the fall of man. It is certain that He knew how to provide the proper quantities of all species to maintain a supply of them throughout the voyage of the ark. In Genesis 7:2-3 we find Him instructing Noah to take in seven pairs of all clean beasts and all birds. In the case of the birds especially, this is a good start toward an adequate meat supply for the large carnivores. No other reason for this multiplicity of pairs has presented itself to date.

As mentioned earlier, many species of insects and birds, and even of smaller animals, depend upon the manure from other creatures for their food and an environment in which to live. Some people have put forth the objection that it would have been impossible for eight people to remove all the manure from the ark. That is possibly true; but it would also have been a major disaster if it had been removed. Removing the manure would have broken the cycle of the system, and a large number of the species would have died of starvation and become extinct. As each species disappeared, those species that depended upon it for food would also be subjected to starvation and death, and would soon follow it into oblivion. This in turn would destroy the food supply for one or more additional species. This process of progressive starvation could have conceivably continued until only the herbivores and man remained alive in the ark.

On the other hand, with the manure left in the ark it would have been broken down by the insects, birds, and other organisms that fed on it, and would have been quickly reduced in volume and converted into fertile topsoil. This could have been easily added to the topsoil that Noah must have placed in the ark before the Deluge for providing food for organisms that required it and for growing green plants for those species that ate only green plants. In this manner, the manure was reintroduced into the system and did not need to be carted away. Incidently, the upper storey of the ark is the most likely location for the "garden." According to comparatively recent accounts of sightings of the ark on Ararat, there was not just a single window in the ark but a system of windows running down the entire length of the ark on both sides near the top or at the top. These would have provided the required light for growing plants and also would have provided access to water.

The preceding hypothesis leaves us with only the few species (if any) that depend entirely upon marine life for food, and the herbivores, to provide food for. I can provide no solution to the food problem for the former; the latter presents no problem. With the necessity to store vast quantities of meat removed, there would have been plenty of space to store adequate quantities of dried vegetation and grain to feed all the animals and birds that required them for food. By careful rationing, this could have been limited to the equivalent of a few railroad carloads at the most.

Of course, this approach to the conditions inside the ark precludes the possibility that, in all cases, the specimens that left the ark at the end of its voyage were the same ones that had entered the ark a year and ten days previously. As we have seen, this was an impossibility to begin with because of the short life spans of many of the species. The Genesis account of the Deluge does not state that the same specimens that entered the ark prior to the Flood left the ark at the end of the flood. That is another of man's assumptions that has no basis in fact.

THE DISPERSION FROM THE HOMESTEAD OF THE RACE OF MAN

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In this article the archaeological dates ascribed to ancient settlements in the country around Ararat are used with data from the Bible to establish something about the migration and dispersion of mankind from that vicinity, in which the human race got its second start, after the Flood.

The subject of this paper is the original migration of the descendants of Noah from the Ark, which barge we are going to call "The Homestead of the Race of Man." In order to simplify the subject we shall turn our thoughts to the first wave of migration from the Homestead. That wave was made up of the farmer, the hunter, the gatherer, and the adventurer.

We are dealing here with prehistoric events (except for what is recorded in Genesis); thus any additional information must come from the archaeologist, rather than from the historian. As Fagan tells us: "Prehistoric archaeology involves the systematic study of archaeological sites and of the artifacts found in them as a means of reconstructing life in the past."[1]

Concerning the Ages Quoted Here

The ages quoted in this paper are mostly those assigned by archeologists, on the basis of carbon 14 or otherwise. Some readers may consider them inflated. However, my purpose here is to trace the order of events, rather than exactly when they happened. It seems that these figures will be valid as relative ages. So

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they will be quoted; and the question, whether they can be reduced by better understanding about carbon 14 for instance; or whether gaps should be admitted in the genealogies in Genesis, will not be discussed here. Incidentally, many of these dates can be found in the *Archaeological Atlas of the World.*[2] They are uncorrected dates according to carbon 14; and so they will be used with lower case letters thus: b.c..

Of the Biblical references which will be quoted, some seem to correlate in time, others to refer to events which at the time were yet to come.

Problems to be Solved in a New Beginning

When the great keel of the Ark sank into the mud of that valley in what is now called Anatolia, it established the site of the Homestead of the post-Diluvian race of Man.[3] Noah's descendants would have to populate the Earth from this location. Noah would therefore become the father of all; and no doubt he set up a form of govenment: paternalism.

