of course, I am not suggesting that the system of Philolaus is the Lord's astronomy, or that Philolaus is right. There are differences between Philolaus and Abraham. For example, the Book of Abraham does not follow its comments on the moon and the earth with similar comments about the sun; i.e., that the sun should move slower than the moon because it is above the moon. We are only told that *if* "the moon be above the earth, then it *may be* that a planet or star *may* exist above it" (verse 17, my italics.) We are assured, however, that there are other planets whose reckoning of time is greater than that of the moon (verses 7, 8.) In Greek astronomy the sun was above the moon, and it moved more slowly. In modern astronomy, the sun moves with the solar system around the center of the galaxy, and presumably with the galaxy through "space"; and it also rotates on its axis. The period of rotation at the surface is different for different solar latitudes; it is less than that of the moon at the solar equator, but becomes greater than that of the moon in regions sufficiently close to the solar poles. We note that the Book of Abraham makes no specific comment on the motion of the sun, except the comment about its annual revolution,[13] which may be merely an opinion of the Egyptians (see the explanation of Facsimile No. 2, Fig. 5).

To some extent the controversy about the Pythagoreans does not affect our discussion here—the similarities exist regardless of who was responsible for the various parts of the system of Philolaus and when they first appeared. They suggest to me the following queries:

1. How much information regarding these matters was unavailable to Joseph Smith, or available only with difficulty? Since our sources are ancient authors, (e.g., Aristotle), they were presumably not absolutely unavailable, but it would not appear to be exactly trivial to use them correctly.

2. Can evidence be found of a public or secret astronomical tradition[14] from Abraham's day, passing perhaps through Egypt or Babylon, which could have reached the Pythagoreans, perhaps in corrupted form? (Of course further corruption or misunderstanding could easily have occurred from the Pythagoreans to us.)

3. What astronomical knowledge and belief might Abraham have had already

when further knowledge was given to him by revelation? This information might increase our understanding of the framework and terminology in which the new information was given.

Notes

[1]Simplicius, as quoted by Thomas Heath, in *Aristarchus of Samos, the Ancient Copernicus* (Oxford, The Clarendon Press, 1913), p. 97.

[2]See, for example, the introductory (and other) sections of J. A. Philip, *Pythagoras and Early Pythagoreanism* (Toronto, Canada: University of Toronto Press, 1966), and Walter Burkert, *Lore and Science in Ancient Pythagoreanism*, translated by Edwin L. Minar, Jr. (Cambridge, Mass., Harvard University Press, 1972). See also Giorgio de Santillana, *Reflections on Men and Ideas* (Cambridge, Mass., MIT Press), pp. 190-201, chapter entitled "Philolaus in Limbo, or: What Happened to the Pythagoreans?" For comic relief see also T. D. C. Kuch, "Metrodorus of Chios," *The Worm Runner's Digest*, 8, No. 2 (Nov. 1966), p. 89.

[3]Stillman Drake, *Discoveries and Opinions of Galileo* (Garden City, New York: Doubleday Anchor Books, 1957), pp. 175-216.

[4]See Thomas Heath, *op. cit.*, Chapter XII, especially pages 94-100; Morris R. Cohen and I. E. Drabkin, *A Source Book in Greek Science* (Cambridge, Mass.: Harvard University Press, 1966), especially pp. 93-97; J. A. Philip, *op. cit.*, Chapter 7; D. R. Dicks, *Early Greek Astronomy to Aristotle* (Ithaca, New York: Cornell University Press, 1970), Chapter IV; Walter Burkert, *op. cit.*, Section IV. We have centered our attention on Pythagoras, rather than on Aristarchus (also of Samos) for obvious reasons.

[5]D. R. Dicks, *op. cit.*, p. 66. Note that we are ignoring problems raised by claims that the Pythagoreans believed that the outer planets moved faster than the inner ones. (See Morris R. Cohen and I. E. Drabkin, *op. cit.*, p. 96.)

[6]D. R. Dicks, *op. cit.*, p. 74. See also Walter Burkert, *op. cit.*, p. 346, noting Heraclides' claim that the Pythagoreans believed that "the stars are a kind of earth," as Burkert puts it. Note also Moses 1:33-35.

[7]Arthur Koestler, *The Sleepwalkers* (New York: Grosset & Dunlap, 1959 and 1963), pages 148-149 for Copernicus and pages 26-50 for Pythagoras. For Pythagoras see also J. A. Philip, *op. cit.*, chapters 3 and 11; Walter Burkert, *op. cit.*, Section II, Chapter 2.

[8]In *The Pearl of Great Price* (Salt Lake City: The Church of Jesus Christ of Latter-day Saints, 1952). For an interesting comparison of *The Pearl of Great Price* with modern astronomy, see R. Grant Athay, "Astrophysics and the Gospel," *The New Era*, 2 (September, 1972), 14-19.

[9]Giorgio de Santillana, *The Origins of Scientific Thought* (New York: Mentor Books, 1961), p. 11; Giorgio de Santillana and Hertha von Dechend, *Hamlet's Mill* (Boston: Gambit, Inc., 1969), p. 3.

[10]See, for example, Giorgio de Santillana, *op. cit.*, Prologue; Morris R. Cohen and I. E. Drabkin, *op. cit.*, pp. 90-142; Giorgio de Santillana and Hertha von Dechend, *op. cit.*, in general.

[11]One should note the "Throne of God" figures in Fawn M. Brodie's attempt to relate the Book of Abraham to the writings of Thomas Dick. For a discussion of this controversy and references, see Edward T. Jones, "The Theology of Thomas Dick and its Possible Relationship to that of Joseph Smith," MA thesis, College of Religious Instruction, Brigham Young University, 1969.

[12]The current theory is that the source of solar energy is nuclear fusion within the sun. It appears to me that the existence of this scriptural passage taken by itself does not require rejection of the current theory. However, we should note that there are relevant matters concerning the sun which are not understood, as evidenced by the current neutrino problem. See, for example, Virginia Trimble and Frederick Reines, "The Solar Neutrino Problem—A Progress (?) Report," *Reviews of Modern Physics*, 45 (January, 1973), 1-5.

[13]One is tempted to identify this annual revolution with the annual (or nearly annual) revolution of the sun around the central fire in the system of Philolaus—or perhaps even with the much longer revolution of the sun around the center of the galaxy in the modern system. It appears possible that the Book of Abraham uses the term *revolution* in two senses—the *revolution* of one object around another, and the *rotation* of an object about its own axis. Glancing at verse 5, one is tempted also to compare the moon's days, months, and years with

its periods of revolution around its own axis, the earth, and the central fire (all three of which would presumably be of about the same length) in the system of Philolaus. This is very speculative, however, and others may wish to consider revolutions around various objects in more modern systems.

[14]One must note (with caution) the Hermetic tradition of the Renaissance and earlier which purported to reach back to Hermes Trismegistus in Egypt at about the time of Moses. See Lawrence S. Lerner and Edward A. Gosselin, "Giordano Bruno," *Scientific American*, 228, No. 4 (April, 1973), especially p. 91; and also Frances A. Yates, *Giordano Bruno and the Hermetic Tradition* (Chicago: The University of Chicago Press, 1964), especially Chapters I and XXI. Note also Isaac Newton, *Mathematical Principles of Natural Philosophy and His System of the World*, Translated by Andrew Motte, translation revised by Florian Cajori, (Berkeley and Los Angeles: University of California Press, 1934, 1962, 1966), Vol. II, *The System of the World*, pp. 549-550.

Geological Specimen Rejuvenates an Old Controversy

Wm. Lee Stokes

Under the title "Puzzling Fossils Unearthed," the *Deseret News* of 13 June, 1968 reported the discovery of "a fossilized footprint" which was said to pose a "dilemma for geologists." The discovery was made in the Antelope Springs area of the House Range, Millard County, Utah. A photograph accompanying the article shows two pieces of fine-grained stone, obviously halves of a larger block, split apart along a natural plane of weakness. On one half is a shallow foot-shaped or shoe bottom-shaped depression about 10 inches long, 3⅝ inches wide at the widest and 3 inches wide near the "heel." The other block shows a raised area that fits into the corresponding depression. The entire edge of the front part of the impression is rounded and not squared off so that the specimen is referred to by the finders as a "sandal print" rather than a "shoe print." The imprint of the "heel" is separated from the "sole" by a ledge which is said to indicate that a separate piece of material had been shaped and affixed as a low heel. Finally, embedded in the "heel" area is the remains of a small fossil trilobite, an extinct arthropod of the Cambrian Period.

The discovery was reported in many newspapers throughout the country and I and my colleagues in the Department of Geological and Geophysical Sciences at the University of Utah received letters from as far away as Hawaii and Florida either asking for more information or condemning us as athiests for not accepting the find as proof of the Genesis account of creation. The most thorough discussion appeared in the *Creation Society Research Quarterly* for December 1968 which contains illustrations and three articles on the specimens. Incidentally, the Creation Research Society is an organization of research scientists committed to full belief in the Biblical record of creation and early history. In the first article, Dr.

Melvin A. Cook, then Professor of Metallurgy at the University of Utah, describes the find as a "most remarkable specimen of a fossil human footprint." He concludes that it raises "a serious contradiction of conventional geology." In this same issue the finder, William J. Meister, Sr., then Drafting Supervisor, Bacchus Works, Utah Hercules Incorporated, describes the circumstances of discovery in detail and refers to his specimen without any doubt or qualifications as a human footprint. He describes also the finding of other footprints at the same locality including one of a "barefoot child." From what is reported by Meister a large number of prints must have been taken out but to my knowledge none but the original has been illustrated. Mr. Meister affirms that the Bible alone explains how evidences of human beings can be found with trilobites. He hints that Noah's Flood enters the picture but doesn't explain how.

A final contribution is that of Leland J. Davis, then a consulting geologist, who describes the geology of the area in detail so as to leave no doubt as to the authenticity of the Cambrian age of the Wheeler Shale at the site of discovery. He also lists by name the fossils that are found in the formation but omits any reference to the "footprint."

I am not at all surprised that many persons unacquainted with fossils or the reactions of rocks in the field should accept this as a genuine human footprint. Neither am I surprised that the whole affair should immediately take on emotionally religious overtones. I am surprised, however, by certain published statements of the discoverer. According to Mr. Meister, Dr. Cook recommended that the specimen be shown to geologists at the University of Utah but he (Meister) was "not able to find one who would take time to examine it." I cannot reconcile this statement with the fact that I spent most of an afternoon with Mr. Meister and two of his colleagues who brought their specimen to my office after I had willingly agreed to examine it.

After seeing the specimen I explained to Mr. Meister why I could not accept it as a footprint and why geologists in general would not accept it. At the very least, we would expect a true footprint to be one of a sequence showing right and left prints somewhat evenly spaced, of the same size and progressing regularly in one direction. A true footprint should also show displacement or squeezing aside of the soft material into which the foot was pressed. Footprints must obviously be pressed downward into the original soft material, anything with the depression oriented the opposite way; that is, upward, cannot be a footprint. From my examination of this specimen I can say that there is no evidence of squeezing or pushing aside of the matrix. As to the up and down orientation of the impression I cannot say and it would be difficult to determine now that it has been removed from the strata. It is most significant that no other matching prints were obtained. I know of no instance where a solitary one-of-a-kind impression has been accepted and reported in a scientific journal as a genuine footprint no matter how well-preserved it might be.

I unhesitatingly assert that this is not a footprint. I have observed and collected a number of types of footprints that meet all the critical requirements and I have had no qualms about describing these in print even though some were totally new. The Meister specimen is the result of a natural break which happens to resemble a footprint. This type of fracture is called spalling and the part which breaks out or is detached is called a spall. Spalling commonly takes place in homo-

geneous fine-grained rocks as they are brought near the surface of the earth through erosion. Heating and cooling by changes of temperature seem to favor the process. Most spalls literally pop out of the confining rocks; they have flattened lens-like shapes and leave shallow depressions in the parent material. If anything interrupts the uniformity of the rock so as to create a spot or plane of weakness within it, the break will tend to pass into or through these areas. This explains why a trilobite fossil should be seen in the Meister specimen. I have observed this type of breakage numerous times in the process of collecting fossils. The material of the fossil-bearing Wheeler Shale is particularly susceptible to spalling and the creation of oddly-shaped fragments. We have a number of these in our collections at the University of Utah, even some that look like footprints. But no two are alike and we regard them as mere curiosities in the same class as Meister's specimen.

The acceptance of the House Range specimen as a genuine footprint leads to all manner of anti-geological conclusions. If man and trilobite coexisted, either man is much older or trilobites are much younger than geologists suppose. This alone demolishes the traditional time scale of the geologists which places the Age of Trilobites millions of years before the Age of Man. Another possible conclusion is that it is the trilobite which is young enough to be associated with man and neither of them is necessarily very old. This is much more in line with some versions of scripture-based theology. The statement from the Pearl of Great Price that Adam was "the first flesh on earth" comes immediately to mind (Moses 5:7). If man came first and all other animals later on we would have a perfectly good reason for finding their evidences together. This order of things denies not only the whole scheme of Darwinian evolution but the geologists' time scale as well. The conclusion that man and trilobites were alive together less than 6,000 years ago also clearly substantiates the so-called "no death before the Fall" doctrine. According to this peculiar Latter-day Saint interpretation there was no dying, hence no possibility of fossils being formed, before the expulsion from the Garden of Eden 6,000 years or so ago.

I do not doubt the sincerity of most of those who believe Mr. Meister's specimen to be a genuine human footprint. The specimen was in no sense faked and I am sure it was found exactly as reported. But I, along with my geologist friends, am equally sincere in my belief that it is an accidental natural product and not a footprint. One might think a difference of opinion such as this could be solved by appeal to impartial judges or by a more thorough investigation of the field of evidence. But from the time of discovery the specimen has taken on a religious significance that makes a friendly solution almost impossible.

I hope my apprehensions are without foundation but I fear that readers of the newspapers and the *Creation Research Society Quarterly* will get the impression that we geologists deny the genuineness of such specimens because to accept them would be to admit that the basis of geology is a delusion and a fraud. They could well imagine that in our secret selves we tremble at the prospect of being unmasked as liars and hypocrites. Even worse, fellow members of the Church must believe that since my interpretation of relevant scripture differs from theirs and from that of some Church leaders I am probably an atheist and an enemy of the Church.

Speaking in defense of my views, I am inclined to criticize advocates of false

or erroneous arguments for erecting barriers which will have to be removed at a later date, perhaps at a cost of considerable embarrassment to themselves and to the Church. They should, in my opinion, at least leave open the possibility that they might be mistaken and that other explanations exist. In the present case all opposing arguments, together with my admonition not to publish, went unheeded. It is puzzling why those who have had the most experience with fossil footprints were totally ignored. And even though no reference is made in published accounts to the religious affiliations of anyone connected with the Utah footprints I am sure that, locally at least, there is no doubt that Latter-day Saint interpretations have encouraged the footprint believers to publish their find as widely as possible and to press their case among all who will listen.

Conflicts between science-oriented and non science-oriented Church members has been going on for at least a century and no obvious grounds for reconciliation are in sight. With more and more young people attending college and being exposed to the facts and theories of science the forecast might well be increased tension and division. If we must have differences of opinion the least that antagonists can do is to be honest and open-minded in their thinking and reporting. There is bound to be loss of confidence in those who are trying to make valid points by doubtful arguments, no matter how sincere they may be.

Shades of Dr. Johann Jacob Scheuchzer. He was a physician and naturalist who lived in Zurich in the late seventeenth and early eighteenth centuries. As a firm believer in the then popular theory that fossils originated chiefly through the agency of Noah's Flood he took an intense interest in anything dug out of the earth. When fossil bones of approximately human dimensions were discovered at Oeningen in 1725 they were sent to him for an opinion. He saw in these remains something he had been looking for and described them in a short tract in Latin titled *Homo Diluvii Testis* (Man Who Witnessed the Flood). Scheuchzer also discovered two petrified vertebrae near Altdorf, Franconia, Germany which he considered to be those of a man drowned in the Flood.

It is an irony of history that Scheuchzer's name has become forever linked with *Homo Diluvii Testis*. His feelings about the specimen are revealed in a couplet (translated from the German) which accompanies his commentary:

> Afflicted skeleton of old, doomed to damnation
> Soften, thou stone, the hearts of this wicked generation.

Nearly one hundred years later the famous French paleontologist Cuvier proved conclusively that the Oeningen specimen is that of a large salamander. It rests securely in the catalog of extinct beings under the name of *Megalobatrachus scheuchzeri*. The two vertebrae from Altdorf are known to pertain to the marine reptile we call the ichthyosaur.

Truly the more things change the more they remain the same.

The Structure of Genesis, Chapter One

Benjamin Urrutia

The first chapter of the first book of the Bible is probably one of the most influential, derided, pervasive, debated, and misunderstood religious texts in our culture. Some light may be shed on its significance by analyzing it according to the system of Professor Claude Lévi-Strauss.[1]

I shall not employ the usual procedure of assuming the paramount importance of the six "days" of creation. Instead, as significant units of analysis I shall use nine of the eleven "speeches" (S1 to S9) in the chapter. These are the passages preceded or "punctuated" by the words "and God said" (*wayomer Elohim*), or "and the Gods said" (*wayomru Elohim*), presupposing a slightly different set of vowel points. "God blessed them, saying" is used after S7 (Genesis 1:22).

"When God set about to create the heavens and the earth," the earth was *tohu-wa-bohu*, that is, it was all undifferentiated, unformed and void.[2] To introduce order into this chaos it was necessary to produce several sets of binary oppositions, clearly dividing that which was mingled:

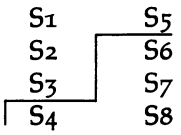
S1: light/dark
S2: below/above
S3: wet/dry
S4: cereal/fruit
S5: sun/moon
S6: fish/birds
S7: fish/birds
S8: cattle/creepers
S9: male/female

There seems to be a correlation between S1 to S4 on the one hand, and S5 to S8 on the other, producing something like the following:

A			B	
light:	dark	::	sun:	moon
below:	above	::	fish:	birds
wet:	dry	::	fish:	birds
cereal:	fruit	::	cattle:	creepers

With S9, Man is organized and given dominion over both cereal and fruit, birds, and fish, cattle and creepers.

