

## CHAPTER TWELVE

# WATER

With both waters and elaborate forms of life, Earth is unlike other planets. The belief that this situation has persisted for billions of years may be considered someday as bizarre as the belief that the earth is flat.

The world's oceans contain  $1.4 \times 10^{18}$  tons of salted water. Its surface fresh waters -streams, rivers, lakes -come to  $5.1 \times 10^{14}$  tons, 50,000 times less, a drop in the bucket. The ice of the continents amounts to a menacing  $2.3 \times 10^{16}$  tons. And water vapors constitute 0 to 7% of the atmosphere up to 50 miles high, enough to lay a cloud cover over half the globe at any given time. And there are ground-waters, more voluminous than those of the surface. The fresh waters amount in all to three percent of all waters, and three-fourths of the fresh waters are bound up in ice.

The omnipresence of water in large amounts in all life forms grant it a large role in biological and atmospheric activities. Its employment and bulk make its lithospheric transactions important shapers of the Earth's surface. Where do the ocean waters come from? Since she sees the streams and puddles after a rain, a child reasons that all water comes from the sky, that is, unless a geologist gets to her quickly to tell her that the oceans have always been here from the time the Earth was formed, or almost as long. An eccentric geologist might say that, over the ages, hydrogen atoms descend from the Sun and space upon Earth, unite with oxygen in the atmosphere and then over billions of years drop to form the waters of the oceans.

The conventional myth - by which I intend no slight - is set forth by E. Bullard<sup>1</sup> who assumes "the obvious things.... one of them is the constancy of the total volume of water through the ages." Water is "obviously" in "equilibrium," but "the mechanisms of the equilibrium are unknown."

Thus "it looks as if the water must have been tied up in compounds, perhaps hydrated silicates, until the earth had formed and the neon had escaped." (This last is needed to explain why neon, so abundant in the Sun and stars, is so rare on Earth.) "Water must then have been released as a liquid sometime during the first billion years of the earth's history, for which we have no geological record." Bullard follows this with further apologies for the myth but says that the past decades have revolutionized oceanography and have "unlocked the history of the oceans."

The door may be unlocked, but few have entered. The billions of years of equilibrium can no longer be accepted: new theory has the ocean floors being scraped and relaid by the continental plates at least over the past two hundred million years or less; no longer can the myth hold that the most ancient sediments must rest on the ocean floors, hence no evidence is thereby offered of what the waters may have been like.

Surely there has been water so long as life has existed, but not necessarily salted water nor much water. One may assume little water to begin with and little for long after. Swamps and

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<sup>1</sup> "The Origins of the Oceans," in *The Oceans* (San Francisco: Freeman,), 16-25.

shallow seas are best for evolution and quantavolution of species; thick atmospheric soup might be even better, at least in the beginning. Even now, life seems to reject the oceanic abyss. This is a sign of youth, for the abyss is not without nutrients, and forms of life exist that require little or no sunlight.

The oceans do not carry all the uranium that they should possess after long eons of riverine deposits. Their salt is excessive and its sources are not organic. One calculation emerges with only 2.6% of the present chlorine of the oceans as conceivably of continental origins.

The sea bottoms seem never to have been compressed and folded, so this indirect evidence of the age of the water is lacking. Sediments are thin, and mostly accorded under 80 million years of existence. That is only one-fiftieth of the conventional age of the world oceans. Have there been fifty world-girdling oceans?

If the ocean basins were filled late in time, deluges from the skies have to be assumed. There is no other source, nor any more apt source, than the waterlogged comets and great planets. One is compelled to seek water there, and bring it here. Hence the need to invoke explosions of water from Saturn *et al.*, and passing cometary encounters.

Once the theory of a deluge(s) is given, the search for the source of the water is by no means ended. The Earth's water may have been injected, boiled off the imagined primordial melt, stayed up in the skies, and then fallen when a crust had formed and cooled below 212°. This may have happened, but then again it may not have. It would seem that if vapors rose high, they would stay there and rotate with the Earth, descending only when terrestrial electrical conditions permitted or were "seeded" by exoterrestrial fall out (which is also an electrical phenomenon).

Professional courtesy grants geologists not only their huge oceans but also the basins to hold the waters. "God" must have made the basins to hold the water, and even if gods are dispensed with, the basins must stay. So just as some communists stuff their religion into the mummies of Lenin and Mao, some geologists stuff their religion into the "nature" that wisely provided ocean basins to hold the great waters.

