ACCURATE PREDICTIONS CAN BE MADE ON THE BASIS OF BIBLICAL CREATION CONCEPTS

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Creationists have predicted, on the basis of Biblical information, that no living things would be found on Mars. Another prediction is that the world would be seen to be still drying out after the Flood. It is pointed out that both of those predictions have been fulfilled.

The concept that the universe of stars, the solar system, and the earth gradually evolved, versus the belief that they were created by a personal God with a definite purpose or design in mind, lead to fundamentally different concepts as to their makeup and possibilities of being the habitation of life forms. Thus most evolutionists, such as Carl Sagan, are firmly convinced that life exists on the planets of certain stars, even though such planetary systems have not actually been demonstrated. In fact, until recently Sagan was convinced that some of the planets of our solar system such as Mars would be inhabited by at least lowly forms of life.[1] On the other hand, as pointed out by Henry Morris,[2] in 1974 the creation model leads to a number of predictions, one of which is that "no evidence of past or present life would be found anywhere in the solar system (or universe) except on earth.

Now one of the tests of a correct theory is that accurate predictions can be made from it. Thus on the basis of the concept that God created the earth, or designed it for habitation of various forms of life, especially man, a prediction could be made that the stars and planets were created for other purposes.

Also, on the postulate that the earth was destroyed by a world-wide flood, one could predict that as time went on and the earth gradually dried out certain parts of the earth would become much drier than others, so that the area and extent of deserts would greatly increase. Also, as a corollary of this, one could predict that areas adjacent to these deserts would become increasingly arid as the rainfall gradually continued to decrease; and that this pattern will continue to get worse.

What then are the facts as regards these predictions as judged by recent space explorations and a study of rainfall patterns in the Pacific Northwest?

Predictions About Mars

In the introduction to "Scientific Studies in Special Creation[3] I stated in 1971 that, "though some astronomers still have slight hope that some lowly form of life such lichens or mosses may be found on Mars, it is my prediction that none will be found." I based this prediction on two statements in the Bible. One is Isaiah 45:18: "For thus saith the Lord that created the heavens; God himself that formed the earth and made it; he hath established it, he created it not in vain, he formed it to be inhabited. I am the Lord; and there is none else." Also earlier in Isaiah 45:12 we read: "I have made the earth and created man upon it. I even my hands have stretched out the heavens and all their host have I commanded." No mention is made here that any of the heavenly hosts were designed for the habitation of life in the form of various creatures. Rather in Genesis 1 the sun, moon, and stars are clearly stated as being designed to give light upon the earth and to be for signs and for seasons, for days and for years. Henry Morris in his book *Many Infallible Proofs* reaches the same conclusion.[4]

The Viking Explorations

Let us then examine what the two Viking spacecraft found according to Norman H. Horowitz in his article "The Search for Life on Mars".[5]

Horowitz starts out by observing that of all the extraterrestrial bodies in the solar system Mars is the only one at all similar to the earth. Accordingly it is by far the most plausible candidate for life in the solar system.

The two Viking spacecraft were launched from Cape Canaveral in the summer of 1975. They arrived at Mars in July and August of 1976. On command from the earth each lander separated from its orbiter. Retro-engines and parachutes were used to effect a safe landing in the northern hemisphere of Mars when the season was summer. On July 20, 1976, Viking 1 lander came to rest in the Chryse Planitia region and six weeks later Viking 2 lander settled in the Utopia Planitia region. In longitude these regions are separated by almost 180 degrees. Chryse is 23 degrees north and Utopia 48 degrees north of the equator.

First the Martian air was analyzed by means of two mass spectrometers, one operating during descent and the other on the ground. 95% was carbon dioxide, 2.5% nitrogen, and 1.5% was argon, with traces of oxygen,

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ELECTION RESULTS

217 ballots were cast in the annual election, held earlier this year. The following persons were elected to the Board of Directors for a term of three years, 1978-1980.

Clifford L. Burdick
Wayne Frair
George F. Howe
John R. Meyer
John N. Moore
George Mulfinger, Jr.

All of these were incumbent member of the Board.

