

REASON & REVELATION

A MONTHLY JOURNAL OF CHRISTIAN EVIDENCES

DECEMBER 2004

AN EXAMINATION OF NOAH'S ARK AND THE GLOBAL FLOOD

Brad Harrub, Ph.D. and Bert Thompson, Ph.D.

A bortion. Homosexual "marriage." Terrorism. Embryonic-stem-cell research. Atheism. Often, we look around at the world in which we live, and wonder just how long God will continue to permit our existence on His Earth. It requires only a few moments of a person's time to document a veritable plethora of sins within society. Our young people feel pressured from every angle to commit acts that most of them know are offensive to God. And, sadly, many give in, feeling that the pressure from their peers is simply too great.

In the early chapters of Genesis, we are introduced to a man who refused to give in to peer pressure. Perhaps he can best be described as an island of righteousness surrounded by a sea of iniquity. His character is described in Genesis 6:9 by three expressions. (1) "Noah was a just man" (i.e., he was honest—very likely an unusual trait for his day and time). (2) Noah is described as being "perfect in his generations." Does this mean that Noah was perfect and sinless? Certainly not. As one writer has correctly suggested: "Noah's being perfect refers to his being blameless because of his wholehearted, complete loyalty to God. Noah did what was right because he had a complete, well-rounded relationship with God" (Jones, 1996, p. 58). (3) Noah "walked with God"—an honor reserved for only a select few individuals mentioned in the Bible (cf. James 2:23, where Abraham is referred to as "the friend of God").

Now, advance forward approximately four-and-a-half millennia, and the subject of Noah still is extremely relevant. How so?

Through our mail box in a year's time come hundreds of letters. Some are from friends, offering a word of encouragement. Some are from students, writing to ask for materials they can use in the preparation of a term paper, speech, or debate. Some are from people whose faith is faltering because it has been attacked by unbelief and is in danger of being destroyed. And some are from evolutionists, atheists, skeptics, infidels, or those sympathetic to them, objecting to the stand we take in our work.

When someone in that last group contacts us (as they frequently do) about the events recorded in Genesis 6-8, they generally assert that there is no way to scientifically investigate the Noachic flood. They question Noah's intellectual ability, the size of the ark, the number of animals the ark could hold, etc. It seems like every single facet of the biblical narrative is subject to attack by those who oppose God, or those who are willing to compromise His Word. Such is hardly surprising, considering the atheistic world view that some people support and attempt to defend.

It is surprising, however, when some of the letters we receive on this topic come from those who profess to be Christians. While their language sometimes (though not always) is gentler, the underlying sentiment remains the same: "There is no way this story is real!" In fact, they generally make it clear that their allegiance is to "science," and maintain that the text of Genesis 6-8, while admittedly "a fine story about the power of God," is not something intended to be accepted as literally true and historically accurate.

From some of the mail we receive, it appears that those within the atheistic community have been somewhat successful in planting seeds of doubt, as once-faithful Christians find themselves questioning a story they have known and believed since childhood. One purpose of the present study, therefore, is to root out and destroy permanently those seeds of doubt, and to reassure Christians that the events of Genesis 6-8 happened exactly as Moses recorded them thousands of years ago. While God very easily could have used (and, in fact, *did* use!) miraculous events to facilitate

CONTENTS

ARTICLES

- An Examination of Noah's Ark and the Global Flood*
Brad Harrub & Bert Thompson 105

DEPARTMENTS

- Speaking Schedules** 110
- Note from the Editor**
Announcing Reason & Revelation/Discovery 2004 Bound Volumes
Bert Thompson 112

RESOURCES

- Where did the Water Go?* 45-R
- The "Window" of the Ark* 46-R
- Question & Answer** 48-R
- In the News** 48-R

www.ApologeticsPress.org

the Noahic flood of Genesis 6-8, the primary focus of this article will be to document both the feasibility and the scientific accuracy of the account of Noah and the ark as revealed in Genesis 6-8. We invite your attention to the following examination of some of the arguments that have been leveled against the Genesis record.