Noah in so doing reacted, we can believe as a modern man would to the problems. He found it necessary to organize and to teach; and the teaching would include the following:

1. Instruction in the spiritual meaning of life.
2. a. How to farm with available equipment.
   b. How to make tools and weapons of stone.
   c. How to search for and recognize food in field and forest.
   d. How to hunt and fish.

All these subjects may seem elementary—to anyone who has never had to depend on them to survive. Then, in order to survive it was necessary to master them all. Life before the Flood, it must not be forgotten, may have been vastly different.

We can imagine that as the young people—Noah's grandchildren and later great-grandchildren—grew up to the age of say 18 or 20, Noah would organize them into groups, so that as a group they could meet the problems of obtaining food and of building shelters—in other words, solve the problems of existence under the rather difficult conditions which existed then. Indeed, those conditions, under which Noah had to farm and to raise domestic animals, must, especially at first, have been extremely difficult, in comparison with the wonderful soil and weather of the antediluvian period.

The Beginning of the Dispersion

The road to full control over the lands of the Mediterranean—and beyond—was to be a long, hard road, taking the people millenia to traverse. The migrants could not travel quickly, for they were dependent on the food which they themselves raised or gathered; nor were they mentally capable of travelling quickly. It was a different race, in attitudes and capabilities, from the one which built the Ark.

For example, Breasted tells us that prehistoric people discovered metal about 5000 b.c.. "But it was to be many centuries before the Egyptians (for example) learned how valuable this new material was. They continued to use stone tools and weapons, and employed copper chiefly for ornament. After the discovery of copper it was possibly nearly 2,000 years before tools and weapons of copper came into use."[4]

So there was much time occupied. Indeed, from the map we can see that the early migrations of Shem, Ham, and Japheth required most of the seventh, eighth, and part of the ninth millennium b.c.. These people were not moving quickly.

Topography Soon After the Food

Whitcomb and Morris, in *The Genesis Flood*, state: "Although the flood subsided enough so that Noah and the animals could disembark from the ark after one year the profoundly disturbed and altered hydrological and isostatic balance of the earth undoubtedly continued to manifest themselves in what might be called residual catastrophism for many centuries at least."[5]

In other words, the problems created by the Flood on the surface of the Earth were so great that millennia would be required for natural processes to correct the devastating destruction of the Flood.

Thus, the early migrations of Japheth, Shem, and Ham—and their children—were all on what is now high ground. Japheth followed the Taurus Mountains, across southern Anatolia; and Shem the Zagros Mountains. See the map, where the arrows indicate these routes. Both of these ranges of mountains radiate like the spokes of a wheel from the high ground in Anatolia known as the plateau of Ararat, in what was at one time the kingdom of Ararat. On this plateau the twin peaks, now commonly called Ararat, are located. A large part of Anatolia is over 5,000 feet in altitude.

The Zagros Mountains are just east of the Mesopotamian plain. They rise to between 3,280 and 5,570 feet in altitude, and consist of numerous parallel folds enclosing valleys 3 to 60 miles long and 6 to 12 miles wide. There valleys should prove to be fertile fields for the archaeologist; for here, it is believed, is where the descendants of Shem first settled before they travelled westward into the Mesopotamian plain.[6,7]

The reason why these first migrants travelled in the mountains is quite evident: the flood-waters of the world ocean still covered much of the Earth. For example, the migration of Shem's people was during the seventh and eighth millennia b.c.. At that time the north Mesopotamian plains were not occupied, maybe being still under water. The southern plains were not occupied until the fifth millennium b.c..

The dropping of the water level of the ocean was slow. The islands of the Mediterranean were not occupied by farmers until the fifth millennium b.c., we are told.

The fall of the water level had to be slow for two very important reasons:

a. To retain as much as possible of the topsoil in place until vegetation could grow root systems to help to control erosion.

b. To control the migrations of the race of man until grass and forests would have had a chance to grow to maturity. For man is a destructive creature.

We can be sure that man observed the movement of

the level of the ocean with fear and respect for many centuries after the Flood.

Slow Migrations and Faster Adventures

It has been estimated that the rate of spreading of population in these migrations was about one kilometer per year.[8] Thus, the migration which started from eastern Anatolia during the ninth millennium b.c. reached the Atlantic coast about the fourth.

The movement of the farming population west—or east—was, then, slow. There were people, however, who did not wish to be tied to the slow-moving farmers, and who set out by themselves to see what was on the other side of the hill. These were the hunters and the adventurers, who reached the Atlantic coast of Europe long before organized groups of farmers arrived there.