This solves some contradictions, while at the same time creating a new binarism, for over half of the elements man is *not* given dominion:



Taking a look at columns A and B it seems that the first of these includes *ecological habitats*, while the second refers to *biological entities*. The author of Genesis has an apparent indifference towards both astronomy and astrology. His concern is with *oikos*, "home," this planet. The sun and the moon are important only in so far as they are a part of the earthly ecology. Of Genesis 1 we might repeat the statement Michael Jackson made about a Maori creation story:

> Creation, or genesis, if these words are to be used, should be considered as referring to the emergence and origin of a new order, a new resolution, from the deliberately created disorder at the commencement of the myth.[3]

Also we might borrow his description from the same source of the creation tale as "a dialectic working out of certain oppositions in the ecological sphere."[4]

If the present structural analysis is correct, we might derive some hypotheses from it: 1) The phrase "the stars also," which sounds like an afterthought, was probably a later editorial insertion, out of continuity with the rest of the text. 2) Genesis 1 was probably meant originally to be a record of the deliberations of the Council of the Gods "when the Gods set about to create the heaven and the earth."[5] From this follows that 3) Far from Genesis 1 and the Garden of Eden story being redundant, they are at least two degrees removed from each other, the first being an account of the planning stage before the creation, with the heavenly beings programming binary oppositions ("Let us make man / in our image / after our likeness"); while the second is an account of events *after* the creation in the limited setting of the Garden of Eden. The subsequent text has Cain sent out "east of Eden" into a world that was already thickly populated (Genesis 4:14, 15, 17). Between the two narratives (Genesis 1, and 4) which are the concern of the Biblical writer and which are closely linked structurally, falls the entire story of the actual formation of the earth, the appearance of life forms, and the development of the human race. Such questions we are left to puzzle out for ourselves.

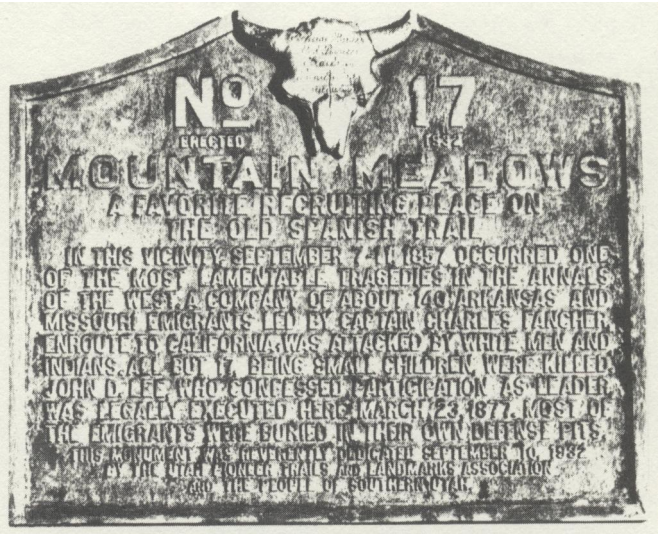
[1]"The Structural Study of Myth," *Journal of American Folklore*, 78 (1955), 428-444; see also Benjamin Urrutia, "Structural Analyses of the Tiv Version of the Hamlet Myth," *American Anthropologist*, 74, no. 5 (1972).

[2]*Genesis* (Volume I of the Anchor Bible), (New York: Doubleday Anchor, 1964), trans. E. A. Speiser.

[3]"Some Structural Considerations of Maori Myth," *Journal of the Polynesian Society*, 77 (1968), 154.

[4]*Ibid.*, p. 155.

[5]This translation can be made without deviating from Speiser's vowel-point arrangement.



PHOTOGRAPH BY JOE HEINER

Robert Christmas

Looking West From Cedar City, Utah

When Jed Smith passed us by, in 1826,
The junipers made a rush down from the hills.
They were cut back
Before they got to the freeway.

At Mountain Meadows, after the massacre,
The soldiers built a rock cairn, and at the top
They placed a sign: "Vengeance is mine,
Saith the Lord."

A year later, Brigham Young drove out
In a buggy and looked at the sign.
"Vengeance is mine," he repeated,
"And I have taken a little."

Forty miles west, in 1776,
Father Escalante pitched his furthest camp.
He was ten ranges short of Monterey,
500 miles from Donner Pass.

This is still a fairly good place to pitch camp,
To turn back.

Iris Parker Corry

November Freeze

Not the birds ready
nor I, nor the last petunias still warm
against the house. In the dry fields
the herd discussing a frozen mud hole.
The fence rusting, the last-turned furrow.

Iris Parker Corry

The Day President Harding Came

Ever last jack man, woman, and papoose
was down to the station to see the President
come steaming in, smoke blowing, Panama waving
pleasure to ride your new train yessir nice
country Senator Smoot Squint Indian howdaya do.

Shade side of Main we watched five miles of cars
head for Zion. Dust from here to Harmony.
He bit into a Dixie Peach at Anderson's
Ranch. Choirs, drums, and bunting all the way
to the Great White Throne. Then Buicks, Pages,
Model T's boiled up the Black Ridge to Cedar
and the folks shook Mr. President's tired hand
and my uncle said, "How are you, Warren G.?"

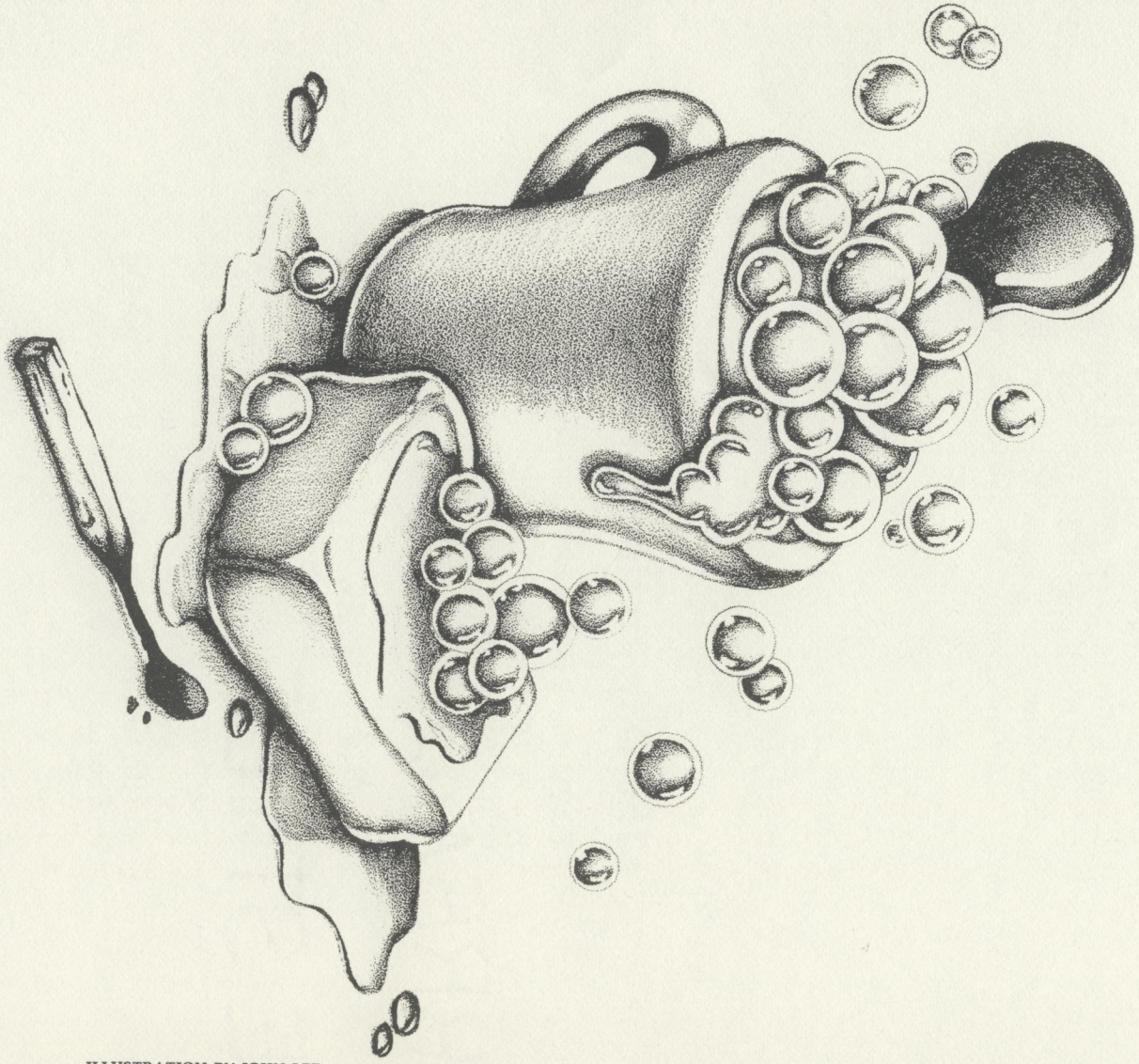


ILLUSTRATION BY JOHN LEE

Iris Parker Corry

Hired Man

Jake Dockson wore bib overalls
and smelled of corrals and harness.
He could lift three hundred pounds and
handle the Jackson fork, but he
couldn't tend the water. Jake was
thirty-four and two-stepped to the
Victrola. Saturday nights he
bathed and shaved and painted his eye-
brows with a burnt match, and went to
the dance. Sometimes he made us jack
o'lanterns, and lambs from milkweed
pods. The mean Barber boys chased my
brother home, and Jake went after
them with a cedar post, dammit!

The Clinic

DOUGLAS H. THAYER

Steve pulled open the heavy glass door to the clinic, walked in, stopped, took off his sunglasses, and rubbed the burning spots behind both ears. The army doctor had told him that rubbing or scratching his skin could cause infection. The clinic smell was still the same. He had his five senses, but he needed to feel the old emotions, or at least recall them. Dr. Jensen had taken out his appendix, tonsils, treated him for all of his childhood diseases, and set his broken wrist. He had come to the clinic the last time four years ago to get his free missionary physical. Dr. Jensen's name had been a household word as long as he could remember, a man his parents respected, loved, and trusted. His only son had been drowned on a family water-skiing trip at Bear Lake.

Steve knew that the feeling wouldn't come. He had the memories, the words, images in his mind, but he could not invoke the emotion. His body felt heavy and dull, like soft metal. The things he had done in Vietnam had destroyed his capacity

to feel. For nearly a month now, since his return home to Provo, he had wanted to touch things, lay his face against them, for it was as if he were more than deaf, dumb, and blind. He needed to use every square inch of his burning skin to feel, make his whole body a receiver tuned to emotion. He wanted to put his arms around people on the street he didn't even know, embrace trees, press against old buildings; he was afraid he was going insane. God and Jesus had become only pictures. He had been drafted two days after he got back from his mission.

Steve had walked late at night to look at the houses of the girls he had gone with. At least half of the girls were married now; some had children. He looked at the places in front of their houses where he had parked with the girls. He had gone to their parties, been invited to dinners by their mothers. He kissed the girls goodnight on their porches. He knew which windows were the girls' bedrooms. But standing in the darkness looking at the houses, his arms folded tight across his chest, he had felt nothing. It was as if he had never known the girls, and had no rich memories of the laughter and warmth he could use.

His mother mentioned the names of his old girl friends who were still single, but he did not phone them. His brothers had come home to see him. It was like talking to them underwater or through thick glass. He wanted to wear gloves when he was around people. He was afraid that some little boy might ask him how many people he had killed.

Steve climbed the four steps from the clinic foyer to the waiting room. The big framed picture of Custer's last stand still hung on the wall above the radiator. The last man on his feet, Custer stood at the center of his dead and wounded men, a kneeling sergeant holding up the American flag on Custer's right side. Custer, a pistol in each hand, his long yellow hair blowing in the breeze, shot at two mounted war chiefs charging him from opposite directions with raised lances. Braves jumped from their horses to kill the wounded soldiers. Dozens of braves lay dead or wounded. Steve had learned all the faces as a boy.

Mrs. Anderson sat at the reception desk talking to a man sitting on the green leather sofa. The man's right leg had been cut off just below the knee; a pair of crutches leaned against the wall behind him. The man's garments showed through his short-sleeved white shirt. The aquarium, yellow with afternoon light, stood before the large window. Mrs. Anderson turned. "Well, *Steve*, how nice to see you home again safe and sound. I noticed that one of the girls had made an appointment for you. I've talked to your mother in church about you. You've been home two or three weeks now haven't you?"

Steve took a *Life* from the magazine rack. "Yes."

"Mr. Simmons, you may not know Steve. He just got back from Vietnam. Before that he was on a mission for the Church in California, so he's been gone over four years altogether." The phone rang.

"Is that right, son? Well, welcome home." Mr. Simmons leaned forward to shake his hand. "Always glad to see you boys get home from Vietnam in one piece. I was in the first war myself."

Steve sat down on the black leather chair next to the aquarium, but he didn't open the *Life*. Mrs. Anderson pushed one of the buttons and put the phone back in the cradle. "My boy Richard and Steve were baptized the same Saturday and confirmed the same fast Sunday. I have a picture of them standing together in their white baptismal clothes. They were sweet. They grew up together. Richard

is married and in dental school." She looked over at Steve. "How does it feel to be back home, Steve? Your parents certainly are grateful to have you back all safe and sound, aren't they."

"Yes." Richard hadn't gone on a mission or been in the army.

"But we haven't seen you out to church. I asked the bishop if he had seen you."

"I haven't made it yet."

"Oh."

The bishop had come by the house to welcome him home, and the president of the elders quorum had phoned twice to invite him to play on the ward softball team. Behind Mrs. Anderson on top of the first filing cabinet was a display rack of Books of Mormon and three tracts, "Joseph Smith Tells His Own Story," "The Plan of Salvation," and "A Practical Gospel." Dr. Jensen had been a bishop for ten years, and now he was in the Provo Stake presidency. He prayed before every operation he performed, and his patients often asked him to bless them.

Steve's body was very heavy. He never thought anymore about having the priesthood. He had always liked the idea of God and Jesus Christ. Things slipped in and out of focus. He was afraid he would forget how to tie his shoes or to button his shirt. He had lettered in tennis and basketball at Provo High.

"Have you found a job yet, Steve?"

"No." He opened the magazine.

"What are you doing with all of your spare time before school starts at BYU?"

"I don't know. I like to listen to music." He had bought over a hundred dollars worth of new records. He lay in the dark in his room and tried to keep his burning body full of soft sound. He wanted to fade into the darkness and the sound. He had always had a sense of order.

"Well, you boys who have been in Vietnam deserve to rest a week or two before you get back into harness. I guess you were able to do a lot of missionary work with your army friends while you were in Vietnam and preach the gospel, weren't you, Steve? I understand that some returned missionaries make more converts in the army than they do on their missions because they're such good examples."

"I suppose that some of them do." He had thought that he could never lose what he had felt the two years he was on his mission in southern California. Elder Decker had been killed outside of Bien Hoa in an ambush. They knelt to pray together three and four times a day by the bunk beds, bore their testimonies to each other before they went out each morning tracting, had a scripture memorization contest going. They testified daily to the truthfulness of the gospel, Jesus Christ, the atonement, redemption, blessed the sick, performed marriages, and, dressed in white, they baptized, felt that they were walking on air half the time because they had so many good investigators. Six months after his release he was in Vietnam.

They washed their garments themselves in the sink, always joking about what the girls back home would say. He had to stop himself from thinking about Elder Decker, control his mind so that he wouldn't turn completely to soft metal. His mother had sent him the *Church Section* and the *Improvement Era,* but after the first month in Vietnam he couldn't read them anymore. His battalion had gone in twice to rescue ambushed outfits. Both times it was the same. He had heard about Elder Decker through another returned missionary he met in Saigon.

The phone rang again. Steve turned the pages of the *Life* magazine. He had

made his appointment for Wednesday afternoon because he didn't want to be in the waiting room with a lot of other patients. Dr. Monson and Dr. Harris had Wednesday off. He didn't like people talking. One day when he had an appointment for a pre-school physical, a man had screamed from one of the rooms down the hall, "Oh, Jesus Christ! Oh, Jesus Christ! Oh, Jesus Christ!" The screaming came through the closed hall door, and for those seconds afterward no one in the waiting room moved or talked, the only other sound the bubbling from the oxygenator in the aquarium.

Mrs. Anderson put the phone back in the cradle.

Twice he had seen blood trails that started out in the parking lot, led up the steps, across the tile floor, to vanish down the hall. One of the girls came out with a damp cloth to wipe up the blood. All three doctors had gone rushing out one afternoon when he sat with his mother waiting. The sound of sirens vibrated through the big window in front of the aquarium, but his mother wouldn't let him go outside. Later, when they walked up University Avenue, he saw where the accident had been, although the cars had been towed off by then. The intersection was sprinkled with headlight glass, a big stain of radiator fluid on the black asphalt, as if a large animal had been killed there. He had read that over fifty thousand Americans were killed every year in automobile accidents and millions of others injured.

"Steve, this isn't serious is it?"

He looked up from the magazine. Mrs. Anderson had taken his manila folder from one of the fireproof filing cabinets and held it open on her desk. "It's a skin problem. I ran out of salve the army gave me, and I need a prescription." He wanted to ask Mrs. Anderson for his folder. What had Dr. Jensen said about him since he was born? The eight fireproof filing cabinets with locks were full of medical histories in manila folders, all the things that Dr. Jensen and the other doctors knew about their patients and had forgotten they knew, diseases, accidents, operations, treatments, and prescriptions. Everybody in the stake liked to hear Dr. Jensen's sermons. He always spoke about Jesus Christ. He had a strong testimony. After his son's death at Bear Lake, he had sold his boat.

"Is it something you contracted while you were in Vietnam, Steve?"

"Yes."

"Those jungles must be terrible places to have to fight in, and I understand that you were right out fighting the whole year you were there. My husband always says that as long as he had to fight, he was glad it was in France and Germany. He was in the war."

"I fought in France in the first war." Mr. Simmons leaned forward on the green leather sofa. "It's been fifty years and I still haven't forgotten some of the things that happened over there. I don't know what I would have done all these years without the Church."

A large silver safety pin held the empty pant leg to the side of his hip.

"But it's so terrible when you think about all those boys still in hospitals. My sister's neighbor's boy was in Korea, and he's still in a mental ward in a veterans hospital at Denver. He was such a nice boy. Dr. Jensen was in the Pacific all during the war, Steve, and he has other skin patients. You're lucky to have a doctor with experience. Dr. Jensen is a wonderful man."