NOAH WOULD NOT HAVE BEEN SMART ENOUGH

On occasion, critics claim that Noah could not have constructed the ark because people living in ancient times were unintelligent, and did not possess the tools for such shipbuilding. These skeptics make ancient people appear to be little more than long-armed, club-carrying, ape-like creatures that lived in caves. However, if one were to consider carefully the people before Noah, he or she would learn that man possessed amazing intelligence from the beginning of Creation. A careful examination of Genesis 2:16-20 finds God communicating with Adam. As God paraded the animals before Adam, He instructed Adam to give each one a name—the implication being that Adam was not only to name the animals, but also to remember that name and pass it down to his offspring. Ask any scientist, and he or she will tell you that communication is one of the most important factors separating humans from animals. It demonstrates the highest form of intelligence. The ability to develop symbols (known as an alphabet), use those symbols to form words, and then string together those words in a logical fashion with syn-

tax and context for both written and oral communication, shows incredible **intelligence**. And yet, here we have man communicating with God, and naming the animals, even before Eve appears on the scene. How does this mesh with the evolutionary view that early humans were ignorant?

Consider some of the wonders of the ancient world, such as the Egyptian pyramids, the Sphinx, or the 100-foot-high Colossus of Rhodes. We still are at a loss to explain exactly how ancient people built such intricate structures. Additionally, the Egyptians possessed knowledge of mummification that we today still cannot match. They could mummify a corpse so effectively that, when we unearth it more than a thousand years later, we still are able to detect fingerprints on the well-preserved body. Early people were not dumb! In fact, in Genesis 4:21, we read of Jubal, who was “the father of all such as handle the harp and organ,” and verse 22 speaks of Tubal Cain, “an instructor in brass and iron.” Here, we find ourselves just a few short generations from Adam, and already we read of people who were capable of smelting metals. These were hardly ignorant, unlearned souls.

Some, like Canadian religionist and anthropologist Arthur Custance, have stated (or implied) that the building of such a large boat as the ark, in such remote times of antiquity, by so few people, simply was not possible, or at best was highly unlikely (see Custance, 1979). Regarding such an assessment, we would like to offer the following observations. First, as Whitcomb and Morris have noted:

The Scriptures, however, do not suggest that Noah and his three sons had to construct the Ark without the help of hired men. Nevertheless, we agree that the sheer massiveness of the Ark staggers the imagination. In fact, this is the very point of our argument: for Noah to have built a vessel of such magnitude simply for the purpose of escaping a local flood is inconceivable. The very size of the Ark should effectively eliminate the local-Flood view from serious consideration among those who take the Book of Genesis at face value (1961, p. 11).

Second, as British writer Frederick Filby remarked in *The Flood Reconsidered*:

Yet even granting all this, some may feel that the Ark was too large for early man to have attempted. A survey of the ancient world shows in fact the very reverse. One is constantly amazed at the enormous tasks which our ancestors attempted. The Great Pyramid was not the work of the later Pharaohs; it was the work of the 4th Dynasty—long before Abraham! This pyramid contained over two million blocks of stone each weighing about 2 tons. Its vast sides, 756 feet long, are set to the points of the compass to an accuracy of a small fraction of one degree! The so-called Colossi of Memnon again are not of recent times—they belong to the 18th Dynasty of Egypt. Cut from blocks of sandstone they weigh 400 tons each and were brought 600 miles to their present position.... As our thoughts go back to the Colossus of Rhodes, the Pharos Lighthouse, the Hanging Gardens, the Ziggurats, the Step Pyramid—or even in our own country to Stonehenge—we have no reason to suppose that early man was afraid to tackle great tasks (1970, p. 92).

Arguments like Custance’s are thus shown to be completely at odds with the historical data. Merely because the ark was large does not mean the task was impossible. And we must not forget that Noah had sufficient time in which to build it (Genesis 6:3).