A Side-Light on the Building of the Tower of Babel

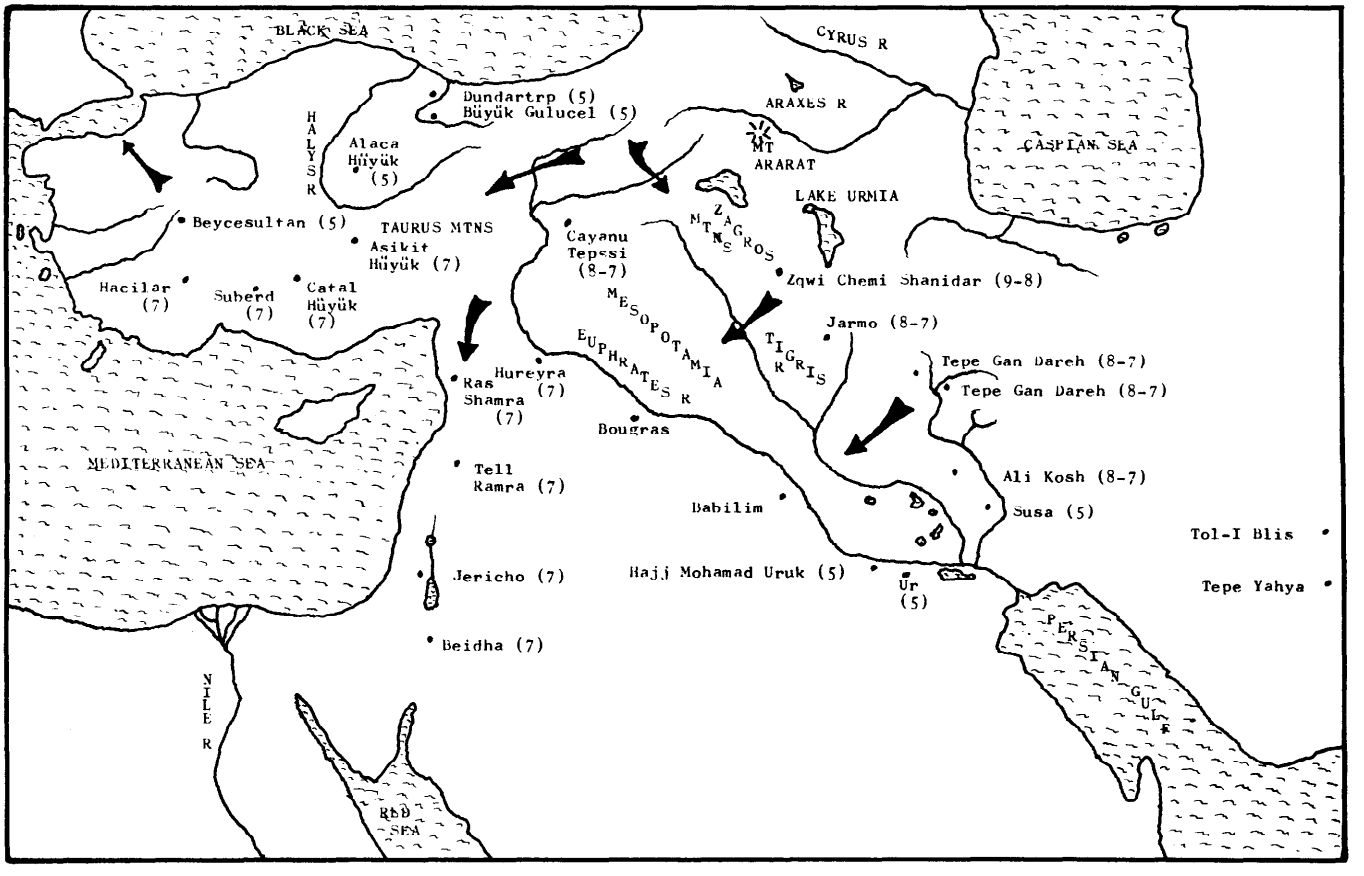
The people of Japheth, who travelled westward into Europe, certainly were not involved in this project. Nor could the people of Ham, who migrated southward (see the map) along the Levant, the name applied to the east shore of the Mediterranean, have assisted either. To have done so, they would have had to cross the desert, or else retrace their steps along the Fertile Crescent to Babylon. So the people of Shem must have been the ones involved.