"Yes."

"Richard will have to go in the army after dental school, but he'll be a captain."

Steve said nothing; a woman came in to pay a bill.

The breast markings on Mr. Simmons' garments showed through his white shirt. Steve looked down at the big *Life* pictures. He found himself checking white shirts to see who wore garments. He had liked receiving the Melchizedek priesthood, going through the temple and wearing garments; he felt clean and safe. He had always believed there were things he could never do. Everything seemed the same now; he had lost his sense of opposites.

He knew that members mistook his T-shirt for garments. His mother washed his boxers and T-shirts, ironed them, and put them in his drawer by his folded white garments, some of which he had worn on his mission. Neither she nor his father said anything. He had turned his father down on three fishing trips to Strawberry. He didn't want to be alone in the boat with his father all day.

Reaching down, Steve rubbed the inside of his ankle. At times his whole body burned faintly. The army doctor had told him that some men lost all control and lay in bed scratching themselves until they had deep infected sores. He had always liked the shower after he had played basketball or tennis. His body had always been light and clean. He knew that he had begun to stare at things.

"All right Mr. Simmons, Dr. Jensen will see you now." Steve looked up from the *Life* again. "Well, hello, Steve, how are you? It's nice to see you home again. Several people have mentioned you were back."

Mrs. Bryce stood by the open hallway door in her white nurse's cap and uniform. She stepped into the waiting room to let Mr. Simmons swing through the door on his crutches. Steve stood up. "Thank you."

"You've been away four years haven't you, what with your mission and then the army?"

"I was discharged early."

"Well, now that you have that all behind you, you can start school again at BYU and get married like all of the rest of the boys. I'll bet you wrote to half a dozen girls while you were gone." He sat back down on the black leather chair.

Mrs. Anderson handed Mrs. Bryce his manila folder with a pink charge slip clipped to it. "I don't think that Dr. Jensen will be very long, Steve. Mr. Simmons is just in for a check-up and a change on his prescription." Turning, she closed the hall door behind her.

"Richard and his wife are expecting a baby, Steve. Did your mother tell you?"

"Yes."

A woman came into the clinic with a little girl who needed a shot, and Mrs. Anderson sent them back to the lab. The front cover of the old *Improvement Eras* in the magazine rack was a picture of Joseph Smith's first vision. God the father stood in bright light, his hand extended toward Jesus. The large white letters said, "This is my beloved son. Hear him." He didn't feel like he deserved anything now.

"Rita is a lovely girl and comes from a nice family. Her father is a doctor. Of course Richard and Rita plan to go on a mission together someday after they get their family raised. Richard thinks that maybe the Church will send them down to fix teeth for the Navahos. They had a beautiful reception." Mrs. Anderson got a plastic accordian packet of pictures from her purse in the desk drawer. "These are Richard's wedding pictures, Steve." She stood up, walked over to Steve, pulled a chair up to his, and explained every picture.

"We're all so proud of him." She stood up. "He wants to serve his tour of duty in Europe or Japan." She walked back to her desk and sat down. "What are you going to major in, Steve?"

"I don't know. I'm not certain anymore that I want to go to college."

"Oh, but of course you want to go to college, Steve. Your mother and father would be very very disappointed if you didn't earn at least your bachelor's degree. Your three brothers all graduated after their missions didn't they?"

"Yes."

"Why, what would you do if you didn't go on to finish college?"

"I don't know."

"I thought that you wanted to go to law school at one time."

"I did."

"That's a fine profession. Your family would be proud of you." Mrs. Anderson turned to answer the phone.

The big window silhouetted the aquarium. The metallic fish flickered through the sunlit yellow water. The glass was smudged. As a little boy he had always pressed against the salty glass with his palms, nose, and lips. Fish floated in the rivers after artillery or bombs. He had followed blood trails and found monkeys and small jungle deer, not men. One platoon had found a tiger curled in the grass as if asleep, dead from concussion.

The hall door opened and Mr. Simmons swung through on his crutches, Mrs. Bryce behind him. "We'll see you next week again, Mr. Simmons." She handed Mrs. Anderson the pink charge slip.

"Thank you very much." He held his white prescription in his hand.

"Come in, Steve. Dr. Jensen will see you now."

"Lots of luck, son, now that you're back home."

Steve turned as he walked through the doorway. "Thank you."

Mrs. Bryce closed the door and followed him down the hall. "In here as usual, Steve. Just sit down. Dr. Jensen will be with you in a minute. He's in the lab." Mrs. Bryce closed the door behind her.

Steve rubbed under his belt, then raised his arms to the armrests. He had sat in the brown leather chair last when he had his missionary physical. He had been in perfect health, and he had felt very clean. Dr. Jensen gave all new missionaries from Provo Stake their physicals free. Since his son's death he paid to keep a missionary in the field. Steve looked up at the two yellowish windows. He had his missionary slides, and his mother had saved all of his missionary letters.

He lay on his bed at night to see his slides over and over, set the projector on automatic, stacked his hi-fi with records, and so saw on his wall all the lost images again, sound and images blurred, members, converts, companions in color. He had over a dozen slides with Elder Decker on them, who was always smiling. In his letters to his mother and father he had told what a great missionary Elder Decker was. Half of Elder Decker's squad had been killed with him in the ambush.

Steve had gone through his book of remembrance, the family photo albums, and all of his old high-school yearbooks looking for himself. He looked at the pictures of all the girls he had gone with. He got his little wooden box of boy scout badges out and his merit badge sash; in his book of remembrance he read his birth, blessing, and baptismal certificates and his priesthood ordination certificates. He had thought that when he saw his mother and father at the Salt Lake

Airport that his heart would leap as it had when he returned from his mission, his body alive with memory, pride, gratitude, and love, but that had not happened. And it had not happened either when they drove around the point of the mountain and down into Utah Valley, the lights of Provo bright before them.

He went alone to places he had felt emotion, the Provo High gym, tennis courts, and locker room, the ward chapel, every room in the house, familiar streets under familiar trees, places he used to park with his dates, but he felt nothing. Two weeks ago on one of his long night drives, he swam out to the middle of Deer Creek Reservoir, hung naked there in the hundred-foot-deep water staring up at the moon and stars, his whole body cool, which he knew he could keep cool forever if he wanted.

Steve rubbed the right side of his groin. Dr. Jensen's license, medical school diploma, residency certificate in general surgery, and his army medical certificate hung on the wall over the examining table. The chrome, glass, and white enamel surfaces in the room gleamed in the diffused yellowish light. An open medical journal lay face-down on the glass-topped desk by the pile of manila folders. The glass reflected Dr. Jensen's gold-framed family pictures. He had two pictures of his son. Worn copies of the *Articles of Faith, Jesus the Christ,* and the standard works stood in the row of books pushed against the wall. The pad of white prescription blanks lay next to the pen holder. Down the hall a phone rang.

"Well, hello, Steve. It's good to see you again." Dr. Jensen came in wiping his hands on a towel, his white jacket buttoned. He stepped on the foot pedal, dropped the towel into the large chrome container. He shook Steve's hand, his hand cool. "Well, you made it back I see."

"Yes."

"I think that your mother has counted every hour you were in Vietnam and said a thousand prayers. I guess you'll be finding a job and going to school at BYU this fall, and meeting a girl. The sooner you returned missionaries and servicemen get married, the better. You're going into law aren't you?"

"I don't know."

"Oh, I thought that was all decided."

"I don't know anymore."

"Well, there are lots of good jobs if you're willing to work hard enough. Find something you like and work hard at it. Too many people go through life never knowing what they want."

Dr. Jensen looked down at his opened manila folder, adjusted his bifocals. "You've got some kind of skin problem, Steve? Something you brought back from Vietnam with you I suppose?"

"Yes. It's on my army medical records, but I don't want to have to go to Salt Lake to the V.A. Hospital everytime I need some salve."

"Where does it bother you the most, between your toes, around your genitals, under your arms, where you sweat? It burns doesn't it?"

"Yes."

"Go behind the screen and undress. You can roll your garments down to your waist."

Steve stripped down to his shorts and walked back out, the tile cool on his feet. Dr. Jensen glanced at him, then pulled the long-necked lamp over to the white metal chair. "Sit down here." The cool metal chilled Steve. Pushing the lamp in

so close that Steve felt the heat from the bulb, Dr. Jensen examined along his hair line, behind his ears, had him stand up and hold out each arm, told him to drop his shorts. "Any chance of venereal disease, Steve?"

"No."

"Okay, good. Put your shorts back on and sit on the table." Dr. Jensen examined between his toes, then straightened up. "It looks like some kind of fungus to me. I can tell you right now that your scratching it hasn't helped any. I can send you to the hospital for some tests if you want or to a skin specialist, but I suppose that the army has already done that."

"Yes. I just want a salve to stop the burning until the weather cools off. They said it would be better when the weather got cooler." He wanted to tell Dr. Jensen how his body was like soft metal that he couldn't feel.

Dr. Jensen sat down at his desk and started to write out the prescription. "It will be better in cooler weather. And it will die down for six months or a year, then flare up again. Summer is the worst because you sweat. I can name you a dozen men here in Provo who still have it from the last war. I have had this prescription made up that helps, but it's one of those things you're going to have to learn to live with. One way or another we all have something."

"I know."

"I doubt that you do, but you may in ten or fifteen years. You can get dressed." Dr. Jensen didn't raise his head.

When Steve came out from behind the screen, Dr. Jensen told him to sit down. Dr. Jensen leaned back in his chair, his head silhouetted against the pale yellow window. "It didn't bother you did it when I asked if there was any chance of a venereal disease?"

"No."

"It would have before you went to Vietnam."

"I guess."

"Two years ago you'd have been insulted that I could even think that of you. Now you don't wear your garments and you haven't been to church since you got back."

"My mother and father have been talking to you."

"No, they haven't, but other people have. You've been home nearly a month now. A lot of people love you, Steve. Everybody's always thought of you as a fine young person."

"They shouldn't."

"Why not?"

"You couldn't understand." Dr. Jensen turned to answer the phone. Steve looked a little to the right of his face. The chrome and glass in the room reflected distorted images. He had needed his own private movie cameraman with him every minute. He could show the movies to all of his neighbors, friends, and relatives. He could sit in his bedroom and watch himself over and over again daily, until perhaps he, too, knew what he had done. But the movies would have to be in black and white, silent, only images. He knew that his father had asked some of his old high-school friends to call him to play tennis, but he always said no. Dr. Jensen had a fine spray of dry blood on the left sleeve of his white jacket.

Dr. Jensen put the receiver back in the cradle. "I might understand, Steve. I was in the Pacific for three years in the last war."

"You didn't fight."

"No, I operated. We worked in teams; we operated ten and twelve hours straight when the fighting was heavy. After a week or two of that, you've cut off and cut out everything a man can lose and still live."

"It isn't the same."

"No, it isn't entirely the same I guess. You lost a former missionary companion in Vietnam didn't you? Your mother did tell me that one day when she was in."

"I didn't tell her."

"She saw his obituary in one of the Salt Lake papers. She didn't want to tell you if you didn't know."

"They cut off his head."

"That's bad."

"We did things like that to them."

"I suppose you did." Dr. Jensen paused. "One winter back in the 1850s my grandfather was one of the Provo settlers who chased about twenty-five Ute Indians out on the Utah Lake ice and killed them in a running fight. A doctor took a sled out, cut all of their heads off, treated them, and then sent them East for a medical museum skull collection."

"Is that supposed to help me?"

"You need to know that that kind of thing happens fairly often."

"Does it?"

"You had a missionary companion wounded, too, didn't you?"

"He wasn't my companion. We labored in the same district."

"What happened to him?"

"He stepped on a mine and it blew off both his legs."

"How did he take it?"

"He tried to commit suicide in the hospital in Japan."

Steve rubbed the side of his neck.

"You should try not to do that, Steve." Dr. Jensen laid both of his hands, palms-up, on the glass-topped desk. Heavy shadows showed through the yellowish opaque windows. When Elder Decker was made zone leader, transferred, they tried just to shake hands, but it wasn't enough, and they hugged each other. Steve had to keep fighting the image of the headless body in the sealed casket going back to Logan. Elder Decker had lettered in basketball and been a National Merit finalist. Steve couldn't let the casket get too big. A body could explode, the flesh and bones marring the trees, brush and earth.

"I can name you men in Provo who saw and did worse things in the last war and in Korea, but they came home, got married, raised families, stayed active in the Church, honored their priesthood. Some of them even went on missions after they got back."

"They fought in a better war than I did."

"They killed other men, Steve. Do you plan to end up in a V. A. psycho ward?" The glass-topped desk mirrored the backs of Dr. Jensen's hands. His gold wedding band glinted. "You should come out to the Utah Valley Hospital with me this afternoon, Steve."

"Why?"

"I've got a little four-year-old boy in the hospital with third-degree burns all over his head, face and shoulders. His mother knocked a pan of boiling water

off of the stove on top of him. And you might want to talk to Dr. Franceman. He delivered a blind baby boy Thursday. The mother is thirty-five and has four children. Her husband infected her with gonorrhea. You remember Kelly Tolman, he played basketball for B.Y.U. about six years ago. He's in intensive care with a fractured skull and two broken legs. He apparently fell asleep driving back from Salt Lake Wednesday night, sideswiped a semi-truck, and killed his wife. Some car accidents can even be worse than a hand grenade or a mortar shell."

Dr. Jensen looked at the gold-framed pictures. His son's name had been David.

"You didn't start to drink or go on drugs, and you didn't sleep with any Vietnamese whores."

"No, I just killed people."

"Don't ever become a surgeon."

"They save lives."

"No, they just prolong them, sometimes." Dr. Jensen looked down at his open hands. "You saw old Ralph Simmons on his crutches." Dr. Jensen nodded toward the pile of manila folders. "He's got diabetes and I had to amputate his leg below the knee four months ago, but I didn't go high enough. Now I've got to take as much of his leg as I can."

Dr. Jensen slowly closed his hands. "You can't love or forgive yourself enough, Steve, and nobody else can either, although they can help. All of us need somebody like Jesus Christ for that. At least it's the only answer I've found that makes any sense."

Dr. Jensen sat looking at his closed hands, and then the phone rang. "I'll be there in ten minutes," he said, and hung up.

Dr. Jensen stood up, unbuttoned his white jacket, hung it on the chrome coat tree, and put on his suit coat. He closed Steve's manila folder and set it on the pile. "Get this prescription filled at City Drug. They make it for some other patients of mine. You might as well get used to that burning during this hot weather, but you'll be a lot better off if you don't scratch it." The neckline of Dr. Jensen's garments showed through his white shirt. He wrote on the pink charge slip. "There's no charge, Steve. Use the money for school next month."

"I have money."

"I know that. Try to accept things people want to give you. And here's some more advice. Start going to church. You're not better or worse than most of us. And get married. You need to hold a girl in your arms for about six weeks to thaw you out."

Steve walked down the hall ahead of Dr. Jensen. "Say hello to your mom and dad for me." He turned to Mrs. Anderson at the desk and gave her the pink slip. "There's no charge on Steve."

"Yes, Doctor Jensen."

"Goodbye, Steve. I'm glad you're home." He shook Steve's hand. "I'll be at the hospital, Mrs. Anderson." Carrying his black bag, he walked across the waiting room and down the foyer steps.

"Dr. Jensen is a wonderful man. We need more in the world like him. There isn't anything he wouldn't do for the Church."

"No, I guess there isn't."

"You weren't wounded or anything were you, Steve? I suppose I would have heard if you had been."

"No, I wasn't wounded."

"I prayed night and morning on my knees that Richard wouldn't be drafted and have to go to Vietnam. I know that was selfish of me, but I couldn't help it, Steve. I cried everytime I saw a picture in the *Herald* of one of the boys who had been killed. I guess we can't even guess how terrible it was for you boys. If my Richard didn't go, somebody else's boy had to. I suppose that I was very selfish. I hope the Lord will forgive me for that."

He turned. Silhouetted by the light from the window, the goldfish flashed against the side of the aquarium, the water yellow with sunlight. The oxygenator made a noise. "Mothers should say that kind of prayer, I guess."

Mrs. Bryce came down the hall. "Well, Steve, I suppose that the next time we see you it will be for a blood test to getting married."

He folded the prescription Dr. Jensen had given him and put it in his shirt pocket. "Perhaps."

"Of course it will be. You boys don't stay single long, and you'll make some girl a fine husband. Don't waste any of those wonderful years. It's good to see you back, Steve." Mrs. Bryce turned and walked back down the hall without closing the door. There were no more patients waiting.

"Steve," Mrs. Anderson said, "If I hear of any part-time jobs for school, I'll let you know."

"Thank you." He walked across the waiting room but stopped by the picture of Custer's last stand. Custer shot at the two mounted charging war chiefs with his large silver pearl-handled pistols. He had a bloodstained bandage tied around his forehead and an arrow sticking in his right leg. Many Indians lay dead in front of Custer. Steve turned away from the picture. Mrs. Anderson sat looking across her desk at the aquarium. "Tell Richard hello for me when you write him next time, Mrs. Anderson," he said.

"Oh, thank you, Steve, I will." She reached to pick up the ringing telephone.

Steve walked down the steps and pushed open the door. Outside, he put on his sunglasses and checked to see that he had the prescription in his shirt pocket. He walked along Second South and turned up University Avenue toward the City Drug. By the time he got to the City and County Building, he felt the burning, as if someone were touching him with a sponge dipped in a weak acid solution. He slowly curled his fingers.

Swinging her shoulder purse by the strap, a girl wearing sandals walked just ahead of him. Her long dark hair fell to her waist. Steve crossed Center Street and stood by the door of the City Drug. He took off his sunglasses. She stopped to look in Allen's window. She swung her purse gently across her legs, and her shining dark hair fell down over her bare arm. Steve stood there for a moment after she walked into Allen's, and then he turned and pushed open the heavy glass door.

REVIEWS

Multiply and Replenish: Alternative Perspectives on Population

KENNETH E. BOULDING

Population Resources and the Future of Non-Malthusian Perspectives. Howard M. Bahr, Bruce A. Chadwick, and Darwin L. Thomas, eds. Provo, Utah: Brigham Young University Press, 1972. 352 pp. $3.95.