The waters are too great for the basins to contain; they cover much of the "true" continents. The fact that the basins occur and the waters occur does not mean that they were made for each other. Nor have they corresponded. Yet the presence of the basins is essential to the preservation of the greater part of the continents. If all the earth's present crust were a uniform level, the waters would cover the globe to a depth of a kilometer and more.

There is not enough water in the earth's granite or basalts to fill the oceans. Granite, the rock that underlies the continental sediments, is notably lacking in porosity. Porosity is the ratio of void space to the bulk volume of a rock, and therefore a measure of the water or gas contained in the rock at the time of its emergence from a molten state. Its porosity ranges from 0.3 to 1.5%. That granite could not be generated from the deeper basalts of the mantle is argued by Y. N. Lyustikh, a soviet geophysicist; four times the present water mass of the earth would be needed for the job.<sup>2</sup> Nor can the process be imagined.

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<sup>2</sup> B. Y. Levin, "The Interaction of Astronomy, Geophysics and Geology in the Study of the Earth," in *The Interaction of Sciences in the Study of the Earth* (Moscow: Progress Publ., 1968), 168.

The crystalline, glassy, volcanic basalt, which lines the ocean floors, can have a porosity of anywhere from 1% to 30%. Generally the porosity declines with the depth of the sea, a phenomenon attributable to pressures more lately applied than to original pressures, since this rock was often melted and extruded in unfilled basins that is, at less depth that it is presently discovered. Rocks of the same chemical constitution that differ in porosity will have had different histories in at least one significant regard: the rock of lower porosity had larger infusions of water and/ or vapors during its last melting and reforming. An expansion of the earth could be facilitated by the incorporation of water and vapors in heated rock. Water could recycle itself time and time again: it would flood a hot chasm, be incorporated in the rock, be extruded, expelled, and again enter a hot chasm.

Water exists exoterrestrially. Only in 1970 were the first observations of comets in the ultraviolet spectral region made. Cometary atmospheres (comas), in which dust and minor molecular components had been hitherto alone observable, now revealed indicators of a large component of water, "confirming the Whipple hypothesis of comets being 'dirty' ice conglomerates."<sup>3</sup> By 1980, other comets had disclosed similar compositions.

The outer planets contain great amounts of water. The rings of Saturn contain about 377 billion km<sup>3</sup> of non-conglomerated swarms of ice particles, by one reckoning. It has been dropping rings in the past. Saturn is 95 times the size of Earth; if Earth carried the same amount of ring ice relative to its size, it would have had 4 billion km<sup>3</sup> of ice particles to fill the ocean basins. The ocean basins contain 1.37 billion km<sup>3</sup> of water. True the density of Saturn's rings is much less than Earth's waters; still, the necessary relation of sky waters to ocean waters can be premised, especially if Saturn were to have shed most of its waters in times past. Moreover, Saturn is only one of many water-bearers in space. Jupiter and the other planets carry water, like Saturn and numberless comets.

Ancient wise men of Palestine, Mexico and India are known to have attributed the deluging of the earth to planet Saturn. Thus, the Hebrew Talmud reads in one place. "When the Holy One decided to bring the Deluge on the Earth, He took two stars from Khima and (hurling them against the Earth) brought the Deluge on the Earth."<sup>4</sup> Velikovsky identified Khima as Saturn. In Mexican documents, where ages of the world are called "suns," "the first world age, at the end of which the earth was destroyed by a universal deluge, and presided over by Ce-acatl, or Saturn."<sup>5</sup> The ancient Persians reported the star Tistar appearing in three manifestations to the accompaniment each of a different deluge of rain of ten days' durations.<sup>6</sup>

Long before modern astronomy, Saturn was perceived to have rings and to be watery, never Venus, Mercury, or Mars. How the ancient would associate Saturn with water is a mystery unless the planet had been observed at a distance much closer than it appears to the eye today and seen to blow off some of its rings or gases that ultimately arrived to deluge the Earth. Since Saturn under various names was the ruling god in human cultures at the time of Noah's Flood, the associations begin to appear reasonable. However, the Saturnian deluge followed the Golden age of Saturn, and oceans existed at least to some depth in Saturnian times. They were navigable by Saturnian age peoples.