Morris and LaHaye have estimated that four men could have cut, dressed, and installed approximately 15 cubic feet of lumber per day (1976, p. 248). Thus if Noah and his sons worked a six-day week (resting one day each week), they could have cut, dressed, and installed 4,680 cubic feet of wood in a year’s time. Robert Faid noted: “Since it may be estimated that the ark would require 380,000 cubic feet of wood, Noah and his sons could have accomplished this feat in only 81 years” (1994, p. 15). Are we to believe that God—the Creator of man and the One Who endowed him with his intelligence—was unable or unwilling to give Noah adequate instructions—instructions that he could carry out successfully?

Reason & Revelation is published monthly by Apologetics Press, Inc., a non-profit, tax-exempt work dedicated to the defense of New Testament Christianity. Copyright © 2004. All rights reserved.

Editor:

Bert Thompson, Ph.D.*
(*Microbiology, Texas A&M University)

Associate Editor:

Brad Harrub, Ph.D.*
(*Neurobiology, University of Tennessee)

ISSN:

1542-0922

Annual Subscription Rates:

\$10.00 Domestic
\$ 7.50 Domestic Bulk
(5+ to same address)
\$16.00 Canada & Overseas Airmail

Mailing Address:

Apologetics Press, Inc.
230 Landmark Drive
Montgomery, AL 36117-2752

General inquiries, changes of address, or international callers:

Phone: (334) 272-8558
Fax: (334) 270-2002

Orders:

Phone: (800) 234-8558
Fax: (800) 234-2882

On-line Web store/catalog, subscription order/renewal form, current issues, archives, and other information (all orders processed on a secure server):

URL: www.ApologeticsPress.org
E-mail: mail@ApologeticsPress.org

Discovery—Scripture & Science for Kids is a sister publication for children. For more information, please contact our offices or visit the *Discovery* Web site at:

URL: www.DiscoveryMagazine.com

THE CONSTRUCTION AND SIZE OF THE ARK

One of the most frequent charges critics raise is against the ark itself, as they assert that it was not large enough to do its job. This charge is easily refuted, since Scripture provides us with the dimensions of the vessel. God told Noah to make “the length of the ark three hundred cubits, the breadth of it fifty cubits, and the height of it thirty cubits” (Genesis 6:15). If we are to understand the size of the ark, we first must understand the length of a cubit. The word “cubit” derives from the Greek word *pechus*, meaning forearm (Vine, et al., 1996, p. 140). Vine defined the cubit as

the part between the hand and the elbow-joint; hence, “a measure of length,” not from the wrist to the elbow, but from the tip of the middle finger to the elbow joint (p. 140).

In their book, *The Genesis Flood*, John Whitcomb and Henry Morris observed:

The Babylonians had a “royal” cubit of about 19.8 inches, the Egyptians had a longer and a shorter cubit of about 20.65 and 17.6 inches respectively, while the Hebrews apparently had a long cubit of 20.4 inches (Ezek. 40:5) and a common cubit of about 17.5 inches (1961, p. 10).

Alfred Rehwinkel commented:

It is generally supposed that the cubit is the distance from the point of the elbow to the tip of the middle finger. Translated into our own standard of measurements, the common cubit is estimated at about 18 inches. But Petrie, a noted Egyptologist, is of the opinion that it measured 22 inches.... Two feet may be more nearly correct....

But accepting the lower figures, and placing the cubit at eighteen inches and then again at twenty-four inches, we get the following results: According to the lower standard, the ark would have measured 450 feet in length, seventy-five feet in width, and forty-five feet in height. According to the higher figure, the length would have been six hundred feet; the width, one hundred feet; the height, sixty feet.... The ships of the maritime nations of the world never approached the dimensions of the ark until about a half century ago (1951, pp. 59-60).