This collection of essays is frankly polemical, asking indeed for "equal time" in the great debate which is now going on concerning the limits of growth, both in the human population and in its artifacts. It is no accident that this volume comes out of Brigham Young University, though it is in no sense an official statement, or even an unofficial statement, of the Mormon Church. Nevertheless, one suspects that it has been inspired in part at least by a reaction to strong implied criticism of Mormon ethics and, in some aspects, of the wider Judao-Christian ethic, as implied, for instance, in the famous biblical verse about being fruitful and multiplying. The essays are all the more effective, however, because their tone is moderate and they are concerned more with the correction of extreme positions on the other side rather than with the taking of extreme positions on the pro-natalist side.

Perhaps the key to the discussion is in the title of the first essay, which is unsigned, but which is presumably by the editors—"Are Proposals for Population Control Premature?" In this whole dispute what cannot be denied are the identities, which I am quite prepared to call the "Malthusian identities," because at bottom it was Malthus who recognized them. The first of these is that the earth is ultimately limited and finite. The corollary to this is that the human population cannot grow indefinitely. If indeed it grows at any finite rate whatever greater than zero, it will reach the ultimate limit at some point. This means that ultimately the population must have a zero trend, though this does not preclude fluctuations about this zero trend. Finally, if any population is to have a zero trend, there must be some regulatory processes to ensure that over a reasonable period the number of births and the number of deaths must be equal. This proposition derives from the great identity, which I have elsewhere somewhat frivolously called the "bathtub theorem," that for any population, or any set whatever, the number of additions minus the number of subtractions is equal to the increase in the total stock, and that therefore if this increase is to be zero, additions must equal subtractions, that is, over a sufficient period births must equal deaths.

There is no attempt to deny these fundamental Malthusian identities in this volume; indeed it would be foolish to try to do so, for while empirical propositions can be reasonably denied, identities cannot. The crux of the argument is in the word "premature." Granted that, at some time in the future, births must equal deaths, the question is: How far off is this day of reckoning? According to Pro-

fessor Forrester and the Club of Rome, it is getting close as historical time goes, that is, within the next hundred years. There is no essay in this volume which directly attempts to refute the projections of Professors Forrester and Meadows, which is a pity, as these projections are open to considerable criticism on the grounds, for instance, that they make no real allowance for the increase in human knowledge. The arguments of this volume are of a qualitative rather than quantitative nature, and while many of them are worth serious consideration, the real issues of the debate are quantitative. "How much" and "how long" cannot really be answered by qualitative arguments.

Section II (Section I is the Introduction) consists of two essays on "'Overpopulation,' the Wrong Problem," by Ben Wattenberg and Harold J. Barnett. These are valuable in attacking the view that *all* we have to worry about is population, which one must confess some of the more extreme anti-natalists almost seem to apply. It is certainly necessary to remind ourselves that many of the most severe and immediate problems of the world, such as war, pollution, poverty, maldistribution, poor provision of public goods, external diseconomies, crime, mental disease, and just plain underachievement of human potential—which is perhaps the worst of them all—will still be with us, even if we only had half the present world population, or a quarter of it, provided that other conditions remain the same. Evil is a hydra-headed monster, and cutting off any one of its heads will not kill it. Furthermore, there is a real question of priorities of present effort, the answer to which depends a good deal on our feeling about the marginal productivity of effort. What the authors of these essays seem to be saying is that neither pro- nor anti-natalist policies and efforts have actually been very successful, so why not concentrate on the other things?

I must confess, I am by no means convinced by these arguments, in the sense that while reduction of population growth is not a panacea to all human ills, the anti-natalists seem to me to be right in supposing first of all that the sharp reduction in mortality which has taken place in the last seventy-five years, especially in the tropics, has created a desperate need for anti-natalist policies, at least in these areas. Otherwise, very major disasters may ensue which the Temperate Zone countries, at a later state of development of population process, will be both unable and perhaps unwilling to cope with. Thus, while it is entirely legitimate to point out the need for thinking about priorities and for not putting all our eggs into the basket labeled population control, thinking about them will still lead us to the conclusion that a long-range effort towards population control should begin now. The very ineffectiveness of natalist policies of any kind should spur us to seek both for more effective and more humane solutions to the problem, rather than the ultimate solution of rising misery and mortality.

There is indeed an important demographic identity with which it seems to me the authors of this volume have not come to grips. It is that in an equilibrium population the average length of life of the individual in the population is the reciprocal of the birth (or death) rate. If the average age at death is to be 70, the birth rate in an equilibrium, stationary population must be about 14 per 1,000. If the birth rate is 40 per 1,000, which is all too common, then in equilibrium the average length of life will only be 25. A further proposition, which is not quite an identity, but which I think will command almost one hundred percent agreement, is that a society in which the expectation of life is well below the normal biological

span is clearly undesirable. Societies of a traditional type, which birth and death rates at 40 per 1,000 and an expectation of life of 25, are miserable and there is little case for them. If the birth rate is to be 14 per 1,000, however, this means that fertility must be far below the physiological maximum. This means there must be social controls of some kind which ensure that this fertility should not rise above the level which can be sustained at high levels of health and longevity. To my mind there is no way out of this proposition, and any attempt to deny it can only lead into a morass of immoral moralizing.

The third section consists of three essays by Philip F. Low, B. Delworth Gardner, and R. W. Behan, and is headed "How Full is the Earth?" These essays point out, with some justification, that it may be emptier than a lot of people think, in the sense that its carrying capacity may continue to be expanded by human knowledge. The limits of the earth are still unknown, both in regard to food, minerals and other natural resources, and potential cultural change. Qualitatively, I agree with these authors, and I think it is highly probably that the process of expansion of human knowledge will go on for quite a while. The thing which falsified Malthus' own prophecies, in so far as he made them, was not the identities, but the empirical phenomenon of the rise of human knowledge, with the concommitant rise in the resource base and carrying capacity. It is the fact that man has been ecologically cooperative with his own artifacts for many thousands of years, which has led to this enormous expansion of the human race and has apparently given the lie to Malthusian gloom. Nevertheless, the identities do catch up with us. Ultimately, we must face finitude, and while it is generally desirable that this day of reckoning be postponed, one has the uneasy feeling that too much postponement will run us into the danger that when it does arrive it will be totally disastrous, and that man may face an exhausted planet to which he cannot adapt. While I am prepared to give two cheers therefore for the moderate cheerfulness of these two chapters, again ecological eschatology creeps in as a skeleton at the feast.

The fourth section, "What Everyone Knows: The 'Disadvantages' of Large Families and High Density," consists of three papers by Darwin L. Thomas, Philip R. Kunz and Evan T. Peterson, and Bruce A. Chadwick, attacking the theses that high population density necessarily leads to social disorganization, that large families are bad for the children, and that a reduction in the size of the family would have necessarily desirable social spinoffs. The case here I think is quite well made, up to, shall we say, families of five children; beyond that the evidence I think is clear for deterioration. And, of course, five is too many for population stability. The conclusion which I would draw from this is that perhaps there should be more specialization in child rearing; perhaps half the population should average families of four and the other half of the population should not have children at all. The real trouble with these essays is that they really do not confront the ultimate moral and political issue, which is that even if families of four or five are more intrinsically desirable than families of two, we may have to sacrifice this in the interest of population stability. And it is absurd to suppose that the slight advantages, as they may well exist, of moderately large families can compensate for the ultimate disaster which these will impose on the human race. Still, good positions should not be supported by bad arguments, and there is little doubt, I think, that the anti-natalists are using wrong arguments when they argue that small families are intrinsically desirable in themselves.

The fifth section, headed "Man the Destroyer? Not Necessarily," two essays by B. Belworth Gardner and Elvis J. Holt, deal with the problem of the relations of population pressure and environmental damage, and point out these are only loosely related and that the central problem of pollution and environmental damage is how to develop processes of production which ultimately produce more goods per "bad." Pollution and environmental deterioration result mainly from the fact that goods and bads are produced jointly and we want the goods and so are prepared to put up with the bads. Still, I think the authors do not recognize adequately that the disposal of bads depends on these being an "away" in which to throw them, even though in the long run, as Garrett Hardin has pointed out so eloquently, there is really no "away" at all, except perhaps outerspace, so that even in the present historical period the increase in human population diminishes the possibility of finding an "away" in which to throw things. Here again, there is a real problem of priorities and I think a strong case can be made at the moment that more progress can be made with environmental problems by working on the production functions themselves than on the absolute rise of the population. But, here again, this may be a difference between short-run and long-run priorities.

The sixth section on "The 'Crisis' in Future Perspective" consists of essays by R. Buckminster Fuller and W. Farrell Edwards. Fuller, of course, is a great technological optimist. Edwards points out quite rightly that ecological strain in the future may result more from increasing per capita energy requirements and materials throughout than it does from increase in the numbers of the population. Still, one would have thought the conclusion of this is that we should put far *more* effort into reducing population in order to permit increased per capita energy consumption, so that this is an argument that can very easily backfire. One would like to have seen an essay which would criticize the methods of future projections, which are really very dubious, and a little study of the reasons why crystal balls in the past have been so remarkably clouded would not have come amiss.

The final section is on "Population Policies: Implicit Values and Ethical Problems," with essays by Howard M. Bahr, one of the editors, and Arthur J. Dyck. These do raise some interesting issues in regard to the conflict of values, but neither of them to my mind comes to grips with the more difficult of the ethical issues involved. One issue is the almost inevitable and agonizing conflict between individual liberty, individual expression, and the realization of individual potential, and the necessity for overall social controls at what might be called a "macro" level. This is indeed the major problem of what might be called "political ethics," how to reconcile order with freedom, the development of the individual with the survival of the total society or even the total evolutionary experiment. The principle that individual liberty should be diminished as little as possible is a sound one. On the other hand, the principle also that individual liberty may have to be circumscribed in the interests of general survival has always been accepted. My own somewhat half-hearted suggestion of equally distributed marketable licenses for having children, what I sometimes call my "green stamp plan" is mentioned by Dyck, but he does not seem to me to appreciate the problem of how to have social control with a minimum intervention in individual liberty.

The other ethical and political issue which I think is not mentioned at all in this volume, and which is perhaps so painful and dangerous that nobody dare mention it, is the problem of competitive population expansion on the part of differ-

ent groups in a society. Those groups in society that have a high rate of growth will grow proportionately relative to those who have lower rate of growth. Growth of groups may come either from surplus of births over deaths, or from immigration and conversion. The latter is usually an unimportant source of growth. Emphasis on high birth rates is seen as a recipe for eventual political dominance. One sees this problem in such places as far apart as Guyana, Trinidad, Quebec, The Netherlands, South Africa, Fiji, and Ceylon, where in racially or culturally heterogeneous societies the fear of many groups of being "outbred" may condemn the whole society to competitive population expansion, with mutually disastrous results. Anti-natalist policies, especially for other people, must also come under moral scrutiny and Mr. Behan points out, "The way to keep barbarians away from the gates apparently is to slip them the 'pill,'" (p. 114). Still, in view of the fact that on any considerations the optimum birth rate must be below, and indeed far below the physiological limit, the burden of moral truth lies always on the pro-natalists.

These essays deserve to be widely read, especially among the anti-natalists, because they do bring out some points which need to be kept in mind in this whole argument. It is a pity indeed that they are described as "non-Malthusian" because I am sure Malthus would have enjoyed them and would have approved of a lot of it. He was, after all, a Christian minister and no inconsiderable moral theologian, and it is a little unfair to saddle him with the excesses of some of his followers. However, I am afraid, also, if these are read by the pro-natalists, it will reinforce them in many of their errors. It is almost impossible to avoid doing good to our enemies and harm to our friends. One hopes in this case the good will outweigh the harm.

Issues in Science and Religion

David Tolman

Issues In Science and Religion, by Ian G. Barbour. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1966. 470pp. Also a Harper Torchbook.

Being expert neither in the field of science nor of religion, we are relieved of the responsibility of discussing a theme [science and religion] whose treatment has suffered from everything but neglect. —Hugh Nibley

Ian G. Barbour's book is a rarity in the area of science and religion, for the theme does not suffer at all, but benefits greatly from Barbour's organization and presentation of problems. Barbour teaches modern physics, appears to be well-versed in modern theology, and has a broad knowledge of history and philosophy. In addition, he is well-acquainted with the development of science and with the history of religion. Mercifully, his book spares us the long and tangled history of their interaction, a welcome change from books of this sort. Instead, Dr. Barbour assembles what amounts to a history of philosophy or an intellectual history of

metaphysics, and he presents a set of categories and ideas that resolve the problems of science and religion through the process philosophy of Alfred North Whitehead.

Issues is divided into three major sections: Historical, Logical and Substantive. The first section of the book illuminates the interface of science and religion. Unlike those who claim there is no conflict between the two systems, Barbour focuses his attention on the areas where religious assertions become philosophical (and thus become sometimes scientific) and where scientific assertions become metaphysical (thus acting back through philosophy to religion).

Barbour includes an instructive chapter called, "From the Sciences to the Humanities," in which he attempts to show that the balance between objectivity and personal involvement is necessary in all disciplines and that the social sciences have the same epistemological problems as the sciences. This is a modification of C. P. Snow's provocative "Two Cultures" essay. Barbour breaks down the stereotypes of science/objectivity, humanities/subjectivity and shows that the separation Snow describes is only social and linguistic. Of course, such a broad, pervasive cultural problem has no easy solutions, but Barbour's comments provide an interesting complement to Snow's and set the stage for his detailed comparison of the methods of science and religion which follows. If we were to assume that science and religion were completely antithetical pursuits rather than evolving intellectual enterprises, the great similarities would be robbed of their impact. Barbour observes that there is no uninterpreted revelation. This leads the reader to recall a previous discussion where H. R. Hanson demonstrated that there is no uninterpreted, or "bare," scientific fact. Thus Barbour establishes a difficult epistemological point about theory-laden observation in a rather painless but unmistakable comparison.

The analysis of the methods of religion focuses on liberal Protestant theology but raises most of the key issues about religion in its various functions of theology, community, personal experience, language, and as history in ways that invite serious reflection and further analysis. After balancing the contrasts and parallels of science and religion, Barbour turns to an analysis of the language of both in order to reveal the solution to the interpretive problem of scientific and religious thinking.

This book is a tremendous accomplishment. It treats a tough problem with respect and covers all the major areas with admirable scope and depth and with copious footnotes. It is certainly the place to begin a study of the problems of science and religion, and in addition serves well as a bibliographic and reference tool for advanced students. This is an ideal book for the relatively unsophisticated Mormon audience. The subject of science and religion in the Church has been treated either as a false problem which Mormonism, embracing all truth, need not confront, or as a subject which can be satisfied by the testimonial assurances of some prominent Churchman-scientist. We, as a Church, have avoided, for the last half-century at least, serious attempts to reconcile our theological views with other intellectual currents in the world even while more of our community now seems in need of it and qualified to evaluate it. Particularly in the area of science and religion, where Mormonism makes so many provocative assertions, the silence is surprising. Hopefully, attention to Barbour's fine book will stimulate some analysis of the unique ideas of Mormonism.

Using Barbour's categories and terminology, a few key questions could be asked: Can our realistic interpretation of the world be extended to a full scientific realism? What is the relation of this world to the previous one and to the future one? Are God's physics the same as ours but more refined? What kind of truth have we found? Further, how does the scriptural promise that we keep the knowledge we gain here relate to science? If our enterprise of science (i.e., developing better explanations of increasingly diverse and obscure observations) is similar to God's science, could we not, therefore, jump immediately to new scientific levels by God's gift of a few laws of physics? Or does our science, like our moral progress, require step-by-step addition of knowledge?

These questions are difficult enough, but perhaps the best approach to them is in Barbour's technique of language analysis. It sometimes seems that our abhorrence of dogma or theology in the Thomist sense nourishes our predilection for linguistic imprecision. By using key words loosely, we allow flexibility of interpretation but we also invite sloppy thinking. What is the information content of words like "light," "truth," and "intelligence" in Mormon theology? "Spirit" in common usage differentiates something from "matter"; how are we to read Joseph Smith's "spirit is merely a more refined form of matter"?

When we think of the general problem of science and religion, there is really no one solution. There can be no set of reconciliations broad enough to cover both subjects, but there can be good resolutions within smaller parts which will give satisfaction. There is a particular need in the Church for scientists to analyze and synthesize their own experiences and then to suggest ways to integrate these two means of interpreting the events of the world and the scriptures. Fear is the only dividend of avoiding the issues.

Both science and religion are attempts to interpret our experience. Not all people have experiences in a scientific structure, nor do all have religious experience sufficiently clear to provide contrast and conflict. Nevertheless, Mormons, more than most, should be interested in acquiring knowledge of the sort that will allow them to understand, in the broadest sense, the world—physical and spiritual—around them. Ian Barbour's book is a good beginning toward such an undertaking.

J. Golden Kimball: Apostle and Folk Hero

Richard M. Dorson

The Golden Legacy: A Folk History of J. Golden Kimball. By Thomas E. Cheney. Santa Barbara and Salt Lake City: Peregrine-Smith, Inc., 1973. (Originally published by Brigham Young University Press, 1973.) 155 pp. $6.95.

Even before his death in 1938 at the age of eighty-five, J. Golden Kimball had become the most talked about of all Mormon churchmen. He was himself cognizant of his reputation, and when a nephew told him. "Well, Uncle Golden, I heard another J. Golden yarn today," he scoffed, "I'll bet the damn thing isn't genuine. Seems like all the stories told these days are either about me or Mae West." To

what extent the spare, high-voiced ex-cowboy may have played up to his legend is not considered in this unpretentious but valuable compilation of Kimball's sayings, witticisms, retorts, pungent passages from sermons and talks, and salty stories about him. In his addiction to plain speaking spiced with mild profanity, Kimball posed a problem to Church authorities. But they readily saw his value, for Kimball could reach his audiences, keep them awake where his fellow-elders put them asleep, and arouse the Latter-day Saints to prodigies of giving and working for the cause. To brethren in a ward complaining they had no time to work on the chapel and no money to buy lumber, Kimball admonished, "Now you can't build a church on bullshit. . . . If we get this church built, you have got to put your ass behind you and look ahead." According to the yarn the brothers responded vigorously and completed the church.

Success in prosecuting the Lord's work and contrition for his human foibles of dropping cusswords and snitching an occasional cup of coffee are two hallmarks of Kimball tales. As Golden reportedly observed," It's pretty hard to ask a fellow to start learning new speech this late in life." So the Church, and his present biographer, a Mormon professor, emphasize Kimball's good heart and genuine piety and accept good-naturally his venial lapses. Cheney presents Kimball as a meek repentant saint, assured of salvation by virtue of his humility and dedication to the Church.