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<sup>3</sup> M. K. Wallis, "Cometary Science," 286 *Nature* (17 July 1980), 207.

<sup>4</sup> III *Kronos* 4 (1978), 19.

<sup>5</sup> Velikovsky, V *Kronos* 1 (1979), 5.

<sup>6</sup> Bellamy, *Moon, Myths and Man*, 124.

It can be hypothesized that Saturn contributed some of the vast bulk of ocean waters. Where did the earlier waters come from? If Saturn did not supply the primordial and secondary earth waters, the deluge theory has to seek evidence of earlier acquisition of water. We can begin with a postulation providing for some water that the Earth inherited from the plenum of gases in which it thrived over most of its history. Then three major sources are indicated, this inheritance from the gaseous plenum enveloping *Solaria Binaria* -the Sun and its partner -in a long period of binary transaction; second, deluges when the legendary Uranus (Ouranos) complex broke up; and third, upon the disruption of Saturn. Let us say, for hypothetical purposes, the three investments of the Earth with water came in one-sixth, three-sixths, and two-sixths of the total.

The ocean waters are geologically young. Granted waters are difficult to date, Melvin Cook has shown that the oceans contain under 100,000 years' accumulation of uranium, even granted a uniformitarian riverine run-off curve (which, of course, would mean much less time on the quantavolutionary exponential curve).<sup>7</sup>

That the basins which hold the water are young, which is yet to be shown, holds significance for the youth of the waters as well. Few evolutionists and quantavolutionists regress in time to a completely water-covered Earth, although the first passage of Biblical *Genesis* might be construed so: for Elohim separated the chaos by a firmament dividing the waters below from the waters above, and assembled the land out of the waters below. And the primeval legend of the Earth being fished out of the waters is found in the farthest removed cultures of the globe. Also among the first impression and memories of mankind was the image of the vast cloudy universe recurrently pouring water and debris down upon the hapless Earth.

A more correct interpretation is that early man was caught in an increasingly turbulent cloudy world. The next chapter, on Deluges, carries this matter forward. But meanwhile let us interject a commentary on the origins of the fresh waters of the Earth.

Most if not all of the lakes of the world can be thought of as slowly diminishing stagnant floods -the salt lakes like the Great Salt Lake (Utah) and the Dead Sea, and the freshwater lakes such as the Great Lakes (USA), and the thousands of Canadian and American "glacial lakes." That these latter are in most cases being fed by rains and streams as fast as they evaporate or drain does not obviate the fact of their origins. They were created under flood conditions. If this is so, it is likely that ground waters and swampland are also behaving as flood waters, that is, everywhere draining at the levels of the ocean basins. The Caspian Sea has been shrinking rapidly over the past 150 years, not alone because of human diversions, and becoming more saline. According to the idea that this sea may be a remnant of a recent and westwards dumping of the contents of the vast Gobi Sea, now Desert, carried on over thousands of kilometers, ending in the Mediterranean, the desiccation is to be expected. But, too, the local freshwater replenishment of the Caspian may be inadequate, and may always have been since its quantavolutionary creation.

So, too, can the ocean basins be regarded as flood drains, again to make a logical point, which is otherwise an absurd stretching of language. It can be looked at in this way: the basins of the oceans existed before they contained water; some water flowed or dropped into them, "flooding" them. More craters were added, more 'flooding' took place. Finally they were even

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<sup>7</sup> Prehistory and Earth Models, loc. cit. 8. J. C. Hathaway et al., 206 *Science* 4418 (2 Nov. 1979), 515- 27, 523.

'over-flooded, ' that is, land not properly abyssal but belonging to continental sial was flooded up to present shorelines.

Whether or not the flooding is continuing is debated in hydrological circles, along with the questionable trend of land elevation, and is, of course, related to trends of climate as well. If the hypothesis here is correct and the freshwater (and saline) bodies are late aspects of world tidal and flood movements, and if swamp and groundwater levels are also aspects of the same, then the biosphere worldwide is faced with a growing shortage of water. In the foreseeable future, life on earth will come to depend upon the systematic utilization of freshwater trapped in ice, upon irrigation from reservoirs, upon converting freshwater bodies into reservoirs, upon worldwide controls over the augmentation and distribution of atmospheric waters, and upon conversion of salt waters to fresh water. Mankind may confront, not only the effects of its ravaging of water supplies everywhere by overuse, by populations pressure, and by promoting off-flow of continental water supplies -but also a more grave problem, the hitherto unsuspected natural trend of the continental crust to lose its water holdings, because "they never belonged there in the first place."