In 2000, an effort was made to design a “globally harmonized” crash dummy for automobile manufacturers. The task group analyzed anthropometric data from governments worldwide. The results indicated that the average length for an adult male forearm is 276mm (10.86 inches), with the hand being 190mm (7.48 inches) [see Moss, et al., 2000]. The data indicate that the worldwide average length from the elbow to the

tip of the middle finger is 466mm (18.34 inches). Rounding the cubit off to 18 inches would then make the ark 450 feet long, 75 feet wide, and 45 feet long. A ship with these measurements would have been over one-and-a-half football fields in length. In fact, as Filby has pointed out, as late as 1858 the largest known vessel of her type in the world was “the P&O liner *Himalaya*, 240 feet by 35 feet.” It was in that year that Isambard K. Brunel produced

...the *Great Eastern*, 692 feet by 83 feet by 30 feet, of approximately 19,000 tons ...five times the tonnage of any ship then afloat.... Still more interesting are the figures for the *Great Britain*, designed by I.K. Brunel in 1844. Her dimensions were 322 feet by 51 feet by 32 feet, so that the ratios are almost exactly those of the Ark. Brunel had the accumulated knowledge of generations of shipbuilders to draw upon. The Ark was the first of its kind! (Filby, 1970, p. 93).

Using the most conservative estimate available for the length of the cubit (17.5 inches), Whitcomb and Morris have shown that the ark would have been 437.5 feet long, 72.92 feet wide, and 43.75 feet high. In its three decks (Genesis 6:16), it had a total area of approximately 95,700 square feet—the equivalent of slightly more than **twenty standard basketball courts**. Its total volume would have been about 1,396,000 cubic feet. The gross tonnage (a measurement of cubic space rather than weight, one ton being equivalent to 100 cubic feet of usable storage space) was about 13,960 tons (p. 10).

These ratios are strikingly similar to those of the *S.S. Jeremiah O'Brien* (one of the “Liberty Ships” constructed during World War II), which was launched in 1943. During the war, a fleet of ships was created in response to the critical shortage of maritime cargo ships. These ships were manned, for the most part, by merchant seamen who carried all kinds of wartime supplies through the Atlantic and Pacific Oceans, the Mediterranean Sea, and the Persian Gulf. The *S.S. Jeremiah O'Brien* measured 441 feet long and 56 feet wide, and could displace 14,300 tons when fully loaded (see Jaffee, 1993). When U.S. President Franklin D. Roosevelt was shown the plans in 1941 for this fleet, he approved of the efficiency of the proposed design, but commented, “Admiral, I think this ship will do us very well. She’ll carry a good load. She isn’t much to look at, though is she? A real ugly duckling” (as quoted in Jaffee, p. 4). The *S.S. Jeremiah O'Brien* thus became known by the nickname, “Ugly Duckling.” Jaffee, in describing the advantage of this new fleet, wrote:

Driven by an obsolete reciprocating engine with coal burning fire-tube boilers, the vessel had been built, year after year, on the River Tyne and had **proven its reliability in trades where speed was secondary to reliability** (pp. 2-3, emp. added).

The ark, just like the *S.S. Jeremiah O'Brien*, was not built for speed (it had nowhere to go!). But it did need to be reliable—since it would have to withstand pounding waves and whipping winds on the open seas for approximately a year.

Critics of the Flood account have stated that the ark was not large enough to handle its assigned cargo. Such critics, however, generally have not taken the time to consider just how large the ark really was, or the cargo it had to carry. As Whitcomb has pointed out:

For the sake of realism, imagine waiting at a railroad crossing while ten freight trains, each pulling 52 boxcars, move slowly by, one after another. That is how much space was available in the Ark, for its capacity was equivalent to 520 modern railroad stock cars. A barge of such gigantic size, with its thousands of built-in compartments (Gen. 6:14) would have been sufficiently large to carry two of every **species** of air-breathing animal in the world today (and doubtless the tendency toward taxonomic splitting has produced more “species” than can be justified in terms of Genesis “kinds”) on only half of its available deck space. The remaining space would have been occupied by Noah’s family, five additional representatives of each of the comparatively few kinds of animals acceptable for sacrifice, two each of the kinds that have become extinct since the Flood, and food for them all (Gen. 6:21) [1973, p. 23, emp. in orig.].