In terms of folklore, J. Golden Kimball is a local character and the stories about him are classifiable as folk anecdotes. The local character deserves much more consideration than he has received from American folklorists. In brief, the character is an "original," a deviant personality whose quirks, eccentricities, odd mannerisms or behavior patterns clash with accepted conventional norms and inspire talk in the circle of his acquaintances, who repeat little humorous stories about his sayings and doings. Such characters run a gamut of roles, from the village idiot to the elder statesman, but whatever their social status, they are splashed with color. The comic tales they generate are anecdotes, and twice-told anecdotes that show evidence of variation from oral usage are what I term folk anecdotes. An anecdote is told as a presumed actual incident occurring to a real person. In the folk process, a body of anecdotes growing around a character will move toward apocrypha in two ways: by variant tellings of a more or less verifiable incident, and by absorption of wandering tales that get attached to likely figures.

Both of these mechanisms operate in the J. Golden Kimball cycle. An example of the first is the anecdote involving Golden and a motorist who knocked him down. Golden's irate comment as he picked himself up and shook his fist at the speeding driver is recounted by Cheney in five forms, from "The son of a bitch, he has no respect for the priesthood" to "They don't know the difference between a Gentile and the Lord's anointed." An example of the second is a story previously linked to Abraham Lincoln and now pinned on Golden. A mad dog rushed at Golden, who jabbed it in the throat with a pitchfork. Its owner angrily demanded why he had shoved the tines down the animal's throat. "Because that's the end he came at me with," replied Golden. Either of these episodes could have transpired, or again neither may have taken place as described. The folklorist depends on the available evidence. Cheney refers the latter anecdote to the Lincoln cycle, without a reference, and nowhere in his volume does he cite comparative examples. Hence his work must be regarded as a source-book rather than a finished product.

Undoubtedly a number of the Golden anecdotes are in folk circulation; some have been published in folklore collections, and Hector Lee has issued a recording in which he retells some favorites. The anecdote titled "Built in a Day" is a well-known American folktale localized in various metropolises. In the present rendering, Golden is conducting some visiting dignitaries around Salt Lake City and pointing with pride to buildings speedily constructed by the Mormons. But his visitors put him down by saying that in their country they accomplish such feats in half the time. Finally the bus passes Temple Square and a dignitary points to the temple and asks what is the building. "Damned if I know," said Golden. "It wasn't there yesterday." Cheney assigns an informant for the tale, who turns out to be a fellow-folklorist, Jan Brunvand, but gives no further information. The "Cheney Collection" which is the main source cited may provide more explicit details on time, place, and narrator, but the folklorist would welcome this information here and he would request comparative annotation. Otherwise the reader cannot identify the folkloric anecdotes.

Still, the basic data is available here, in the form of verbatim texts from oral tradition for the anecdotes and typical sermon passages from Conference Reports. They provide the student of folk tradition with an unusual opportunity to view the evolving of a legend corpus from Kimball's own speech to the tales told on him by a widening circle. Kimball's rhetoric is fresh, strong, direct, and itself filled with anecdote, pithy quotation and down-to-earth sentiment. Like other American characters in tradition, he is the storyteller who himself becomes the subject of stories. In J. Golden Kimball's case, the career of an outspoken mule skinner who came to hold high ecclesiastical office has provided sure-fire ingredients for the burgeoning of anecdotal legend.

New Essays on Mormon History

William J. Gilmore

The Restoration Movement: Essays in Mormon History. Edited by F. Mark McKiernan, Alma R. Blair and Paul Edwards. Lawrence, Kansas: Coronado Press, 1973. 357 pp. $10.00

"It is still surprising," state the editors of this volume, "how little good material is available in many areas of Mormon history." To help correct this deficiency, F. Mark McKiernan of the Restoration Trails Foundation, and Alma Blair and Paul Edwards of Graceland College have collected a baker's dozen of essays, including one each by the editors, encompassing a broad range of topics basically within nineteenth century Mormon history. Only two of the thirteen essays concern themselves with the twentieth century. Ten essays focus on the Utah Latter-day Saints, two on the Reorganized Church, and one on the Strangite Church. Significantly, none of the essays has previously been published.

Chapters One through Six concern themselves with the formative years through Joseph Smith's assassination, beginning with Larry Porter's "The Church in New York and Pennsylvania, 1816-1831." Porter offers us a carefully constructed

narrative of many of the major events of Joseph Smith's life through the organization and incorporation of the Church. It is an interesting synthesis interweaving primary sources with most relevant secondary accounts (Fawn Brodie's biography being the most notably absent source).

"Kirtland, a Stronghold for the Kingdom" by Max H. Parkin is, likewise, a detailed presentation of the growth of Mormonism, "from an insignificant neighborhood religion to an enlarged and formidable Christian denomination" between late 1830 and July of 1838. Parkin concludes that even though Kirtland was initially viewed as a "temporary way-station to be endured before the Saints could fully enjoy their Missouri land of promise," soon it was thought that it would become "one of Zion's greatest stakes." Mormonism passed "from infancy to adolescence" at Kirtland, concludes Parkin. His blend of thorough primary source research with comprehensive coverage of secondary sources is very effective.

"The City in the Garden: Social Conflict in Jackson County, Missouri," by Warren Jennings is an entirely different kind of essay from those of Porter and Parkin in that Jennings eschews extensive primary source research for a thoughtful interdisciplinary consideration of the context of social conflict in Jackson County between summer 1831 and November 1833. "An analysis of the differences between the 'Saints' and the 'Gentiles,'" argues Jennings, "leads to the conclusion that the conflict was irrepressible," largely due to fundamental differences in cultural heritage and assumptions. The "Saints" were largely New Englanders while the "Gentiles," the original settlers, were mainly border states mountain people.

The next attempt to establish a religious community came at Far West, Missouri, discussed in F. Mark McKiernan's "Mormonism on the Defensive: Far West, 1838-1839." McKiernan presents a succinct narrative based on a combination of primary sources and contemporary and secondary histories. Heavy emphasis is placed on John Corrill's 1839 *Brief History of the Church*. "A costly failure" is McKiernan's conclusion for the Far West years. In fact, he concludes, "The Mormon leaders would have been exterminated had it not been for [a local supporter] General [Alexander] Doniphan's courage. As it was, most Mormon leaders spent six months in prison before escaping."

Two essays encompass the Nauvoo years. The first, "Dream and Nightmare: Nauvoo Revisited" by Robert Bruce Flanders is by far the best chapter of the six on the formative years. Basically, Flanders has rethought the main issues elaborated in his 1965 *Nauvoo: Kingdom on the Mississippi* and summed them up here in a coherent and well written overview. Henceforth Flanders' essay should be the starting point for the study of Nauvoo. The second essay, "Nauvoo and the Council of the Twelve" by T. Edgar Lyon, is a long, extremely detailed narrative of the Council and its domestic and foreign missionary activities from the mid-1830's through early 1846. Of these first six, Flanders' essay stands out in one major respect: a level of perspective, context, and balance is evident with him that is simply lacking in the other five essays. Jennings' thoughful use of sociological theory on the Jackson County, Missouri, period is also noteworthy. The other four essays, while well researched and valuable, too readily reflect their shortness of perspective.

The story of the Utah Saints continues in a very brief albeit concise overview of "The Latter-Day Saints in the Far West, 1847-1900," by Leonard Arrington

and D. Michael Quinn, and a generally balanced and well researched investigation of "The Mormon Search for Community in the Modern World," by James B. Allen. Concentrating on the twentieth century challenge "to be 'in the world but not of it,'" Allen rightly stresses the success of the Church's struggle to develop a truly international frame of reference. His treatment of Black Americans and their relationship to twentieth century Mormonism leaves much to be desired, however. After stating that race relations and opposition to Vietnam were the two major social issues of the previous decade, Allen expends half a page on race and Mormonism followed by three pages on Vietnam and the Church. The content of the remarks on race is little better. Following the statement that the Church continues withholding the priesthood from "the Negro race," Allen patronizingly comments, the result was "that zealous reformers throughout the country found in this explosive issue a continuing basis for attacks upon the Church." Allen's further comments are more balanced but given the critical nature of the problem for a major religious denomination with nearly two million American members, more extensive treatment of the issues involved could reasonably have been expected. The terrible abuse and prejudice endured by earlier generations of Mormons in America tinges this matter with tragic irony. These remarks are meant less as criticism of Allen's otherwise fine essay than as a reminder of the necessity for greater sensitivity.

Of the remaining five essays, three are devoted to internal divisions. "The Reorganized Church of Jesus Christ of Latter-day Saints: Moderate Mormons," by Alma R. Blair, is an intriguing study, mainly from primary sources, of the formation of the Reorganized Church focusing on the role of Joseph Smith III in shaping the nature and direction of the Church. "Theocratic-Democracy: Philosopher King in the Reorganization," by Paul M. Edwards, continues the story of the Reorganized Church by following the career of Joseph Smith III's son, Frederick M. Smith, beginning with his unanimous request to accept the Presidency of the Church by the 1915 Conference. "King James Strang: Joseph Smith's Successor?" by William D. Russell is a fascinating biographical sketch of James J. Strang (1813-56), the founder of the Strangite wing. The text of his alleged "letter of appointment" to succeed Joseph Smith is included as an appendix to the essay.

The remaining two essays—one by Davis Bitton and one by Klaus Hansen—are with Flanders' the best essays in the collection. Bitton's "Early Mormon Lifestyles; or the Saints as Human Beings" is a straightforward probe of the life of "the common people" of Mormonism, accenting place, food, shelter, family, work and play, and worship. Hansen's introduction to the volume, "Mormonism and American Culture: Some Tentative Hypotheses," is a provocative attempt to locate the place of Mormonism within the larger cultural geography of nineteenth century America. Reminiscent of a number of recent interpretations of a variety of groups, Hansen sees Mormonism as attractive to those people "who were left out of the hierarchy of values in the larger American society."

Overall, this is a very good collection of essays and provides a convenient summation of much of the best of recent scholarship on Mormonism in the nineteenth century. The title is a bit misleading, given the existence of Alexander Campbell and his followers. It would have been helpful to have an index, and more importantly a bibliography would truly have been a significant contribution, precisely because so many of the studies relied upon by the authors are unfamiliar to most

outside the Mormon community. The major weakness of the collection, however, is that significance and import are all too often sacrificed to detail. This said, it must be added that this is a plea for more interpretation but not for less first-rate research such as is exemplified here. This collection is a tribute to one segment of an emerging cohort of historians of Mormonism and they, together with other scholars such as Marvin S. Hill, are responsible for a serious rethinking of the origins, growth and meaning of Mormonism within American religious history.

A Collage of Modern Mormondom

Julie G. Christensen

A Daughter of Zion. By Rodello Hunter. New York: Alfred A. Knopf. 285 pp. $6.95.

In *Dialogue*'s maiden issue Rodello Hunter's *A House of Many Rooms* was reviewed as one of those books ". . . by Mormons for non-Mormons," a valid classification of the book. Mrs. Hunter's *A Daughter of Zion,* which was obviously written with the same purpose in mind, may not interest the Gentile audience as much as did her earlier book, because *A Daughter of Zion*'s focus delineates everyday, here and now Mormon life, while the earlier book has the more universal view of a history of rural America with the Mormonism as seasoning, rather than a main course.

A much more probable and enthusiastic audience would be her fellow Mormons of all kinds, from the dedicated ones to "jack" Mormons. The former group may find themselves a little shocked by their own likenesses and Mrs. Hunter's doctrinal questions, but, I would guess, will be fascinated at the same time. And those whose stance in the Church reflects Mrs. Hunter's will find an entertaining echo of their feelings in the book. Thanks to her middle position outside the orthodox center of the Church but still inside its pales, Mrs. Hunter has written a book that honestly and tenderly palpates the Latter-day Saint life in all its celestial glory and terrestrial hypocrisy.

That *A Daughter of Zion* is aimed at non-Mormons and, I suspect, misses its target, adds to its charm. The capsule explanations of doctrine and custom are more likely to touch off a sympathetic nod, chuckle or squirm in the member reader than in the non-member. For example:

> Most Mormons simply do not have the ability to oppose Church authority—this kind of dissent has been trained out of them since infancy.
>
> In the huge General Conference gatherings, or in any other assembly where authorities are sustained year after year, there is always a unanimous aye vote—never a nay. I have known many people who would like to vote nay, myself for one, but we satisfy our consciences with abstention from voting. No one notices that.

Most Latter-day Saints (except those who haven't time or inclination to read non-doctrinal church works) will recognize their own quickly repressed feelings and thoughts in Mrs. Hunter's arguments with Papa, her grandfather and adopted father, about tithing:

> With Mormons, it's sort of an accounting. They pay out *x* many dollars, so they sit down and count up *x* many blessings. If they think the blessings are worth the money they've paid, well and good. If they can see that they are going in the hole, they still pay the tithing because they are afraid if they stop, they'll lose what little they have. . . . Mormons pay tithing as if they were paying on an insurance policy.

or in a discussion of the United Order with Brother Gardiner:

> In theory, Brother Gardiner. It's all very beautiful in theory—both the Order and Communism—but either way it doesn't work. . . .
>
> There's always the man who only plants one row, but who takes the crops from ten—according to his needs! . . . It would be no different now than it was in Orderville. When the lesser lights of the Ward went to the storehouse, everything was picked over by the wives of the Bishops and Stake presidents and high councilmen.

However, the validity of the book rests not in the side issue of its audience but in its central purpose—to reveal, to air and examine "the indescribably painful tug of war of heritage, love, and friendship against logic," which Mrs. Hunter describes as the ambivalence that many thinking Mormons struggle with periodically. *A Daughter of Zion* accomplishes that purpose with an accurate and affectionate but surface depiction of the real people Mrs. Hunter loved or tolerated in Lincoln Ward and her own honest, highly personal interpretations of or reactions to Mormon theology.

The people she loved are unforgettable because they call to mind Saints we have all known, including ourselves: Papa, the closest thing to a true prophet in Rodello's mind; eighty-four-year-old Sister Thompson, beautiful of face and soul; Leone, made of the same fiber as the Saints who girded up their loins and took fresh courage to endure; and Bishop Trauffer, who called Sister Hunter into his office to tell her why he had not called her to a certain position. Also unforgettable are the ones she tolerated: the Bishop's wife who rejected one Saint's offer to teach MIA and confession of coffee drinking with, "Oh, in that case, we won't need you"; Martha Lee Moser, who, "had she been a man, would have been a power in the church"; Mrs. (not Sister) Goring, who resigned a stake position after falsely accusing Rodello of breaking roadshow rules.

Mrs. Hunter's ambivalent discussions of Church doctrine and custom are equally honest, though not always as accurate. Take, for example, her comments about meetings:

> The other days of the week [besides Sunday and Tuesday] are not neglected by the Church. The Latter-day Saint passion for meetings to plan meetings to plan meetings is one that is moaned about throughout Mormondom. And those who should attend each meeting are mightily exhorted to be there so the 100 percent attendance quota can be met. . . . I went to the meetings along with the others because I liked basking in the warm sun of approval, and was reluctant to be one of the backsliders who brought down the percentage. . . .
>
> There is one great advantage to all of these meetings. It ties the individuals from the wards into the Mormon Stake Family.

Or about temple marriage:

> It hardly seems right that a woman must be sealed for eternity to her first husband when she might love the subsequent more. . . . A woman cannot ascend to the highest degree of glory—the Celestial Kingdom—except as the wife of a Priesthood bearer. She cannot attain anything by herself. She only shares her husband's glory. So it seems only right that she should be able to choose whichever husband promises the most glorious future for her in the hereafter.

As in *A House of Many Rooms* and *Wyoming Wife*, Mrs. Hunter uses an organizational style reminiscent of a cluttered hall closet, in which one idea or story detail triggers off an avalanche of other associations which are not necessarily logical or chronological. However, like the closet, the book is a goldmine, some of it is funny, some sad, little of it weighty, but all of it interesting. And taken as a whole, the clutter turns out to be a remarkably balanced and fair collage of modern Mormondom.

Joyous Journey

JOHN CAUGHEY

The Joyous Journey of LeRoy R. and Ann W. Hafen: An Autobiography. Glendale, California and Denver, Colorado, The Arthur H. Clark Company and Fred A. Rosenstock, 1973. 335 pp. $11.50.

Among historians of the West LeRoy Hafen is well known for his prodigious shelf of books—*The Overland Mail, History of Colorado, Broken Hand, Fort Laramie, Western America,* and two score more of documentary and reference volumes for which his was author, editor, coordinator, or all three. Since few historians operate with that much efficacy, one of the interests in *The Joyous Journey* is the clues provided on how this efficiency was generated.

The work ethic in which Hafen grew up clearly helped, but not more than his like-minded and collaborative wife. Ann is a presence throughout this book, though the structure and content relate more specifically to LeRoy's life and career. From the beginning he was ambitious, diligent, and industrious. He and Ann indulged in travel and other relaxations but never much interrupting their self-assigned research and writing. With his thesis and dissertation on the Handcart Migration and the Overland Mail, LeRoy staked out the mid-nineteenth-century and the Rockies and their immediate eastern and western slopes as his field. He reached back into the epoch of the Rocky Mountain fur trade, which fitted in well with his penchant for topics in travel and transportation history. In this compact and exciting time and place he was never at a loss for subject matter.

Nor was he ever lacking a publisher. The *Colorado Magazine,* which he edited from 1924 to 1954, was the natural and eager vehicle for many of his shorter pieces, and his first several books were quickly placed. Early in the forties, the Arthur H. Clark Company signed him on to round out the Southwest Historical Series, which he did with dispatch. Clark then contracted for a fifteen-volume series on the Far West and the Rockies, and after that for a series on the Mountain Men.

In 1924, having earned his Ph.D. at Berkeley, Hafen became State Historian of Colorado, a post he held for the next thirty years. On the side he taught part-time in Denver University. As State Historian his administrative and ingratiating duties were mild, and the main thrust of his assignment was to carry on with re-

search and publishing. Offhand it appeared that the secret of his success was this insulation from the hurly-burly of teaching.