Prophecy Fulfilled

Let us now refer back to Adam. The fulfillment of Genesis 3:17-19 was experienced by him in a limited way, chiefly in that he was driven out of the Garden of Eden, where he had had the luxury of being able to obtain food and shelter without much effort on his part, and at the same time to enjoy the beautiful surroundings. In the world outside he had to work hard, both physically and mentally, to obtain food and other needs.

However, his situation was likely still not all that bad. The complete fulfillment of Genesis 3:17-19, I believe, did not occur until the descendants of Noah began their migrations and found that they had to face a very hostile Earth indeed. Some lived by hunting and by gathering wild food. "Despite the advantages of food production over a hunting and gathering economy, non-farming communities survived in all parts of western Asia until 6000 b.c.."[9]

As Fagan remarked in his book *In the Beginning*, gathering and agriculture are two major means of prehistoric subsistence.[10] He agrees with the Bible, perhaps without realizing so, in stating: "Whatever the ultimate inspiration or intermediate cause, it was by their hands that the early Europeans dragged themselves out of the primeval mist of savagery, strug-



This map, of Asia Minor and the surrounding country, illustrates some of the things discussed in the article. Names of natural features are in all capitals, of settlements and archaeological sites, in capital and small letters. The numbers in brackets with settlements show the millennia b.c. to which the archaeologists ascribe them. The arrows show the routes which the various groups of Noah's descendants took, as discussed in the text.

gled up the long slope of barbarism, and ultimately obtained some kind of civilized existence."[11]

Fagan, I suppose, did not realize that he was actually writing about the fulfillment of the prophecy applied to Japheth, whose descendants left the Old Homestead, travelled west and north-west, occupied the Isles of the Gentiles, as in Genesis 10:1-5, and so founded the nations of Europe.

Now let us investigate what can be learned by archaeology about the conditions which these early farmers faced.

Agriculture Soon After the Flood

The following quotations will show some of the conclusions reached through archaeology:

"The earliest experiments in food production anywhere in the world took place in western Asia, in the area extending eastward from the Mediterranean Sea to the Zagros Mountains and northward from the Red Sea and the Persian Gulf to Anatolia. These experiments may have begun as early as 10000 b.c.."[12]

"It is in Western Asia that two of the greatest advances in the history of man are believed to have originated: First, the transition from an economy based on hunting and gathering to one based on cultivation of crops and the breeding of animals, sometimes called the Neolithic or food production revolution, and second, the revolution of urban civilization, sometimes called the Urban Revolution."

"We can distinguish three main phases through which the farming economy developed in Western Asia.

First: The development of farming began with a stage of incipient food production before 7000 b.c.. on the Zagros flanks, in the Levant, and in southern Anatolia. These communities had domesticated plants, einkorn and emmer wheats, barley, and some leguminous crops. Some of them also reared domesticated sheep, or goats, or both; but not at this stage cattle or swine. They all depended to varying degrees on wild foods. The early farming economies at this stage were clearly viable alternatives to the traditional hunting and gathering economies, but initially not noticeably superior; strictly hunting and gathering communities survived alongside the new farming communities.

Second: The first stage had developed imperceptibly into one of settled village farming, initially in the area of incipient food production, but occurring throughout much of Western Asia by 5000 b.c.. These communities possessed domesticated plants and animals, but they concentrated on the production of cereals by dry farming. Cattle and some swine had been added to the list of domestic animals, and they had improved strains of wheat and barley. By this stage the superiority of the farming economy had become apparent; and the role of hunting and gathering diminished sharply.

Third: After 5000 b.c. the dry farming of stage 2 was replaced in many places by agriculture with the help of irrigation."[13]

Migration in Other Directions

We find that there is much less archaeological evidence of migration directly north of Anatolia, or to the east, or to the south through Africa. The little information which is available from these parts of the world shows the same chronological progression. The same time was taken to advance in those directions as in the directions about which there is more evidence. Indeed, except for India there does not seem to be a place for the rest of Asia in this picture, except in a negative sense.

Africa is important in secular history, as well as that of Judaism and Christianity, especially because of Egypt. The north coast is of some importance in the history of Christianity.

As for the rest of Africa, the picture there, too, is mostly a negative one—no information. (Ethiopia might provide some exception). As for the role which Africa may play in the future, only time will tell.

Where Did The Ark Land?