Whitcomb and Morris investigated the numbers of animals that would have been on the ark (using the highest possible estimates, and taxonomic figures provided by evolutionists), and showed that the biblical account **can** fit known scientific facts regarding these matters (1961, pp. 65-69). Their book, *The Genesis Flood*, was published in 1961. Thirty-five years later, John Woodmorappe expanded on their work, and produced what is likely the most exhaustive, well-researched feasibility study ever put into print dealing specifically with the ark’s construction and contents (1996). His data-based conclusions established beyond any doubt that the ark could do what it was designed to do. Since God was the Creator of all the animals, does it not make sense that He would know precisely how much room was needed for them on the ark?

WHAT ABOUT THE ANIMALS?

Another charge from those who are disinclined to believe the Genesis record revolves around Noah and all those animals. While objections of every kind have been raised regarding the Flood, perhaps none has been echoed as loudly as those that relate to the gathering, storage, and care of the animals destined to live through the Flood via the ark. In order to analyze scientifically the effectiveness of Noah and his family in caring for the animals, the very first question that must be answered is this: How many animals might there have been? While various theories abound, the truth is, we simply do not know. We were not there, and the biblical record is silent on this point.

There are, however, several facts that one can glean from the text. First, God mentioned bringing aboard the ark “every living thing of all flesh...of the birds after their kind, of animals after their kind, and of every creeping thing of the earth after its kind” (Genesis 6:19-20). The text later describes those animals that would join Noah and his family as “beasts” and “birds of the heavens” (Genesis 7:2-3). Thus, we know that Noah was not required to take aquatic animals (which could have survived the Flood outside the safety of the ark). Also, creatures such as mollusks, tunicates, echinoderms, sponges, protozoans, coelenterates, certain arthropods, and some varieties of worms would have been able to survive in the water; thus, Noah likewise did not have to carry them on the boat. Only those land-dwelling and/or air-breathing animals that needed protection from the water were required to be on board.

Second, God’s command to Noah was to take two of each kind of **unclean** animal, and seven of each kind of **clean** animal (Genesis 6:19-20; 7:2-3). We should remember, however, that the Genesis word “kind” (Hebrew *min*) is not the same as the biologists’ “species” of today. Noah did not have to take two or seven of every **species** of animal. He had to take two (or seven) of every **kind**. That is to say, he did not have to take two German Shepherds, two Golden Retrievers, two coyotes, and two dingoes. He simply had to take two of the dog “kind.” [Dogs, dingoes, coyotes, foxes, and wolves all can interbreed, and therefore are the same kind.]

But another question arises. Genesis 7:2-4 states:

Of every clean beast thou shalt take to thee seven and seven, the male and his female; and of the beasts that are not clean two, the male and his female:

of the birds also of the heavens, seven and seven, male and female, to keep seed alive upon the face of all the earth.

That has caused some to ask: Exactly how many clean animals did Noah take into the ark—seven, or fourteen? Generally, there are two opposing views on the precise number of each kind of animal involved. One view is expressed by the following comment from John T. Willis:

It is impossible to determine certainly whether the Hebrew phrase, *shibb'ah shibb'ah* means “by sevens” (KJV), that is, seven animals of all clean species, or “seven and seven” (ASV) or seven pairs (RSV, NEB), that is fourteen animals of all clean species.... There can be no certainty on this point (1979, p. 171).

Other scholars, however, have been more decisive on the matter, suggesting the reason why there would have been only seven of every clean kind on the ark. Animal sacrifice to God was practiced during the Patriarchal Age, and it is apparent that the people could distinguish between clean and unclean. Thus, it is likely that when Noah left the ark and offered sacrifices to God “of every clean animal” (Genesis 8:20), one animal was sacrificed, and three pairs were left for domestication by man so that he could have food and fashion clothing. Regarding the actual exegesis of the passage, H.C. Leupold commented:

The Hebrew expression “take seven seven” means “seven each” [here, he then refers to Koenig and Gesenius—BH/BT]. Hebrew parallels support this explanation. In any case, it would be a most clumsy method of trying to say “fourteen” (1942, 1:290).