At sixty, Hafen retired as State Historian and promptly was called across the mountains to Provo and a professorship in Brigham Young University. He quickly adjusted to full-time teaching. He found the faculty and student contacts stimulating. And whereas many professionals consider work on this firing line more arduous than cloistered research, in Hafen's opinion "it was less exhausting than a day of constant research and writing" (p. 275). Today at eighty he is rolling right along. In his thirties, forties, and fifties he published at the rate of a book every year and a half. In his sixties and seventies he stepped the rate up to a book and a half per year, which meant shortening the gestation period from eighteen months to eight.

This autobiography also gives testimony on Mormon life. Hafen's father was a polygamist. In the 1890's, when pressures against that institution came to climax, he dispersed a wife or two across the territorial line into Arizona and another across the state line to Bunkerville, Nevada, where LeRoy was born and spent his youth. Polygamy begets patriarchy, or so we usually assume. In this instance, although his father visited a couple of times a year and is warmly remembered for the boxes of apples he brought from St. George, he was always a rather remote figure. What LeRoy grew up in was essentially a matriarchy; perhaps the Mormon symbol of the beehive should have tipped us off.

The scene was rural and farm work the steady routine, though not in the pattern of a single-family farm. Instead, Mormon cohesiveness and irrigation produced a farm-village. There also was an extended family scattered through the Mormon Dixie. Riding off to school in St. George or Cedar City, LeRoy had relatives with whom he could spend each night. Although Mormonism as such is seldom mentioned, it is an underlying fact. At one stage in Colorado, there came a time when Hafen thought he might be expendable as an outlander and as a Mormon. In 1954 he and Ann found a special warmth in coming home to a Mormon community, Provo, and a particular rapport with the students there. Needless to say, all that is Mormon about the Hafen experience, achievement, and career is part of the substance of the history of the West.

AMONG THE MORMONS

Edited by Ralph W. Hansen

A Survey of Current Literature

People do not deserve to have good writing, they are so pleased with bad.
EMERSON, *Journals*

Life, Look and now *Courage* are gone but presumably not forgotten. *Courage,* for those of you not familiar with this periodical, was the RLDS counterpart to *Dialogue* which ceased publication in 1973 after three hopeful volumes. I bring this fact to the reader's attention only to emphasize the tenuous existence faced by periodicals in this inflationary era. The problems are simple to describe but difficult to overcome. First the Post Office, in an effort to meet its costs, is gradually increasing postal rates for magazines and newspapers. Paper costs are skyrocketing, but worse yet paper is in short supply. How this will affect printers and publishers is yet to be seen. And, finally, labor costs are increasing. *Dialogue,* which is essentially a volunteer effort, has no control over such external costs but must find ways to pay them or perish. The publishing industry is facing an uncertain future and *Dialogue* will have to struggle with its compatriots. Whether *Dialogue* survives or not is of little consequence to most of the nation. However, survival of the magazine industry as we know it today is of vital importance. Without the means of disseminating information, without the public having the vehicles to support its right to know, this country faces an equally uncertain future. This is not a plea for *Dialogue.* It is however, a warning that the problems that beset *Dialogue* are not unique and may soon be besetting *The Ensign* or *The Reader's Digest.*

In this issue "Among the Mormons" is concerned with recent books (and a few records) of interest to Latter-day Saints. As usual the following bibliography makes no pretensions at completeness. Selections were made from new publications issued since the last listing was presented in the Summer 1972 issue of *Dialogue.*

SELECTED WORKS OF MORMON INTEREST

Anderson, Einar. *Inside Story of Mormonism.* Grand Rapids, Michigan: Kregel Publications, 1973. $2.95.

Andrus, Hyrum. *Descriptions of Zion: Contrasts Between Liberalism, Conservatism and Mormonism.* Salt Lake City: Hawkes Publications, 1972. Publisher's address; 156 W. 2170 South, Box 15711, Salt Lake City, Utah.

Babbel, Frederick W. *On Wings of Faith.* Salt Lake City: Bookcraft, 1972. $3.95. European Mormons during and following World War II.

Barrett, Ivan J. *Joseph Smith and the Restoration.* Provo, Utah: Brigham Young University Press, 1973.

Bitton, Davis. *Guide to Utah and Mormon Diaries.* Salt Lake City: Peregrine Smith, Inc., 1973. $20.00 ($10.00 to Mormon diary series subscribers). Publisher's address: P.O. Box 11606, Salt Lake City, Utah 84111.

Brigham Young University. Language Research Center. *Conference on the Language of the Mormons.* Provo, Utah: BYU Press, 1973.

Brooks, Juanita. *The History of the Jews in Utah and Idaho.* Salt Lake City, Utah: Western Epics, 1973. $7.95.

———. *On the Ragged Edge: The Life and Times of Dudley Leavitt.* Salt Lake City: Utah State Historical Society, 1973. $5.00.

Brophy, A. Blake. *Foundlings on the Frontier: Racial and Religious Conflict in Arizona Territory, 1904-1905.* University of Arizona Press, 1972.

Brown, Thomas D. *Journal of the Southern [Utah] Indian Mission: Diary of Thomas D. Brown.* Ed. by Juanita Brooks. (Western Text Society, No. 4). Logan, Utah: Utah State University Press, 1972.

Bullock, Thomas. *The Journal of Thomas Bullock, February 1844 to June 1849* (2 volumes). Salt Lake City: Peregrine Smith, Inc., 1974-75. $5.95 ea.

Burnside, Wesley M. *Maynard Dixon: Western Artist.* Provo: Brigham Young University Press, 1973. $28.95.

Burrell, Maurice C. *Wide of the Truth, A Critical Assessment of the History, Doctrines and Practices of the Mormon Religion.* Independence, Mo.: Herald House, 1972.

Cadman, William, 1834-1905. *Personal Observations of William Cadman.* Monongahela, Pa.: Church of Jesus Christ, 1970. 51pp. Cadman was president of this church from 1880 to 1905.

Carr, Stephen L. *The Historical Guide to Utah Ghost Towns.* Salt Lake City, Utah: Western Epics, 1972. $4.95.

Cheney, Thomas. *The Golden Legacy, A Folk History of J. Golden Kimball.* Salt Lake City: Peregrine Smith, Inc., 1973. $6.95.

Cheesman, Paul R. *Early America and the Book of Mormon: A Photographic Essay of Ancient America.* Salt Lake City: Deseret Book Co., 1972.

———. *The Keystone of Mormonism: Little Known Facts About the Book of Mormon.* Salt Lake City, Utah: Deseret Book, 1973. $3.95.

Church History Resources on Microfilm. Independence, Missouri: Reorganized Church of Jesus Christ of Latter Day Saints, 1973, $1.00. Order from: Research Library and Archives, The Auditorium, Independence, Missouri 64051.

Clayton, William. *Manchester Mormons: The Journal of William Clayton 1840-1842.* Edited and with an introduction and notes by James B. Allen and Thomas G. Alexander. Salt Lake City: Peregrine Smith, Inc., 1973. $5.95.

Crowther, Duane S. and Jean D. (compilers). *The Joy of Being a Woman.* Bountiful, Utah: Horizon Publishers, 1972. $4.95. Articles by 23 LDS women.

Dalton, Luella Adams, comp. & ed. *History of Iron County Mission—Parowan, Utah.* Parowan, Utah: Jim Robinson, 1973. $5.50 soft cover, $10.50 hard cover. Available from Jim Robinson, P.O. Box 686, Parowan, Utah. Make checks payable to "Old Rock Church."

Edwards, F. Henry. *The History of the Reorganized Church of Jesus Christ of Latter Day Saints, Vol. VII, 1915-1925.* Independence, Missouri: Herald House, 1973. $11.50.

Edwards, Paul M. *The Hilltop Where: An Informal History of Graceland College.* Foreword by William T. Higdon. Lamoni, Ia.: Venture Foundation, 1972. $4.95. Reorganized Church-sponsored college in Lamoni, Ia.

Evans, Richard L., Jr. *Richard L. Evans, The Man and the Message.* Salt Lake City: Bookcraft, 1973. $4.95.

Fairbanks, Eugene F. *A Sculptor's Testimony in Bronze and Stone; The Sacred Sculpture of Avard Fairbanks.* Bellingham, Washington: Fairbanks Books, 1972. $6.50. Publisher's address: 815 Seventeenth, Belligham, Washington 98225.

Fish, Joseph. *The Pioneers of the Southwest and Rocky Mountain Regions.* (In 7 vols.) Vol. 5: *Mormon Migrations and Related Events.* Provo, Utah: Seymour P. Fish, 1972. Volume 5 is the only volume published at this time.

Frederickson, Lars. *History of Weston, Idaho.* (Western Text Society, No. 5). Ed. with intro. by A. J. Simmonds. [Logan, Utah]: Utah State University Press, 1972. 78 pp. Mormon settlement.

Hafen, LeRoy R. and Ann W. *The Joyous Journey of LeRoy and Ann W. Hafen: An Autobiography.* Denver, Colorado: The Old West Publishing Co., 1972. $11.50.

Hand, Wayland D., ed. *American Folk Legend: A Symposium.* Los Angeles, Calif.: University of California Press, 1971. Contains article by Jan Harold Brunvand, "Modern Legends of Mormondom, or Supernaturalism Is Alive and Well In Salt Lake City," pp. 185-202.

Hartshorn, Leon. *Remarkable Stories From the Lives of Latter-day Saint Women.* Salt Lake City: Deseret Book Co., 1973. $4.95.

Hill, Marvin S. and Allen, James B. *Mormonism and American Culture.* New York: Harper & Row Publishers, 1972.

Hillam, Ray C., ed. *J. Reuben Clark, Jr., Diplomat and Statesman.* Provo, Utah: BYU Press, 1973.

Holm, Francis. *The Mormon Churches, A Comparison From Within.* Independence, Missouri: Herald House, 1972. $4.95.

Johnson, Jeffrey O. *Register of the Joseph Smith Collection in the Church Archives.* Salt Lake City: Church Historical Department, 1973. $.50.

Johnson, Grace. *The Story of the Mormon Miracle.* [n.p.] c1973. $2.95. Manti Temple Pageant history.

Larson, Clinton F. *Counterpoint: A Book of Poems.* Provo: BYU Press, 1973. $6.95.

Lum, Dyer D. *The Mormon Question in its Economic Aspects.* New York: Gordon Press, 1973. $12.95.

McCandless, Perry. *A History of Missouri, Volume II 1820 to 1860.* Columbia, Missouri: University of Missouri Press, 1972. $9.50. Missouri Sesquicentennial History.

McKiernan, F. Mark, Blair, Alma R., and Edwards, Paul M., editors. *The Restoration Movement, Essays in Mormon History.* Lawrence, Kansas: Coronado Press, 1973. $10.00. Publisher's address: Box 3232, Lawrence, Kansas 66044.

Miller, David and Della. *Nauvoo: City of Joseph.* Salt Lake City: Peregrine Smith, Inc., 1973. $10.00.

Muren, Joseph C. *The Temple and Its Significance.* Ogden, Utah: Temple Publications, 1973. $2.50.

Palmer, Howard. *Land of Second Chance: A History of Ethnic Groups in Southern Alberta.* Lethbridge Herald, 1972. Chapter 10 deals with the Mormons.

Parry, Keith William John. *"To Raise These People Up": An Examination of a Mormon Mission to an Indian Community as an Agent of Social Change.* Rochester, New York: University of Rochester, 1972.

Pearson, Carol Lynn. *Daughters of Light.* Provo, Utah: Trilogy Arts, 1973. $3.50.

Peterson, Charles S. *Take Up Your Mission: Mormon Colonizing Along the Little Colorado River, 1870-1900.* Tucson, Arizona: University of Arizona Press, 1973. $9.50.

Reorganized Church of Jesus Christ of Latter Day Saints. Committee on Basic Beliefs. *Exploring the Faith.* Independence, Herald House, 1973. $5.95.

Reorganized Church of Jesus Christ of Latter Day Saints. *Book of Doctrine and Covenants.* Rev. and improved ed. Intro. by Presidents W. Wallace Smith, Maurice L. Draper and Duane E. Couey. Independence, Missouri: Herald House, 1970.

Rhodenhamel, Josephine DeWitt and Wood, Raymond F. *Ina Coolbrith: Librarian and Laureate of California.* Provo, Utah: BYU Press, 1973. $11.95.

Rich, Russell R. *Ensign to the Nations.* Provo, Utah: BYU Publications, 1972. $7.95.

Robinson, Richard G. *Castle Country: A History of Carbon County.* Draggerton, Utah: Richard G. Robinson, n.d. $3.50. Author's address: P.O. Box 393, Draggerton, Utah 84520.

Smith, Arthur M. *A Brief History of the Church of Christ (Temple Lot),* 4th edition. Independence, Missouri: Church of Christ (Temple Lot), 1971.

Smith, Joseph Fielding, Jr. and Stewart, John J. *The Life of Joseph Fielding Smith.* Salt Lake City: Deseret Book Company, 1972. $4.95.

Stegner, Wallace. *The Uneasy Chair: A Biography of Bernard DeVoto.* New York: Doubleday, 1974. $12.50.

Stout, Wayne. *A History of Hinckley, Utah, 1853-1973.* Salt Lake City: Wayne Stout, 1973. $6.50.

Talmage, John R. *The Talmage Story: Life of James E. Talmage [1862-1933]—Educator, Scientist, Apostle.* Salt Lake City, Utah: Bookcraft, 1972. $3.95. A son's account of Mormon whose writings continue as a major influence.

Townley, John M. *Conquered Provinces: Nevada Moves Southeast, 1864-1871.* (Charles Redd Monographs in Western History, No. 2) Provo, Utah: BYU Press, 1973.

Wellington, Paul A. *Joseph Smith's "New Translation" of the Bible.* Independence, Missouri: Herald House, 1973. $10.95.

Wilcox, Pearl G. *The Latter Day Saints on the Missouri Frontier.* Independence, Missouri: Herald House, 1972. $7.75.

Yarn, David H., Jr. *Young Reuben: The Early Life of J. Reuben Clark, Jr.* Provo, Utah: BYU, 1973.

ZCMI. The 100th Year; 1868-1968 ZCMI America's First Department Store. Salt Lake City: ZCMI, 1973.

Records

Au, Debbie. *Don't Be Afraid.* Provo: Trilogy Arts. Publisher's address: Box 843, Provo, Utah 84601. Mormon Rock music.

Payne, Marvin. *Ships of Dust.* Provo: Trilogy Arts. Mormon Rock music. 84601. Mormon Rock music.

Pearson, Carol Lynn. *The Poetry of Carol Lynn Pearson Read by the Author.* Provo: Trilogy Arts.

POTPOURRI

Among the manuscripts and original graphics recently acquired at the Marriott Library, University of Utah, are the following, as reported by Sharon Pugsley, Manuscripts Librarian at the Marriott Library.

David Eccles Company Account Books

Account books for the David Eccles Company include ledgers 1915-32; mine journals 1915-17; journals 1923-29, 1933-34; and cash books 1915-27, and 1928-33.

Charles C. Rich and Edward Hunter Families

Standley H. Rich has donated correspondence, newsclippings, photographs, and other papers of the Charles C. Rich and Edward Hunter families. Charles C. Rich was an LDS apostle and founder of San Bernardino, California, and Rich County, Utah-Idaho; Edward Hunter was the first presiding bishop in Salt Lake City.

Arthur Shepherd

A musical composer and conductor, Arthur Shepherd taught in Salt Lake City and conducted what would later become the Utah Symphony Orchestra. After leaving Utah, he eventually became associate conductor of the Cleveland Symphony Orchestra and chairman of the Division of Music of Western Reserve University, Cleveland. Manuscripts of his numerous musical compositions are included in this collection.

Mary Jane Mount Tanner

Mary Jane Mount was born in 1837 in Ohio, where her parents were converted to the Mormon church, and arrived in the Salt Lake valley in 1847. In 1856 she married Myron Tanner, who was for many years a bishop in Provo. Beginning as a retrospective autobiography, her three volume journal continues through 1885. In addition to it, the collection contains notes taken in a Provo obstetrics class in 1892, correspondence 1849-1908, *A Book of Fugitive Poems* by Mary J. Tanner (Salt Lake City: J. C. Graham & Co., 1880), and several books from her library.

PERSONAL VOICES

Letter to a College Student

Eugene England

Your letter caught me by surprise, not because your particular form of unhappiness and your objections to the Church are unique—and not only because I remember you as a person living in quite a different universe than the one of sharp criticism and disillusionment which you now project with such vividness. No, my surprise was due mainly I think to the distance that I have moved in my own spiritual life from constant attention to those kinds of problems. Just a few years ago, as an Institute teacher, a member of the Bishopric of a student ward and a managing editor of *Dialogue*, I was confronted daily with the kinds of concerns you express, and I tended to think of them as central to the Gospel experience—to the struggle to know God and Christ and to love others. Now I am seldom involved with those particular problems—although overwhelmed with a whole set of other problems equally as mysterious and difficult and important. That is one measure of the distance between the Stanford Ward and the Faribault Branch.

You talk about your disillusionment with your mission, how, after committing yourself to "offer people peace and kindness and hope," you found among your companions much "pettiness, narrowness, deceit and childishness, not to mention the obnoxious piety that only those who have the One And Only Way of Truth can possess." Yes, I've seen those things, still do sometimes—in fact find them in myself. And you talk about "bewilderment," your sense of having been betrayed because your idealism and devotion to the Church have led you to give service to it, but that very service has paradoxically revealed to you "dangerous tendencies in our bureaucratic, businessman's organization which are spiritually emasculating—namely, commercialism, exploitation of the gullible, statistics, and the self-righteous refusal to admit blunder and consider change where necessary." Yes, those things are there too. Again, I find them in myself, in my own stumbling attempts to serve the Lord and the Church. And I am sure that you are right in your observation that "maybe it wasn't so hot in the 'good old days' either"—that these problems have been present whenever the Lord's kingdom was organized among human beings.

Your letter brings back voices from the past, memories of precious friends and of other words spoken in anguish and tears:

> Since I've stopped going through the formal motions of meetings and statistics-oriented assignments, prayer and service have become more spontaneous, joyful and personal. And valuable. Am I going to hell? Yet at times I feel alone, like I'm drifting from something which is supposed to be true and good, which may be just another cosmic hoax.