The proposed amendment to the Constition, the addition of Section 3, dealing with Student Chapters, to Article III, was approved almost unanimously.'

Only ballots postmarked not later than 1 March 1978 were counted, as had been announced.

carbon monoxide, neon, krypton and xenon. The atmospheric pressure was 7.5 millibars compared to our earth's 1013. So the elements necessary for life are available with the exception of the critically important compound, water vapor, and of course adequate percentages of oxygen. Even in the north polar cap, the water vapor would form only a film 1/10 of a millimeter thick! So Mars is a very dry place. Though Mars does have ice at its poles, oceans and lakes are not found anywhere on its surface. This extreme dryness presents a difficult problem for Martian biology, since liquid water is essential for life as we know it. Channels do exist in the Martian desert that resemble dry river beds made by a liquid of some sort, most probably water. So if water once existed could life have evolved there so as to meet the changing conditions and so still exist in the present extremely dry desert?

Five different types of instruments were involved in the search for life. Many scientists, engineers, and managers pooled their efforts to make these investigations possible. Most important in the search were the two cameras which scanned the scene and made pictures in black and white, color, and stereo. Between them the two cameras could survey the entire horizon around the space craft. Positive results would prove unequivocally the existence of life. Thus if a tree, shrub, animal or footprints appeared, there would be no reason for doubting the existence of life. Wonderfully clear photographs were taken and eagerly scanned by alert and hopeful eyes, but no investigator has yet seen anything suggesting a living form. See the front cover.

Next the soil was analyzed for organic content. On earth of course carbon is unique for the number, variety, and complexity of compounds it forms. The attributes by which we identify living things, their capacity to replicate, repair themselves and be adapted to changes in the environment depend on the properties of large organic molecules, unique in the chemistry of the elements. It is the highly complex information rich proteins and nucleic acids—DNA—that endow even "simple" bacteria with their essential nature. Even the science fiction element silicon does not have the capacity to form large stable structures. So scientists have concluded that wherever life exists in the universe it will most likely be based on carbon chemistry. Now although the carbon compounds of meteors and clouds of dust in interstellar space are non-biological in origin, they do imply that carbon chemistry is the same throughout the universe.

So an organic analysis was made by the combined mass spectrometer, gas chromatograph, and pyrolysis furnace. The sample of soil was first heated in the furnace through a series of steps up to 500 degrees Celsius. The volatile material passed through the gas chromatograph and was there separated into the various constituent compounds, which were then analyzed by the mass spectrometer. Two soil samples were analyzed at each landing site. The only organic compounds detected were traces of cleaning solvents known to have been present in the apparatus! The samples gave off carbon dioxide and traces of water vapor. Nothing else was found.

The result was surprising and weighed heavily against the existence of biological processes on Mars. The instruments on the Viking lander are highly sensitive, capable of detecting organic compounds at a concentration of a few parts per billion, a level 100 to 1000 times below that on the earth's desert soils. Even if there is no life on Mars, it had been expected that the fall of meteorites in the Martian atmosphere would have brought enough organic matter to the planet to have been easily detected. Indeed scientists had been concerned as to how organic meteorite material could be distinguished from biological organic material originating on the planet. Horowitz suggests that on the surface of Mars organic materials are actively destroyed, probably by the strong ultraviolet light or radiation from the sun. Creationists might well suggest that the lack of meteoritic organic matter indicates a "young Mars". That is, there simply has not been time enough since the creation of the solar system for it to accumulate.

The other three instruments were used to detect the metabolic activities of any micro-organisms that might be present in the Martian desert soil. On earth bacteria, yeasts and molds are the hardiest of all species, surviving in environments of extremely high temperatures and aridity. First a gas exchange experiment was designed to detect changes in the composition of the atmosphere caused by microbial metabolism. Second, a labeled release experiment was designed to detect decomposition of organic compounds by soil microbes when they were fed a nutrient. And third, the pyrolytic release experiment was designed to detect the synthesis of organic matter in Martian soil from gases in the atmosphere by either photosynthetic or non-photosynthetic processes.