While it is difficult to speak dogmatically on this issue, the view of numerous conservative scholars weighs heavily in favor of the interpretation that there were seven clean, and two unclean, of every animal kind to be found on Noah’s ark.

But what about those who still want to argue that Noah was required to take two of each unclean, and seven of each clean, **species**? To answer such an argument, one would merely have to turn to *Principles of Systematic Zoology* by world-renowned evolutionary taxonomist Ernst Mayr, and examine the table he provides that lists the total number of animals per species (1980). Of those that would have needed protection onboard the ark, we find:

Mammals—3,700
Birds—8,600
Reptiles—6,300
Amphibians—2,500
Total—21,100 different species

We can immediately multiply that number by two (two of every unclean animal)—42,200. After adding the clean animals (which were much fewer in number), this would yield approximately 50,000 vertebrate animals onboard the ark. Recognizing that the majority of these animals would have been small (e.g., birds, reptiles, etc.), we can safely estimate the average size for each animal at roughly the size of an adult sheep. Morris and LaHaye have suggested that since one railroad boxcar is capable of holding 240 “sheep-sized” animals, all of the animals that Noah would have had to accommodate (using known species, not kinds) would have taken up only 36 percent of the ark’s capacity. They concluded: “In other words, **assuming a minimal size for the ark and a maximum number of animals**, we find that the ark was not too small for the task, as many have claimed” (1976, p. 247, emp. added). John Woodmorrapp took his analysis one step farther. Using the floor-space recommendations for the housing of laboratory animals, he documented that the cumulative area of the ark’s three decks was more than adequate to provide all the necessary floor space required to accommodate the ark’s inhabitants (1996, pp. 15-16).

HOW DID NOAH GET ALL THE ANIMALS ON THE ARK?

As early as 1854, John Pye Smith began raising objections regarding the authenticity of the Flood account (p. 145), and local-flood advocates have been raising them ever since. For the most part, objections can be grouped under three main headings: (1) gathering of the animals; (2) storage and care of the animals; and (3) migration of the animals after the Flood.

Gathering of the Animals

Skeptics of the Genesis record are quick to point out that it would have been “impossible” for Noah to collect such a vast array of animals. Even given the time allotted, they argue, he and his family would not have had time to build the ark and collect the animals. A careful examination of the text, however, reveals that Noah and his family were not in charge of this gargantuan task. Rather, we are told that the animals came unto Noah.

And of every living thing of all flesh, two of every sort shalt thou bring into the ark, to keep them alive with thee; they shall be male and female. Of fowls after their kind, and of cattle after their kind, of every creeping thing of the earth after his kind, two of every sort **shall come unto thee**, to keep them alive (Genesis 6:19-20, emp. added).

The only task for which Noah was responsible, according to the biblical record, was building an ark of the appropriate dimensions as given to him by God.

The objection has been raised that it would have been impossible for creatures from different regions of the world to leave their respective homes and meet Noah in the Mesopotamian Valley. The unique creatures of Australia, for example, certainly could not have traveled to the ark, since Australia is an island. And how could the polar bear survive a journey from its native land to the sultry plains of Mesopotamia? The variety of climates, the difficult geography, and other various and sundry items, seemingly would make such journeys impossible. Some have viewed these “impossible journeys” as militating against the accuracy of the Flood account. Whitcomb and Morris, commenting on such arguments, wrote:

An equally serious fault in this type of reasoning is that it begs the question of the extent and effects of the Deluge. It assumes, for example, that climatic zones were exactly the same before the Flood as they are now, that animals inhabited the same areas of the world as they do now, and that the geography and topography of the earth continued unchanged. But on the assumptions of a universal Deluge, all these conditions would have been profoundly altered. Arctic and desert zones may never have existed before the Flood; nor the great intercontinental barriers of high mountain ranges, impenetrable jungles, and open seas (as between Australia and Southeast Asia, and between Siberia and Alaska). On this basis, it is quite probable that animals were more widely distributed than now, with representatives of each created kind of land animal living in that part of the earth where Noah was building the Ark (1961, pp. 64-65).