No, I don't think it's a cosmic hoax. And I don't think, as you suggest for a possibility, that the reason for the problems is that people have been taken in, like the congregations of Elmer Gantry and Marjoe but by more clever and smoother operators. No, I find incredible sincerity and great dedication in the Church at all levels. I think that the problems you mention arise not from some group or individual's lack of sincerity or honesty but because of the same kinds of ignorance and sin that beset us all. The special problem in the Church is that our high level of general satisfaction with the Gospel life style and our genuine spiritual experiences and resulting strong commitments tend to make us willing to let sincerity be enough, without requiring of *ourselves* what missionaries are always requiring of other people whose beliefs they are challenging—that one must be (as completely as possible) *right* as well as *sincere*. If we take the whole Gospel seriously it challenges us to be thoughtful, to test, to be sensitive, to be balanced in our use of faith and reason, of experiential evidence and the witness of the Spirit. If more Church members did these things most of the excesses that bother you so much wouldn't happen—but none of us does so very consistently, and that includes you and me.

Your comment about how your life seems

to have changed since you stopped struggling directly with the Gospel in Church activity reminds me of a good friend who made a similar decision some years ago. He is possibly the most morally honest and sensitive person I have known, and after struggling for some years he found that he just could not cope with the various forms of bigotry, self-righteousness, etc., that he encountered weekly in Church meetings. It became an unbearable experience for him—psychologically and spiritually—and he and his wife finally decided there was nothing left but to take their family into inactivity. He continues to live the basic moral principles of the Gospel, but he and his family and the Church have suffered a great loss, I think. Though I can *understand* his decision (and, in fact, approve that kind of "vacation" for a short time for some people when things become unbearable and all attempts to do something about it apparently are unfruitful), I think such a decision as a permanent "solution" is a tragic cop-out. I pray with all my heart that you won't take that route.

I think I know what you and my friend have felt. I've been through some of the pain you describe myself, and I have my own battle ribbons (including a "purple heart" or two) from combat with particular brands of Mormon arrogance and provincialism, the "spiritual imperialism" that you speak of, various forms of fanaticism, racism, militarism, authoritarianism, that I have found in Church circles—and am convinced are deeply contrary to the Gospel and the ideals of the Church. My own missionary experience was no picnic, either. Charlotte and I (who went together as a married couple to Samoa) had experiences on our mission like those you were so appalled by in your own—encountering the invincible ignorance and insensitivity of some young missionaries just off an Idaho farm or Salt Lake's East Beach (I qualified on both counts) trying to relate to an alien culture, the smugness and self-righteousness of people presuming to take the truth to other people, though they were unable to comprehend either the strengths of those people or their own weaknesses.

You were right in your comment about appreciating the good people you found native to the country where you did your missionary work and your thinking that *they* should perhaps send missionaries to Zion. We felt that way ourselves many times. And yet you seem not yet to have learned some crucial lessons that, after a good deal of pain, we at least *began* to learn there: Mainly that *we* were as guilty of bigotry and insensitivity, of lack of love, in our judgment of some other missionaries as they were in their judgment of the native people; and that despite the mistakes, the bumbling, the blindness in many dimensions of the missionaries, most of them were serving the Lord faithfully in taking, however haltingly and inefficiently, His Gospel of faith and repentance and loving service to people who, in spite of their many great qualities, needed it and were made better by it.

At one point in our mission I wrote a letter to Elder Marion D. Hanks, then of the First Council of Seventy, much like the one you sent me. After letting me cool off for awhile, he wrote back probably the most helpful letter I have received from another human being in my life; he taught me to see the danger of riding off by myself on a white horse, to realize that just as one must not only be sincere but also right, so one must not only be right but also *effective*, and it wasn't very effective to go around self-righteously condemning my fellow missionaries or harboring resentments against them when I should be facing up to my own failings and weaknesses, and showing them increased love along with the right example.

I also began to see in Samoa how *important* the Gospel itself is—more important thar. my impatience with the weak vessels the Lord must choose to carry it to the world. Before we left for our mission Charlotte and I had been exposed somewhat to the social action idealism of the University of Utah and there was some vague questioning in our minds about whether really the best way to relate to and serve other societies was to go with a challenge to them to take on a new faith; shouldn't we rather be trying to help them with their medical needs, farming needs, educational needs, in short, to *develop* them since they were an "underdeveloped" country?

We actually did make contact with many varieties of human pain and need in that still rather primitive society in Samoa but found that, despite the reality of their suffering from things like lack of good medicine, lack of good farming techniques, even their suffering from the oppression of colonial British society based in New Zealand, the Samoans suffered most deeply and most damagingly from directly personal and family problems—lack of ability to control anger, insensitivity to certain dimensions of loyalty in their relations with each other, simple ignorance about how to fulfill some of their capacities and yearnings for intelligence and understanding and expression. In short, they *most* needed the Gospel, with its individually liberating idealism, explicit moral and spiritual instruction, and opportunities for practical development. We saw that the cultural relativists that we had studied in college were wrong, that adultery for instance was not harmful to people in our society merely because they had been *taught* it was wrong and therefore felt guilty. It was clearly harmful to people in Samoa for intrinsic reasons; even though some of them had *not* been taught adultery was

wrong, they suffered the natural results of such action—the breakdown of human relations and of crucial family strength, of the sense of individual worth and self-control and of fidelity to another person that lies at the heart of a good marriage. As a result in the graphic words of Jacob in The Book of Mormon, "Many hearts died, pierced with deep wounds." But when such people joined or became active in the Church they found the support the Gospel provides for family unity and trust, for loyalty between husband and wife, through teaching and helping people to live the commandments of God—and they were incredibly happier, more liberated, though still "underdeveloped."

This awareness, that the Gospel is so overwhelmingly valuable that it crowds out the temptation to be overwhelmed by the mistakes people make trying to translate its ideals into specific Church expression and action—and the real intellectual problems and puzzles that such human expression of the Gospel can get us involved in—has come to us most powerfully here in Minnesota, trying to serve as branch president to a group of about one hundred saints scattered over seventy-five miles. We range from hard core, Utah-born, inactive to new, bright-eyed, convert student. All of us are guilty at various times of most of the forms of bigotry and hyprocrisy and of the various dangerous tendencies in bureaucracy and self-righteousness that have repulsed you, but at the same time there is closeness, communication, self-development and moving, penetrating spiritual experience available to us through our association and service in the Church—and I mean feelings and experiences crucial to our joy and progression that we just wouldn't have *without* the Church.

We see families united when one or both parents join the Church and take seriously the covenants of baptism. We see a young man, long devastated by drug experience and divorce and plagued by continual despair, respond to the challenge to gradual return to activity in the Church and use of his priesthood and thus begin to grow spiritually and in self-confidence and become a new person.

At our Easter service last month our visitors included a large family of Spanish Americans from Texas whom the missionaries had contacted. The family had with them a grandmother visiting from Mexico who spoke no English. It happened that our main speaker, Frank Odd, was a recent addition to our Branch who teaches Spanish at St. Olaf College. After a moving personal witness of the meaning of Christ and the new life he brought us, Brother Odd asked us to excuse him while he spoke to a person there who had not been able to understand any of the service to that point. Then he gave the grandmother a special message in Spanish and bore his testimony to her. And though *we* did not understand much of what was being said then, we felt deeply a spirit of love and conviction witnessed by the Holy Ghost. Tears are shed often at our meetings, not "potato love" tears of gullible self-congratulation, but tears of joy and recognition of goodness and truth—such as those we shed recently while a man who had been inactive forty years passed the sacrament to us as a new deacon, beginning to prepare to baptize his wife and children. Or when a young man spoke last week with marvelous, miraculous effectiveness about his conversion to the Gospel and the value of the Church to him while standing before us as a living witness to what he was saying, because we were aware that through his involvement and service in the Church he has grown in just a few years from a totally withdrawn and inarticulate, even vocally and socially crippled person, to the dynamic young husband and father we saw before us.

Well, perhaps the awareness you expressed —that your own perspective may be faulty— is your saving grace. I believe that is the key for you, as it has been for me, and hope that I can help you see that *feelingly*, as some others have helped me. I continue to believe that the *burden* of change is on the persons, like yourself and me, who see the problems, who are pained by the failings of the Church. Since we are the only ones who *see* what we think is "wrong," we are the ones who must do something constructive about it, because the people who are committing the errors can't see them. What we can do about these problems is not leave, desert, turn the Church over to those who may be perverting it, nor is it to remain within but to withdraw spiritually through our own self-righteousness; we must reach out in love, trying to help—and also trying to learn, through our cooperation and common service, from the perspective and commitments of other people, learn to see our own faults—lack of courage, perhaps, lack of whole-souled commitment, failings which may be in the long run, more destructive than the ones we are condemning.

I love the Church with all my heart and mind, but it's a love that has to be developed, renewed—one which I know can lapse, can ebb and flow. I hope you'll give the Church a chance—again and again. It needs you—and you need it, because it is *the* means that the Lord has given us to struggle with the great moral and spiritual imperatives from God for attaining the possible Godhood within us. I think the Church is by far the best place to do that and the only place we really can, partly because of the very challenges that human association in the Church context provides and which have been so upsetting to you.

"THAT THEIR DAYS MAY BE LONG. . . ."

Elsie Dee

My father and mother greeted me as the first of five daughters, eleven months and sixteen days after they were married. During the fifty-five years of their being together, I have been home with them, daily or weekly, except for twenty-two months when proselyting for the Church, six months concluding graduate work out of the state, and a few short vacations. I have now stopped asking myself, "Why didn't challenging professional opportunities appear further than fifty miles from the home front?" "Why didn't marriage and a family come to me?" "Why has it been my lot to remain at home?" "Whose responsibility is it to care for elderly parents?" But I can't help asking another question over and over: "Does it have to be so hard?"

For the first ten years of their marriage, my parents moved back and forth from southern Nevada to central Utah trying to settle. Father had been reared in Nevada with seven brothers, all trained to be productive in cattle raising and agriculture. But as one daughter after another arrived, Father looked at her daintiness and finally decided to return north to Mother's country. "We can give them better schooling," he said.

Our parents gave us a memorable childhood. Our winters were spent in town, attending school, playing with friends, and going to all Church functions. Summers were spent in the canyon where Father was a flume patrolman for the utility company. Here all of the cobwebs we had accumulated during the school year were gently blown away. We hid among the trees, played paperdolls, swam in the river, and read. To develop our character, we picked strawberries, during the season, down in the valley. We were paid ten cents a crate, which not only developed character but a stiff back for a bonus. We never had money to go on a trip. In today's terminology I suppose we were economically deprived, but those were glorious and peaceful years. Mother's discipline was easy going, but we minded Father as law. Both were kind and earnest, desiring to see all of us mature socially, economically, and educationally. Throughout our growing years Mother stressed Church attendance, paying tithing, saying our prayers, and doing what the Church authorities said. Father emphasized being honest, helping everyone, working hard when doing all tasks, and giving more for a day's work than we were paid. During the subsequent years these principles have been our anchorage.

Starting about 1927, each time Mother became restless or bored she purchased real estate. We had, on the average, a new mortgage every four and one-half years. A few of the houses were sold (as a last resort), one was lost during the depression of the Thirties, but the rest have been rented, usually to students who stayed, at best, one school year. We moved at least every six months, in those early years, into whichever unit was unoccupied at the time. Finally in 1938 Mother bought a large lovely family dwelling where we are yet living and where Mother wants to spend her last years. During these productive years Father turned most of his wages over to Mother. He also repaired, painted, and remodeled the rentals and worked full time for the power company. He kept reminding us that it was a good thing he was in the family. All of us agreed with him; he could fix anything.

Indeed, Mother's rental units were a project that involved the whole family. Mother always said, "If you can carry a scrub bucket to our houses, you can make money." Until they married, my younger sisters and I carried the scrubbing gear to empty real estate purchases while Mama collected the money. She used the money to help us advance, spending very little on herself. However, as my sisters left home the cleaning-up task became almost entirely mine.

Until her eightieth birthday Mother was full of subtle humor, taking her renting troubles lightly and meeting the financial needs of her daughters with calmness while they were growing toward maturity. Several years ago, a girl who commuted with me to work said one day, "My mother is now seventy-five. You can expect changes to come to your parents anytime after seventy." Mother gradually began disliking little things the renters did. She would ask them to leave, have me clean up the apartment, then rent a single unit to three different couples. When things went wrong she scolded and blamed me. She began increasingly to compare me to my younger sister, now living four miles away, who has always been Mother's favorite because she is our peacemaker, can calm stormy weather. "Why aren't you more like her?" Mother would ask. Though I was trying harder to agree with her, I was steadily pleasing her less.

Father has always been a great talker, bringing home a multitude of stories about the progress, regressions, business accomplishments, and humor of individuals and families.

Slowly the stories became less lively, duller, and seemingly endless. His attitude toward politics became contentious; he complained constantly that no government leader was good for much, that no one was being raised up to save our economy. By the time I got home from work in the evenings, Mother would be distracted with his rumblings. At eighty these two persons were not the parents who had reared me, but the behavioral changes were so subtle that a net was woven around me by this time, and how could I get out?

I found that I had to adjust my personal schedule to accommodate new duties at home, and the net drew tighter. But there were times when the net became almost tolerable. One rare Sunday I was relieved from my responsibility with the children's program for ages four through seven and allowed to go hear a general authority speak at quarterly conference. To hear adult talk on Sunday morning was a treat, especially since the brother from headquarters seemed to speak especially to me. He gave a beautiful address on the necessity of families taking care of their parents. I listened for guidance. He said his own family members had realized that they should care for their mother. As they agreed that she would reside in his home, their decision had brought them all closer together in love. He told us that blessings were in store for all persons who honored their parents and took care of them.

My feet were scarcely touching the floor as I left the tabernacle at the end of the session. I resolved that I would remain at home, try harder to honor my parents, and do more soul searching to correct my attitude about my circumstances. Three months later, I learned that this same general authority had placed his mother in a rest home.

My responsibility to my parents seems to grow more difficult year by year. In recent years the apartments have required more repair, the cost of labor has risen, and taxes have increased. We now make less than $300 above expenses from the rentals, and a $400 house payment has to be made monthly, "before we can eat." Mother has had a severely sprained ankle and a cataract operation. She enjoyed being in the hospital and was upset when the doctor released her to go home. She had paid money to remain longer because she wanted a "good long rest." At home, naturally, she wanted the same personal care the nurses had given her around the clock. She needed constant encouragement and few gestures we could make to relieve her hardship soothed her.

Father has been brought through two heart attacks while refusing medical aid. He said he had to cough it out himself. Two months ago, while he was walking to town to say hello to bankers, barbers, and shoe repairmen, Father's right leg gave way. We nursed him, but after seven weeks he was no better. He finally consented to see a doctor, and a brother-in-law secured the help of a physician who would make a home call in the evening. Next morning Father was in the hospital, and a week later his leg was amputated. Our oldster will be eighty-three in two months; quite a birthday present for a man who has found solutions to all his problems by using his limbs, talking a lot, and swearing a little.

It will soon be time to remove Father from the hospital. He has been saying repeatedly, "Hell, this is no place to get well. When I go to Sister's I'll improve." But how can my sister take him? She has a husband convalescing from a stroke, limited facilities in her home, and children who should not see so much suffering. We have a pleasant small apartment on the ground floor which would suit his needs well. A woman has agreed to be with him, and he would be on our home block, so family, relatives, and friends could visit and cheer him. But he wants to go to my sister's and she, the peacemaker, says, "We haven't tried having him at my home yet. If he wants to come, he should. Things will work out."

Over the past ten years our peacemaker and I have seen many changes as we have tried to take care of our parents. One of the greatest changes has been in my attitude. For thirty years my sisters have come home with problems, secrets, productive husbands, beautiful children, and adorable babies. They have planned to arrive when I would be home where they would find tasty food and adequate lodging. Never in this long time have I heard one of them open the door and ask, "What can I do to help?" Instead, when they arrived, Father would greet them and say, "Let me take the baby." Mother would say, "We have a good dinner. Wash your hands, we'll eat and you can relax." While young parents were being trained to "collapse," I was being trained to do the adjusting. Over the years resentment built up in me; I grew more and more bitter with the sense that life had cheated me.

Mother likes to close the Sabbath by listening to Elder Sill's radio address. One spring evening while I was listening with her, he gave an example of a man bitten by a rattlesnake, who had retaliated by chasing the rattlesnake. I found this story analogous to my relationship with my family. Throughout my adult life, filled with the constant tedium of family obligation, I began to feel the poison of resentment permeating everything I did. Like the enraged man in the story who sent the rattler's poison racing through his veins, I was governed by a quiet vengeance that distorted a clear vision of my circumstances.

After the broadcast that Sunday evening, however, the numbing ache of having run for years with venom in my heart found cure. The revelation that this simple story brought me

has restored my vision. While putting mother to bed that night, a task that had become so laborious, I was filled with calm. Could this epiphany—certainly a miracle in my life—have been what the Master meant when he spoke of a mighty change of heart?

Surely so. Nevertheless change is a thing with precipices all around it. And though I have begun to look differently at my circumstances, at my parents, my sisters, and others around me—I am finding that weakness becomes strength slowly and against difficulty.

One of the precipices for me is the silence in the gospel regarding unmarried women. And attitudes of Church members are not encouraging.

In the autumn following the broadcast of Brother Sill's simple story and my improved vision, I returned home alone from a meeting one evening, where the audience had been encircled with peace, and an amusing thought popped into my mind: These experiences had come to me because I was specializing to become a ministering angel. Perhaps if my work were well done upon the earth, as my parents taught, provision would be made for me to choose the persons I will attend. Who will they be? My father, mother, sisters and their families; an aunt, her husband and their nine daughters; a missionary companion who found her husband "in due time" at the age of forty-five; and an elder in our mission who has grown with his family into a high Church position. What hope does the Church hold for me —for this world or hereafter? Everything is for the married woman: a share of her husband s priesthood. The Church should have a more prominent place for the "Mormon Nun," a term borrowed from a cousin, but a good one. There is a too-common attitude that the single woman is inferior. She feels apologetic and a little guilty, when actually she is often superior intellectually, in accomplishments, in compassion, in generosity, in plain goodness. Surely there is justice somewhere.