A solution of organic compounds was mixed with a sample of Martian soil. The test chambers had to be heated to prevent the water from freezing and pressurized to prevent it from boiling. Now all known organisms give off gas as they metabolize food, namely carbon dioxide, methane, nitrogen, hydrogen and hydrogen sulfide. So at first a small volume of nutrients was added to the chamber in such a way that it humidified the chamber without actually wetting the soil. The soil was then incubated for nearly seven months to give whatever micro-organisms might be present time to signal their presence by producing or consuming gases. During this time the atmosphere in the chamber was periodically analyzed. Surprisingly immediately after humidification carbon dioxide and oxygen were released, but then all release of gases ceased. Thus at the Chryse site in a period of one Martian day or 24 hours and 19 minutes the quantity of carbon dioxide increased by a factor of five and the oxygen by a factor of 200! At the Utopia site the increases were less but still considerable.

The rapidity and brevity of the response recorded by both landers suggested the processes observed were chemical rather than biological. Thus carbon dioxide would be expected to be absorbed on the surface of the dry Martian soil, and when exposed to a very humid atmosphere, the gas would be displaced by water vapor. Production of the oxygen is more complex but most likely is due to decomposition of an oxygen rich compound such as a peroxide by water vapor. This is known to oc-

cur in the presence of iron compounds and the Martian soil is 13% iron.

When soil samples were saturated with the nutrient medium, carbon dioxide continued to be given off but gradually tapered off; and the oxygen gradually disappeared due to combination with ascorbic acid, one of the ingredients of the medium added. So it became clear after seven months that everything of interest had happened in the first humid stage of the experiment before the soil came in contact with the medium added.

In the labeled release experiment a few cosmically abundant compounds such as formic acid (HCOOH) and the amino acid glycine (NH_2CH_2COOH) were labeled with radioactive isotope carbon 14 and added as a nutrient medium to the chamber in such an amount that the chamber would be humidified. Then over the months any release of gases by the metabolism of organisms could be very accurately measured by radioactive disintegration in the released gases.

As in the gas exchange experiment, there was a surge of radioactive carbon dioxide, showing that it had been formed from the radioactive compounds of the medium and not from compounds in the soil. Non-radioactive carbon dioxide was also formed but of course not detectable in this experiment. Radioactive carbon dioxide release is easily explained by the fact that formic acid reacts with hydrogen peroxide to form one molecule of CO_2 and two of H_2O. The amount of radioactive carbon dioxide was only slightly less than what would have been expected if all the formic acid in the medium had been oxidized in this way.

If the source of the oxygen in the humid stage was indeed due to peroxides decomposed by water vapor then in the labeled release experiment all the peroxides should also have been decomposed by the first injection of nutrient, so that the next injection should evolve no additional radioactive gas in spite of the fact that part of the soil sample had not been wetted by the medium. This proved to be the case. Actually the amount of gas decreased since carbon dioxide is quite soluble in water The above result was obtained with all soil samples at both landing sites. Very much in line with the above explanation of the carbon dioxide as being due to absorption by the Martian soil, is the fact that samples from under rocks yielded even less carbon dioxide than those from the surface.

When the soil was preheated to 160 °C for three hours the reaction was abolished and when heated to 46 degrees the reaction was reduced by about half. A variety of both inorganic and organic peroxides are destroyed or evaporated at relatively low temperatures.

The final or third microbial experiment was the pyrolytic release one. It attempted to measure the synthesis of organic matter from atmospheric gases rather than its decomposition. Second, it was designed to operate under conditions of pressure, temperature, and atmospheric composition of Mars, since that is how any form of Martian life must exist. A sample of Martian soil was sealed in a chamber along with Martian atmosphere. A quartz window admitted simulated Martian sunlight from a xenon lamp. A small amount of radioactive carbon dioxide and carbon monoxide were introduced. After five days the lamp was turned off, the atmosphere removed and the soil analyzed for presence of radioactive organic matter. This was done by heating it enough to crack any organic compounds into small volatile fragments which could be carried out of the chamber by a stream of helium and passed through a column designed to trap organic molecules but allow carbon dioxide and monoxide to escape. The radioactive organic molecules were then decomposed into radioactive carbon dioxide by copper oxide in the column and counted by a radiation counter.