Rehwinkel has suggested that during the probationary period provided by God in Genesis 6:3, “migration of these animals which God had intended to save might have extended over several generations of animals” (1951, p. 75). Thus, when the ark was ready for its occupants, the animals already were in the nearby geographical regions. Since Genesis 6:19-20 makes it clear that God caused the creatures to “come unto Noah,” Noah did not have to “go after” all the various animals. Even Bernard Ramm (a local-flood advocate) has admitted that the animals must have come unto Noah as they were “prompted by divine instinct” (1954, p. 169). Here, too, is an intriguing point to consider: If God could bring the animals to Adam to be named (Genesis 2:19), could He not just as easily bring them to Noah to be saved? If not, why not?

Care of the Animals

But how do we explain the storage and care of the animals in the ark? Genesis 6:14 states that Noah was instructed to construct “rooms” (cubicles, cells, or cabins) in the ark to hold the animals. Once onboard, the animals were placed into these rooms for the long trip. As we try to unlock many of the mysteries regarding the care of the animals, we must recognize that we today do not have access to all the information that Noah and his family possessed. Did God specify that Noah had to take **adult** animals onboard the ark? Or could he have taken juvenile animals, thus reducing the amounts of room and food needed in housing the animals? There are many things that are logical. But we still cannot be dogmatic about exactly how every event transpired, because we were not there (and because the biblical record often is silent on specific details that we would perhaps like to have seen enumerated).

But critics still are “perplexed” by what they consider to be insurmountable problems. How could eight people possibly feed and care for all the different animals on the ark? Ramm, as one such critic, is on record as complaining: “The problem of feeding and caring for them would be enormous. The tasks of carrying away manure and bringing food would completely overtax the few people in the ark.” He further suggested that the problem of “special diets and special conditions needed for the animals overthrows the idea of a universal flood” (p. 167).

Ramm, however, apparently has missed several critical factors. First, of course, is the fact that his local-flood theory suffers from exactly the same problems. Even if the Flood were local, the care and feeding of the animals **still** would present a major problem. Second, if the animals could have been “prompted by divine instinct” (to use Ramm’s own words) to come to the ark, could they not also be cared for, once in the ark, by He Who was responsible for that “divine instinct”?

Third, in our estimation, Dr. Ramm has overlooked an important Bible message. In Genesis 8:1, it is stated quite clearly that God “remembered” Noah and all the animals in the ark. The Hebrew word *zakar*, translated “remembered,” suggests God’s continued watchful care over all the occupants of the ark. In the Scriptures, God’s “remembering” always implies His movement toward the object(s) of His memory (cf. Genesis 19:29; Exodus 2:24; Luke 1:54-55, et al.). In fact, the primary meaning of *zakar*, according to Hebrew usage, is “grant-

ing requests, protecting, delivering,” when God is the subject and humans are the object (Brown, Driver, Briggs, 1901, p. 270). The point we are making is this: **God was with Noah and his family.** Those eight souls had received what basically amounted to a personal invitation from the Creator and Sustainer of the Universe to join Him on a year-long trip inside the ark. Noah, his wife, his three sons, and his three daughters-in-law were not “left to their own devices” for the duration of the trip. Nor were they in any sense of the word abandoned to “go it alone.” Quite the opposite. God “remembered them.”

The truth is, Noah and his fellow passengers did not have to tackle these tasks by themselves, since God was “with them” and “remembered them.” The **how** of this process is not stated specifically in the inspired text. Whitcomb has suggested that God may have supernaturally imposed a year-long hibernation process on the animals, thereby minimizing the necessity of a great deal of food and care.

What Biblical evidence do we find to support this significant concept? **First**, we must assume that God supernaturally controlled the bodily functions of these animals to bring them to the Ark in the first place, overcoming all of their natural instincts during that period of time. All alternative possibilities have been shown to be hopelessly inadequate. **Second**, there could have been no multiplication of animals (not even the rabbits) during the year of the Flood, for the Ark was built just large enough to carry two of each, and the animals entered the Ark two by two and a year later went out of the Ark two by two. Note that it was not until **after** Noah brought the creatures out of the Ark that God commanded them to “breed abundantly in the earth, and be fruitful, and multiply upon the earth” (8:17)... In the entire matter of gathering the animals to the Ark and caring for them during the year of the Flood, the Book of Genesis is **consistently supernatural** in its presentation (1973, p. 32, emp. in orig.).