This Saturday it will be time to scour the veranda. The concrete floor and railing around the sides of the porch will be washed several times by hand. It takes six long hours to wash away the yearly accumulation of dirt, and help is hard to find. Young girls want to spend their time talking about their boy friends; older women prefer to work in new pretty homes. Our covered porch is a gathering place for family, relatives, friends, and renters who have known us over the years and who come home to see the parade on the Fourth of July. Our town has four days celebrating our national birthday, with many and varied activities planned for every age group.We extend invitations to many persons to join us for the noonday meal which we eat "right after the parade." Again this year I shall be in the kitchen preparing a huge dinner. The peacemaker will prepare the stuffed turkey. I will cook ham, a beef roast, and dozens of hot rolls. We will have vegetables, salads, relishes, soft drinks, and watermelon for dessert. Sisters will help as they can, while greeting friends and putting "Mormon bandages" on minor hurts of their children. Mother will ask if I have made enough rolls and father will be in a chair, with a lap robe, holding a great-grandchild. He will draw young and old around him as he begins talking. "Now when I was about fourteen and rode the range, I had a beautiful sorrel mare who was named Nell. . . ."

For the past fifteen years a group of elderly women has gone to the market with me each Saturday afternoon. One of the ladies is my aunt. Recently she said, when I picked her up first, "Your parents are more healthy than mother was at their age." After hearing the compliment I thought, "Shoulders are made to handle their burden. The yoke is almost filling a need for me. What can I say to this regal person?" My words came quickly, "You are very alert yourself, Aunt Elsie. Grow old slowly, I will need someone to care for when father and mother are gone."

VICKY

Anonymous

"We were in prison and ye came unto us."

On our way to the Utah State Prison that first Monday night there were some final questions the family needed answering. No, we wouldn't have a regular family night presentation this time; we'd begin that the following month after we were better acquainted. Yes, there really would be plenty to talk about for an hour and a half. We could each tell her something about our special interests. And there was a lot to learn about her. All we knew so far was her name and that she was young, Black, and not a member of the Church. No, we weren't going there to convert her—just help her. . . . We might help by just being her friend, so she wouldn't get discouraged and . . . yes, that's right: we would definitely help her when she started a new life after she was released. But of course we could only do

that if we were the type of people that appealed to her. Maybe if she sensed that we got along well as a family and had fun together . . . true . . . "and lived the teachings," . . . right . . . "and liked her a lot," she just might want to be our friend.

They were satisfied for the moment. But a quiet excitement mounted as we glided along the freeway past Pleasant Grove and American Fork towards the Point of the Mountain.

I recalled the morning almost three months earlier when the bishop indicated he had something "special" he wanted to talk with us about after Sunday School. When we met, I learned the stake needed two families to participate in an unusual Church Social Services program. If we accepted, we would be assigned to an inmate at the state prison and would hold monthly home evenings with him or her. There would be an orientation of course, but aside from the family night service we would simply offer our friendship to someone. An hour later when the bishop reached us at home, I reported how eagerly every member of the family had accepted.

A three or four hour orientation at the prison a few weeks later greatly altered our perspective, but not our enthusiasm. Bishop Heber J. Geurts and the prison chaplain detailed the scope, restrictions, frustrations and rewards of our involvement. A written statement by the LDS Social Services Program indicated the program was prepared to help rehabilitate Mormon inmates "and those non-LDS inmates who seek us out. We do not proselyte in prisons." We were informed, too, that inmate leadership in religious services was encouraged: "All inmates regardless of race or religion are afforded equal opportunities and responsibilities in the Church program, as a means of rehabilitation. This differs from missionary effort among inmates which is not to be done."

Happily we noted there were no gimmicks, no formulas or special techniques to be assimilated and implemented. We were simply to abide by institutional rules: "Nothing in—Nothing out/No gifts, no money, no messages, no thing!"

But the assignment was awesome indeed. In addition to visiting the prisoner and holding a family home evening with her once a month, we would work with her family in community, social and religious areas. If her family were not available, we would become her family away from home. We were expected to be both exemplary and reliable. Since release from prison normally results in adjustments even greater than those faced inside, there would probably be a continuing involvement over a long period of time. It became clear that this was a commitment which could alter our life as well as the prisoner's.

In addition to instruction on the local prison system and prison regulations, we were impressed with the impact of the program and the assignment of families to inmates.

And now we were approaching the prison tower. After being cleared, we were directed to the women prisoners' "dormitory." How we hoped this first visit wouldn't be too awkward. We were quickly admitted, and there she stood, smiling. Somehow we recognized each other without any introduction, and she embraced us. She told us how impatiently she had awaited our visit and how much our coming meant to her. Following opening exercises held conjointly with six or eight other families and their "adopted" inmates, we separated into small rooms for home evening discussions. Our years in Africa made her immediately special to us. But we were hardly prepared for her remarkable buoyancy and optimism. After we told her a little about ourselves; she eagerly explained how fortunate she was. Among other things, she had learned to crochet in prison, and had designed and crocheted the outfit she was wearing—for this very occasion, her initial meeting with her "Church family." She also explained that she was completing her schooling, doing lots of reading, and now looking forward to visits from us.

The hour and a half raced by, and too soon we were on our way home. All of us were talking at once. Aside from complaints about having to wait a whole month to return, everything was superlative: Wasn't she cute and fun! Wasn't it remarkable how much she was gaining from her prison experience? How was it possible for us to love her so much after only one visit? We were unanimous in feeling that somehow we had gained far more from her than she could possibly have gained from us. The Lord had clearly sent Victoria to us, and not us to Victoria.

Though immediately impressed with our charming inmate, I was early on guard and somewhat introspective. Could it be she wanted to use us, ask us for money or request special favors, like others we had heard about? And why were we so excited with the assignment? Was visiting a prison simply an exotic and daring experience? Was there a pious condescension in helping someone incarcerated? And did these visits to a Black girl constitute primarily a romanticized flight back to our beloved Africa?

But she made no requests—except that she longed to see us more, and the introspective doubts vanished. "Victoria" became "Vicki." We became "Mom" and "Dad," and she became part of the family. The once-or-twice-a-month visits multiplied to three or four, and before long it was rare if we didn't see her weekly. She participated quite naturally in our family home evenings, and afterwards

teased and joked with the children. One family night she announced with pride she had begun reading the Bible. Back home we prayed ". . . bless Larry [our son] on his mission, and Vicki that she'll be happy and be with us soon; and bless grandma and grandpa. . . ."

The children spoke proudly of their new Sis, Vicky, but were icy in their reply to "What's she in there for?" Such a question was regarded as both irrelevant and impertinent: "We haven't really discussed the matter. Anyway, she's a much better person than almost anyone we know on the outside."

Earlier this year when the *National Observer* featured a lengthy article titled "These Contenders All Win," the entire family gathered excitedly to hear how successful the home evening program was:

> . . . the idea is spreading to prisons outside Utah and now is being adopted in the Federal prison system.
>
> Smith, of Norwalk, Conn., is one of 60 Utah State Prison inmates in a family-centered "adopt-a-prisoner" program that is attracting the attention of sociologists and penologists nationally. Its participants' lack of recidivism so far makes the program look impressive: Of 140 released inmates who have been "adopted" by volunteer families in the past five years, only 2 have been convicted of subsequent crimes and returned to prison. That recidivism rate of less than 2 per cent is far below the 55 per cent for the whole prison and the rate of nearly 80 per cent nationally. . . . (June 9, 1973, p. 1).

Easter Church services at the prison were memorable: the talk on the hope for new life in the spring, the hymn by the inmates, and Vicky's powerful uninhibited poetic rendition of the Creation.

Vicki's Mother's Day letter became one of our real treasures. Its very personal nature admits of only brief quotation:

> Some people think that a mother is just anyone who has children, but it goes a lot deeper than that. You are all the things that a mother should be. You're kind, loving, understanding, and most of all you care. There haven't been very many people that have cared about me. . . .

One of our proudest moments was attending Vicky's graduation at prison. She delivered a beautiful, memorized address that she had composed herself. I recall an observation early in her talk: "I was told there would be stereophonic sound to amplify my weak voice; would that there were electronic equipment that could amplify my feeble thoughts." Despite this protestation she stirred her audience with her insight, her positive point of view and her eloquence. She urged fellow inmates to seize their "time" and use it profitably in lifting themselves from their present state. The address made her an immediate celebrity with the media, officials, and inmates: but she managed to extricate herself to be photographed with her Church family. That night she penned an almost lyrical letter to us:

> I was almost speechless because you were so proud of me. That made me feel so good inside! I couldn't help but be happy! I wanted you to be proud of me, and when I saw you were I was so overwhelmed with joy! that I couldn't concentrate.
>
> I came to my room and said a prayer thanking our Heavenly Father for such wonderful loving parents, and such a beautiful night in my life.
>
> On graduation night Dad said something that I shall forever treasure. He said, "We're so proud of you!" Those words made my night perfect. Very few people have ever told me that. It made me want to cry. I will always be the very best person that I can be. I will never go backwards but always forward, for myself, for my children and for you. . . .

Still another highlight was our appearing with Vicki before the Parole Board. We strived for as much objectivity as our love would permit, so that it wouldn't appear we were simply being manipulated by our inmate. During the long wait we discussed many things, including our awareness that she must be undergoing some rejection and scorn as a result of her attachment to her white "Church family." The following lines were written to reasure us:

To: My Family With All My Love
THIS LOVE

I must place a kiss upon your cheek,
I must whisper I Love You in your ear.
I do not care where we are:
I do not care who is near.
For my Love knows no certain moment:
It is here all the time.
It's very strong,
It's very sincere.
I do not care who knows.
For it is the Love we have
That has changed my life
From a half of a life to a whole.
It is this Love
That makes me want to kiss your cheek,
To whisper in your ear,
Makes me smile when you're near
My love is yours: Your love is mine;
It is a precious gift
I never dreamed I'd find.
Those who look upon us with distaste,
Let them go their separate ways.
For what we have is beautiful,

And clean, and sweet.
It's very dear to me.
I'm sure they would but understand:
If they could but see:
The love my heart feels for thee.
Vicky
May God Always Bless You

For Vicky, difficulties and disappointments in prison have been as numerous as her achievements. She has been sustained not only by her Church family but also by relatives, some understanding matrons and inmates, case workers and her own remarkable inner strength and faith in the Lord.

NOTES ON CONTRIBUTORS

Since the last issue, the following changes have occurred in the *Dialogue* staff:

Davis Bitton has relinquished his position as Book Review Editor, a position which he filled with distinction for over three years. He will stay on as a member of the Board of Editors.

Edward Geary, who has served on the *Dialogue* staff variously as Copy Editor, Manuscript Editor, Book Review Editor and most recently Associate Editor, replaces Davis Bitton as Book Review Editor.

Maureen Derrick Keeler joins the staff as Associate Editor. A graduate of the University of Utah, Maureen has taught English at BYU and the University of Washington and served for four years on the staff of former Congressman David S. King. Currently, Maureen is doing research and writing on single people in the Church, taking care of her two daughters and, with her husband, Robert, trying to enjoy living in Los Angeles.

Gary P. Gillum joins the staff as Assistant Editor. A reference librarian at BYU, Gary is responsible for the index in this volume and is working on a cumulative index of *Dialogue*. Gary's autobiographical sketch appears in *No More Strangers*, Vol. 2, edited by Hartman Rector, Jr.

JAMES B. ALLEN is Assistant Church Historian and Professor of History at BYU. He was co-editor of the special issue of *Dialogue* on Mormonism in the Twentieth Century and is currently working on a history of the modern and contemporary Mormon Church.

KENNETH E. BOULDING is a distinguished economist at the Institute of Behavioral Science of the University of Colorado at Boulder. He is recognized as an authority on the economic and social implications of population growth and has published extensively in those areas.

JOHN CAUGHEY, past president of the Organization of American Historians and the Western History Association, was long-time editor of the *Pacific Review*. He is the author of *California*, the standard history of the state, and many other books and articles.

JULIE G. CHRISTENSEN teaches French in Salt Lake City schools and has written reviews for *Utah Holiday*.

ROBERT CHRISTMAS is an itinerant song writer and salesman living in Los Angeles. His poems have appeared in a number of issues of *Dialogue* as well as in other publications.

IRIS PARKER CORRY lives in Cedar City, Utah, where she is active as a member of the Utah Poetry Society. Her poems won honorable mention in *Dialogue's* 1972 prize competition.

ELSIE DEE (ELSIE ADAMS FLORENCE) has spent most of her professional life in public education in Utah, where she has been a teacher, a librarian and an instructional media specialist. She has published a biography of John Edge Booth (1962) and is currently finishing a biography of Henry Samuel Florence.

WILLIAM E. DIBBLE is a professor of physics at BYU with a special research interest in small-angle x-ray scattering. He is co-editor of a textbook, *Physics: Fundamentals and Frontiers.*

RICHARD M. DORSON, author of *American Folklore* and *Buying the Wind: Regional Folklore in the United States,* is director of the Folklore Institute at Indiana University.

JAMES L. FARMER is Assistant Professor of Zoology at BYU. He received his Ph.D. in biology from Brown University and was on the faculty of the Department of Biophysics of the University of Colorado Medical Center for three years. His research interests have changed from bacterial genetics to the developmental genetics of fruit flies and blue-green algae.

BOB GILLESPIE is majoring in illustration at Fullerton Junior College and also studying at the Art Center College of Design.

WILLIAM GILMORE, Assistant Professor of History and Psychology at Stockton State College in Pomona, New Jersey, is co-editor of the *Group for the Use of Psychology in History Newsletter.*

RICHARD F. HAGLUND, JR. is a Danforth graduate fellow in the Department of Physics and Astronomy of the University of North Carolina. His specialty is low-energy nuclear physics. His personal interests include carpentry, Civil War history and impressionistic music.

JOE HEINER, a recent student of photography at the Art Center in Los Angeles, is currently freelancing.

ROGER HUYSSEN has studied at the Art Center College of Design and is currently doing freelance work in Los Angeles. His work appeared in the Summer 1973 issue of *Dialogue.*

DUANE E. JEFFERY is a geneticist with deep interests in LDS history and doctrine. Following doctorate work at the University of California at Berkeley, he accepted appointment as Assistant Professor of Zoology at BYU, where he teaches courses in genetics, human biology and evolution. His research centers on developmental genetics of fruit flies and evolution of *Drosophila* species.

EDWARD L. KIMBALL, Professor of Law at the J. Reuben Clark Law School of BYU and formerly at the University of Wisconsin Law School, has particular teaching interests in Criminal Justice Administration and has co-authored a book by that title. He is currently working on a biography of his father, Spencer W. Kimball, a volume of whose sermons he has edited.

ARTHUR H. KING is a professor of Literature and English as a Second Language at BYU where he also serves as Associate Director of the Honors Program. His poetry has appeared recently in *The Ensign, The New Era* and *BYU Studies* as well as in *Dialogue.*

JOHN LEE, a graduate of the San Francisco College of Arts and Crafts, is currently attending the Art Center College of Design in Los Angeles and doing freelance work.

BRENT MILLER is currently pursuing graduate studies in Family Sociology at the University of Minnesota.

CLYDE PARKER is the newly appointed chairman of the Foundations of Education Department at the University of Minnesota. Former chairman of the Counseling Center at BYU, he has also served as chairman of Counseling and Student Personnel Psychology at the University of Minnesota.

BARNETT SEYMOUR SALZMAN is Clinical Director and Psychiatrist at the Utah Valley Mental Health Clinic in Provo. Formerly he was Chief Resident Psychiatrist at Cedar Sinai Hospital in Los Angeles and a Clinical Associate with the Southern California Psychoanalytic Institute.

MICHAEL SCHWAB has studied at the School of Visual Arts in New York City and is currently studying at the Art Center College of Design in Los Angeles.

BOB SIMMONS is a freelance artist in Los Angeles. He has studied at the Art Center College of Design.

WILLIAM LEE STOKES is Professor of Geology and former chairman of the Department of Geology at the University of Utah. He received his Ph.D. in Geology from Princeton University and has subsequently authored over one hundred and thirty professional papers, three books and has co-authored two other books. His research interests include development of the Colorado plateau and Colorado River, the evolution of dinosaurs, ice age climates, as well as a long-standing interest in science and religion. He was recently honored by having a new genus of dinosaur named after him—*Stokesosaurus clevelandi.*

DOUGLAS H. THAYER teaches fiction writing and the short story at BYU. His stories have twice won first place in the annual *Dialogue* prize competition. For the past several years he has been working on a collection of Mormon stories set in Provo, Utah.

DAVID TOLMAN went to Princeton University as a graduate student in chemical physics and there changed his major to history, specializing in history of science and European intellectual history. He is currently finishing a dissertation on the development of quantum mechanics in chemistry.

BENJAMIN URRUTIA has published articles in *Dialogue, American Anthropologist, Man* and other journals.

DAVID WILLARDSON is a graduate of BYU and the Los Angeles Art Center of Design. He has won a number of top national awards for illustration and his work has appeared in a number of magazines, including *Esquire, Redbook, Seventeen, Playboy,* and *Sesame Street Magazine.*

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DIALOGUE ANNOUNCES
FORTHCOMING SPECIAL ISSUES ON:

MUSIC IN THE CHURCH
Edited by Rowan Taylor and Walter Whipple
(Scheduled for publication in the Fall, 1974)

HUMAN SEXUALITY IN MORMON CULTURE
Edited by Harold Christensen and
Marvin Rytting
(Scheduled for publication in the Spring, 1975)

MORMONS AND NATIVE AMERICANS
Edited by Ugama (LeRoi Smith)
(Scheduled for publication in the Fall, 1975)

DIALOGUE invites articles, essays, poetry, fiction, music, art and photography for each of these special issues. Inquiries, manuscripts and copy should be sent to the Editor, *Dialogue*, 900 Hilgard Avenue, Los Angeles, California 90024.

COMING NEXT IN *DIALOGUE*

An in depth interview with Juanita Brooks
conducted by Davis Bitton and Maureen Ursenbach

"Phrenology Among the Mormons"
by Davis Bitton and Gary Bunker

"Sacrament of Terror: The Significance of
Violence in the Poetry of Clinton Larson"
by Thomas D. Schwartz

Interview with Lucille Bankhead
(The great-granddaughter of Green Flake,
Utah's first Negro slave)
conducted by Dennis L. Lythgoe

Plus letters, poetry, fiction, sermons, book reviews, bibliography, personal voices, art and photography.

and God said:

$$\text{“}\frac{mv^2}{r} = \frac{Ze^2}{r^2}$$

$$mvr = \frac{nh}{2\pi}$$

$$r = \frac{r^2h^2}{12\pi mze^2}$$

$$E = \tfrac{1}{2}mv\frac{Ze}{r}$$

$$E = \frac{2\pi^2h^2}{nh} = Ry\text{”}$$

and there was:

Light