Surprisingly, seven of the nine experiments gave positive results, the amount of carbon dioxide fixed in the soil being enough for between 100 and 1000 bacterial cells. Though the pyrolytic release experiment and instrument had been rigorously designed to eliminate non-biological sources of organic compounds, nevertheless it appears the findings of these experiments must also be interpreted non-biologically. The reason is that the reaction is less sensitive to heat than one would expect of a biological process. Thus in two of the experiments the soil was heated to 175 °C for three hours and 90 °C for two hours. The effect of the higher temperature was to reduce the reaction by 90% but not abolish it. 90 °C had no effect. Now since the temperature at the soil surface does not rise above 0 °C any time and below surface is even lower, it would seem than any organism would be killed by temperatures of 175 °C or even 90 °C.

It is also not easy to point to a non-biological explanation. Experiments are now under way to try and understand how these small amounts of organic molecules could have been formed. Some will insist that they are biologically formed by heat tolerant organisms even though no such creatures are known to exist. But the overwhelming weight of evidence is that life in any form simply does not exist on Mars.

As Horowitz rather wryly observes: "There are doubtless some who, unwilling to accept the notion of a lifeless Mars will maintain the interpretation I have given is unproved. They are right. It is equally impossible to prove from any result of the Viking experiment that the rocks seen at the landing sites are not living organisms that look like rocks. Once one abandons Occam's razor the field is open to every fantasy. Centuries of human experience warn us, however, that such an approach is not the way to discover truth."

What About Other Planets?

Sagan in his article "Life on Mars! What Could It Mean" (Op. Cit.) says: "Well here (on Mars) is a natural experiment that has been going on for four and a half billion years (sic) on a neighboring planet. If it turns out that there is life there as well then, I would say, it would convince large numbers of people that the origin of life exists. And that then opens the door to speculation that there is life on innumerable planets throughout the Milky Way galaxy."

Will Sagan now draw the opposite conclusion, namely that since life does not exist anywhere on Mars, it is unlikely to exist anywhere in the Milky Way galaxy? For surely Mars was their last hope for finding life in our solar system. Thus Mercury, being so close to the sun, has a hot interior with only a slight amount of car-

bon dioxide, hydrogen and argon on its surface. Venus has a surface temperature of about 800 °F (427 °C) due to the greenhouse effect of the mostly carbon dioxide atmosphere. Regarding Jupiter, an article by Andrew P. Ingersoll on the meteorology of this strange planet, points out that its atmosphere and interior are mostly hydrogen, with such elements as helium, carbon, oxygen, and nitrogen mixed with hydrogen in the same proportion as they are in the sun.[6] Because of the high temperatures that mixture does not solidify, so Jupiter is probably gaseous or liquid throughout. It radiates about four times as much heat as it receives. This heat is presumed to be residual from its original gravitational contraction (or as we would say creation). Its atmosphere is predominantly molecular hydrogen (H_2) with smaller amounts of methane and ammonia. Its upper atmosphere is about -168 °C.

Regarding the three outer planets, Saturn has a density of only 13% of the earth, and a surface temperature of also about -168 °C (-270 °F). Its atmosphere is mainly methane, hydrogen, and helium. Uranus has a surface temperature of -200 °C, an atmosphere of 3 parts helium to one of hydrogen with some ammonia and methane. Finally Neptune has a density of .45 of the earth and a temperature at the visible surface also near -200 °C. Its atmosphere resembles that of Uranus, mostly hydrogen and helium.

Surely then not one of the other planets has either the type of surface or atmosphere needed for life, namely oceans, rivers, and lakes, and plenty of oxygen, nitrogen, and carbon dioxide in the air.