Much has been written about the landing-place of the Ark. Marsh, in his book *Life, Man, and Time*, suggests the following:

"The Ark grounded and finally discharged its precious burden in the mountains of Ararat, near the head-waters of the Tigris and Euphrates rivers, in Asia Minor."[14]

This sagacious selection of the landing-place of the Ark is a very practical one, in comparison with what is often supposed, and what has commonly been assumed in searches for this historic vessel. For it is commonly assumed that the Ark is now on top of a mountain. Marsh's suggestion, on the other hand, is not only a practical one, but also it is appropriate in view of the way history proceeded, and of the development of the Jewish church, the Christian church, and, indeed, the Bible.

Headwaters of the Rivers—and of the Modern World

Not only did two rivers of water flow south from this vicinity, but also in the country which they water—and to the west—the beginning of secular history, as we know it, was played out. Moreover, Judaism and Christianity originated and developed in the regions mentioned. And in them were written the Old Testament, and much of the New.

Also from the same location, as well as two streams of water, three streams of humanity flowed out, to people the world, and to enact history. Moreover, they provided the men to make the history written history, by recording it in scrolls and books, for the instruction of future generations. Each of these three streams of humanity had a different function.

Two of the streams flowed southward, and contributed to the enactment of secular history, and of the history recorded in the Bible. One of them, especially, carried the line of chronology which would extend from Noah to Christ.

The third stream of humanity, the one which moved to the west and north-west, formed the pagan nations of Europe. These nations later became fertile ground for the seed planted by the apostles and missionaries; and in time they became the great Christian force which spread the Gospel throughout the world. Some of them

also provided the setting for a considerable part of the New Testament.

The Landing-Place of the Ark as an Archaeological Site

Most searches for the Ark have concentrated on one object: the Ark itself. But where the Ark landed there must have developed, through those early years, a large settlement of people. This fact, as far as I know, has never been considered.

There might now be nothing left of the Ark, except, perhaps, a deposit, about 300 feet long and 20 feet wide, of ballast stones. There might also be bits of metal: nails and plates used to reinforce the hull. (Although if such things were made of iron, they might have rusted away long ago.) There might be other artifacts among the stones; for it is a well known fact that many objects find their way down into the hold of a ship.

At this site, under the upper layers of earth, there could be found evidence of this settlement, from which Noah drew the people to make up the various waves of migration. There might still be remains of the altar on which Noah made that very important sacrifice (Genesis 8:20.) It would not be surprising, although it is not mentioned in the Bible, if there should be a memorial. It might be the same as the altar, as in Joshua 22:26-29; but no sacrifices would ever have been made on it.

One important difference between this archaeological site and others, somewhat later but still from the early millennia after the Flood, would be that metal objects should be found in it. For the antediluvian people knew of metal (Genesis 4:22). Indeed, the very construction of the Ark could be evidence that they knew how to use metal.

Noah, we can assume, took on board the Ark a large supply of tools made of metal. Later, when they were worn out they were discarded; also, no doubt, some good ones were lost by accident. There could be broken pottery, household utensils, tools, and objects of all kinds. In other words, the site at which the Ark landed would be a small island, having archaeological objects different from those from surrounding sites from later millennia. Such a find alone should serve as evidence that the site was indeed that at which the Ark landed.

In conclusion, let me say that I am at a loss to find words to express adequately the importance of that settlement somewhere near the head-waters of the Tigris and Euphrates rivers, in the ancient kingdom of Ararat.

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[9]Reference 2, p.63.
[10]Reference 1, p.164.
[11]*Ibid.* p.187.
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QUOTABLE QUOTE

" . . . though we christen effects by their most sensible and nearest Causes, yet is God the true and infallible Cause of all; whose concourse, though it be general, yet doth divide itself into the particular Actions of every thing, and is that Spirit, by which each singular Essence not only subsists, but performs its operation."

Sir Thomas Browne, *Religio Medici.*

CONTROVERSY ABOUT ICE AGES

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The concept of a glacial period after the flood, which has been proposed by several creationists, is examined in this article. The slowness of glacial erosion, and the scale of the effects which have been attributed to ice erosion, such as the rock basins of the Great Lakes, are not favorable to the idea of a short glacial period. The erosional effects of the currents of the flood waters can account for much of the work which has been attributed to ice erosion, and the drift can be explained by rock disintegration in place. Thus there is no need for a glacial period in creationist geology.

Introduction

The idea of an ice age following the deluge has been supported by several creationists, perhaps because the glacial theory is so persuasive. However, questions about the duration of the ice age, and the date of the flood as indicated in the biblical chronologies, have aroused doubts about the glacial theory in the minds of some.

The glacial theory has seemed so compelling that it has been suggested that chronologies in the Bible may be stretched or extended, on the assumption that not all

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