A great many dry lake basins exist around the world. Some are large, as Lake Bonneville, whose remnant is Great Salt Lake, and the Caspian Sea basin, containing today's shrunken lake, still the largest in the world. Some freshwater lakes, such as Titicaca (Andes) and Tanganyika, contain adapted or primordial oceanic animals like the seahorse and jelly fish. Perhaps a million watered and dry lakes exist.

By origin, basins may have been created by natural dams accreted gradually or thrown up abruptly by avalanche, by calderas of extinct volcanos, by meteoroid craters, by faults and rifts (as lake Baikal and the Dead Sea), and by the bulldozing done by ice and rock thrusts. The original water may have been groundwater seepage, rainwater, deluges, ice melt, or tides.

With six forms of basin and six archetypes of water, the combinations and permutations are numerous. And we have no global survey of lakes with which to compose a frequency distribution. The only exclusively non-quantavolutionary basin form is the damming by gradual accretion. Four types of water contents (excluding rainwater) might be quantavolutionary; three types (excluding deluges and tides) might be non-quantavolutionary.

No lake is geologically old: this is an impressive datum. It says something about the lately tortured Earth. An undisturbed or slowly changing surface should include a proportionately great number of lakes aged in the millions and tens of millions of years. To object that lakes become filled with sediments must imply that such fossil lakes should exist by tens of thousands in the stratified rocks of the world. They do not. Some seemingly ancient lake beds are evident. These should be placed in the frequency distribution.

The results, even by raw conjecture, would be disappointing. The fossil lakes would be all too few. For, if we multiply the present million lakes, say, of an average age of 10,000 years as a guess, and take the last billion years of the earth "history" as providing similar lakes, we get 100,000 periods, and one hundred billion lakes. With climates changing (and Flint, for one, along with many other geologists had to invent a turbulent rain belt to fill his pluvial lakes), and with continents drifting about, and lands rising and sinking, why should not lakes have visited every place at some point in geological time, and be found in all (or say 10% to 100%) of the geological columns dutifully examined. I fear that *reductio ad absurdum* will once more assail conventional geological theory.

Freshwater springs exist in many places, emerging above their "natural" level, often quietly but sometimes with explosive vigor. The subterranean liquids and gases -water, oils, natural gas, and even compressed air -appear frequently to be pocketed under pressure. Calculations by M. Cook and others allow only a few thousand years for their escape, at most. Their burial must have occurred in some form of thrusting and folding, that is, is no longer occurring; we have accounts of many springs that have died, few that are new. This last fact would arbitrate against conventional theory that underground volatile pockets are fed from descending rock strata and then forced up above their local level at some interstices among the rocks, unless, of course, it is granted that the fresh waters generally are draining away, for the reasons given above.

Once more we turn to oceanography for help. The U. S. Atlantic Ocean shelf was drilled in 1976 at water depths of less than 300 meters and penetrated to depths of from 20 to 300 meters, at 19 widely separated sites. "One of the most significant discoveries... is that fresh ground water occurs beneath much of the Atlantic continental self."<sup>8</sup> These fresh and sometimes brackish waters occupy large lenses in rock strata that are Cretaceous or younger.

The investigators considered whether these expanses of fresh water below the ocean salt waters were remnants that had been trapped in shelf sediments when the Pleistocene ice ages lowered the ocean waters, or were submarine discharges from mainland aquifers. Generally the first solution was preferred, although indications of submarine intrusions were discovered at southerly sites. The investigators did not suggest a third hypothesis, which we offer here, that indeed the freshwater lenses are fossils, but not from a period of withdrawal of waters to make ice. Rather they are both remnants and submarine channels of the age before deluges filled to over flowing the basaltic ocean basins. Fresh waters were trapped in the continental rocks as they made way toward the abyss and are probably trapped in the debris of the continental slope as well. They are extensions of normal aquifers, a circulation and storage system that is being broken into and polluted. We speculate (as do the investigators) that these waters have been sub-oceanic for only a few thousand years and will not be with us for long.

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<sup>8</sup> J.C. Hathaway, *et al.* 206 *Science* 4418 (2 Nov. 1979) 515-27, 523.