Earth's Spreading Deserts

In my article "On the Recent Origin of the Pacific Southwest Deserts" I pointed out that as recently as 1870 Lake Tulare was the largest lake west of the Rockies! In 1875 the sidewheel steamer, Mose Androsa, was used to carry hogs across this lake, and it was joined in 1875 by the Water Witch, a shallow draft schooner used to catch terrapin.[7] The lake was 60 miles long north and south and 36 miles across at its widest, covering an area of 50,000 square miles. Dr. G. Ledyard Stebbins in his fascinating article "Ecological Islands and Vernal Pools"[8] states that "One of my former students, whose grandparents came to the town of Lockeford, twenty miles northeast of Stockton, told me that his grandfather remembered a winter when he could navigate a sailboat from the Bay area all the way to his home on the inner edge of the valley." The Great Salt Lake once had an area of 50,000 square miles and was known as Lake Bonneville. The decrease in size still continues as shown by the fact that the amusement park built on the shore of the lake is now one mile from it!

As late as 1860 there were 318 artesian wells within a region six miles wide by 15 miles long near the town of Artesia, California. Now there are none, though as late as 1918 when my family first moved to Southern California, some were still functioning.

Similar changes occurred in New Mexico driving the Pueblo Indians first from the Pajarito plateau and then later from the Frijoles canyon (1550-1580).

As shown in my article this past record of rainfall decrease is still continuing. Thus in the 44 years from 1879-1880 through 1922-1923, the annual totals varied from 8.71 to 42.72 inches, with 29 seasons have 20-37.20 inches of rainfall. In contrast 1923-1924 until 1966-1967 varied from 8.71 to 36.59, only 18 seasons having a rainfall of 20-36.59 inches. In late December of 1977 the Watsonville-Pajaronian published a table of rainfall figures from 1879-1880 until 1976-1977. (Table 1). Breaking this into two parts, the 49 seasons from 1879-1880 until 1927-1928 had a total rainfall of 1109.96 inches or an annual average of 22.65 inches. The 49 seasons from 1928-1929 to 1976-1977 had a total of only 972.28 inches or an average of 19.84 inches. Clearly then the trend in rainfall is seriously

Table 1. This is a record of the yearly number of inches of rain at Watsonville, California, since 1879. The year for recording the rain begins on July 1.

Year	Rain	Year	Rain	Year	Rain
1879-80	15.11				
1880-81	18.91	1920-21	25.14	1960-61	10.53
1881-82	15.09	1921-22	28.25	1961-62	18.52
1882-83	16.90	1922-23	22.84	1962-63	25.41
1883-84	23.25	1923-24	8.71	1963-64	15.31
1884-85	11.02	1924-25	23.76	1964-64	21.31
1885-86	30.02	1925-26	18.37	1965-66	14.38
1886-87	12.98	1926-27	24.28	1966-67	31.93
1887-88	15.71	1927-28	14.92	1967-68	14.09
1888-89	18.42	1928-29	14.46	1968-69	28.22
1889-90	43.72	1929-30	16.45	1969-70	20.78
1890-91	18.76	1930-31	11.02	1970-71	18.48
1891-92	17.18	1931-32	24.50	1971-72	13.00
1892-93	27.64	1932-33	15.12	1972-73	31.79
1893-94	20.50	1933-34	12.46	1973-74	32.14
1894-95	37.29	1934-35	19.87	1974-75	17.10
1895-96	23.97	1935-36	21.04	1975-76	8.94
1896-97	23.74	1936-37	26.38	1976-77	11.07
1897-98	12.48	1937-38	25.97		
1898-99	23.45	1939-39	14.71		
1899-00	20.98	1939-40	24.14		
1900-01	25.77	1940-41	36.59		
1901-02	21.69	1941-42	24.80		
1902-03	20.80	1942-43	20.82		
1903-04	20.19	1943-44	18.55		
1904-05	26.11	1944-45	21.63		
1905-06	25.41	1945-46	18.66		
1906-07	36.96	1946-47	13.28		
1907-08	16.08	1947-48	17.84		
1908-09	31.99	1948-49	15.76		
1909-10	21.06	1949-50	19.30		
1910-11	29.33	1950-51	23.62		
1911-12	19.65	1951-52	27.78		
1912-13	12.92	1952-53	19.38		
1913-14	35.90	1953-54	14.26		
1914-15	35.12	1954-55	17.96		
1915-16	31.78	1955-56	26.63		
1916-17	20.29	1956-57	14.40		
1917-18	9.77	1957-58	29.82		
1918-19	35.74	1958-59	15.51		
1919-20	20.01	1959-60	17.07		

downward. The last few years, though exceptional, have really emphasized this; for with only 8.49 and 11.08 inches many cities and towns of California have really suffered from a lack of available water. So much so, in fact, that water was rationed in many areas such as Lafayette; and people had to give up their lawns and even such water-demanding shrubs as roses and camellias. No doubt many seasons of normal and even above-normal rain will occur in the future; but these will be the exception rather than the rule.

The prediction can then be made that within the next 50 years Central California, i.e., the part from about Santa Maria in the south to Fort Bragg in the north, will become as dry and desert-like as Southern California, or the area from Santa Barbara on south to Mexico. Were it not for the supply of Colorado River water, the vast population of Los Angeles area would long ago have had to pack up their tents and move elsewhere as the Pueblo Indians were forced to do. The area north of Fort Bragg will also have some decrease in rainfall. However, the mountains here come close to the ocean, and the elevation of the many coastal peaks such as Salmon (6954 ft.), Sawtooth (5822 ft.) and Baldy (6030 ft.) will cause precipitation as the moisture-laden air from the Pacific Ocean rises over them, long after the drought becomes serious in the Central California areas where the only high mountains are the inland Sierra Nevada.

Drying Up Not Confined To California

Regarding other parts of the world, we find the same phenomena occurred in the Palestine area. Thus when spies reported on Canaan they said: "We came unto the land whither thou sentest us, and surely it floweth with milk and honey and this branch (of grapes) is the fruit of it." (Numbers 13—27) No one would describe the unirrigated part of Isael in these terms now. Thus, though the Galilean hills, with elevations up to 3983 feet at Har Meirin (Jabal Jarmaq), receive up to 40 inches of rain, in the plains the rainfall decreases to from 24 inches in the north to 16 inches at Ascalon, 10 inches near Beersheba, and only 2-4 inches around the Dead Sea. The Jordan Valley is hotter and drier than the coastal area. The Negev or south part of Israel which extends up to a line from Sodom to Beersheba supports only desert scrub. Also, the coastal sand dunes are quite devoid of much vegetation. The former glorious oak forests of Sharon and Galilee are represented now by isolated trees. Even the famous cedars of Lebanon in the high mountains (8000 to 9000 ft.) of the extreme north of Palestine have almost disappeared. Most certainly the rainfall trends since the time of Exodus, or even since our Lord's travels in A.D. 30-33 have been downward and will no doubt continue. Likewise, were it not for the annual overflowing of the Nile, Egypt would long ago have ceased to be a nation; for certainly most of this land is a desert. In fact the so-called "Fertile Crescent" is hardly very fertile now, except in patches and where irrigated. Unless the oil-rich Arabian nations, Egypt, and Israel forget their border disputes and unite their efforts to convert sea water into fresh water, the enormous populations of this area cannot long continue to exist with the rainfall as low as it now is, and gradually getting lower.

The Flood was Fairly Recent

The evidence just used, about the drying-out of the earth, may be turned around and used in a converse way, so to speak. If the earth is still drying out from the Flood, since it has dried noticeably in a century or less, the Flood can not have been so very long ago. In particular, a date something like that proposed by Ussher seems more likely than even a thousand years earlier, as some would have it.

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[2]Morris, Henry, 1974. Scientific creationism. Creation-Life Publishers, San Diego, p. 30.

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[7]Lammerts, W. E., 1971. Recent origin of the Pacific Southwest deserts. *Creation Research Society Quarterly* 8 (1):50-54.

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CREATION SOCIAL SCIENCE AND HUMANITIES SOCIETY

The Society mentioned, which has aims, organization, and a Statement of Belief similar to those of the Creation Research Society, has now, it is announced, a number of activities in progress. The first number of their *Quarterly Journal* is planned for this summer. Several members have taken part, or will do so, in seminars and conferences. And things are being done about the presentation of Creation Science at Colleges and Universities. Information may be obtained from Dr. Paul D. Ackerman, President, at 1429 N. Holyoke, Wichita, Kansas 67208.

Members of the Creation Research Society will wish this new Society much success.