While it is impossible to state with certainty what God did in regard to gathering and caring for the animals prior to and during their journey, it is clear that, to use the words of Robert Jamieson, “They must have been prompted by an overruling Divine direction, as it is impossible, on any other principles, to account for their going in **pairs**” (1948, p. 95, emp. in orig.). There was **some** divine “overruling” in the storage, feeding, and care of the animals, to be sure. How much, the Bible does not indicate. Yet, as Rehwinkel has observed:

But, if we are willing to accept the possibility of the miraculous, some such solution is at least conceivable. The Flood as a whole was a stupendous, miraculous interference with the laws governing the entire universe; a temporary suspension of the laws governing the routine and habits of a select group of animals for one year is but an insignificant detail in comparison. The Biblical account of the Flood is so brief, and our knowledge of the world before the Flood, and particularly of the ark, is so limited that here, as elsewhere, many questions must remain unanswered (1951, p. 76).

Woodmorappe went into painstaking detail to show not necessarily **how** it was done, but rather that it **could** be done. His well-referenced study demonstrates how we can account for waste management, feeding, and watering, using 80 man-hours per day. Skeptics are quick to point fingers and cast doubt, of course. But few are willing to invest the time and research Woodmorappe did to back up their allegations.

How the animals became so widely distributed over the Earth, once they disembarked from the ark after the Flood, is not explained in the Genesis account. Whitcomb and Morris offered some viable suggestions in *The Genesis Flood* (1961, pp. 79-86). Migrations may have taken place by land bridges, by air, or even by the direct supernatural intervention of God Himself. Other possibilities also exist. For example, perhaps after the Flood those animals that came off the ark lived around the mountains of Ararat, where they were able to “breed abundantly in the earth, and

multiply upon the earth” (Genesis 8:17). Their **descendants** then migrated slowly, generation by generation, until the Earth once again was filled with animal life. Critics often are heard to ask questions such as, “How did the unique animals like marsupials get back to Australia, for example?” [NOTE: For a discussion of this topic, see Major, 1989.] There is a significant assumption in such a question, however. Who can **prove** that the marsupials were in Australia **before** the Flood in the first place? Some pieces of information we do possess; some we do not. We do know, for example, that a certain number of every kind of air-breathing animal entered the ark. We know that representatives of each exited the ark. And we know that the survivors bred and multiplied, filling the Earth once more with animal life. Exactly how they migrated (or were distributed) to various parts of the Earth, how long that took, or why some animals later became extinct, we cannot determine conclusively. These are questions that will have to remain unanswered, but do not affect the authenticity of the Bible.

THEN CAME THE RAIN

After spending decades constructing the ark, Noah and his family finally boarded the giant boat, God closed the door (Genesis 7:16), and one week later the waters of the flood were upon the earth” (Genesis 7:10). Genesis 7:11 provides some indication of the devastating nature of the floodwaters when it states that “all the fountains of the great deep [were] broken up, and the windows of heaven were opened.”

This was no gentle spring rain. Rather, it was the final judgment of an angry God upon a sin-sick, destined-to-die world. Water came down (“the windows of heaven were opened”) and water rose up (“all the fountains of the great deep were broken up”) until finally Genesis 7:19-20 records: “And the waters prevailed exceedingly upon the earth; and all the high mountains that were under the whole heaven were covered. Fifteen cubits upward did the waters prevail; and the mountains were covered.” In assessing this passage, Whitcomb and Morris wrote:

One need not be a professional scientist to realize the tremendous implications of these Biblical statements. If only **one** (to say nothing of **all**) of the high mountains had been covered with water, the Flood would have been absolutely universal; for water must seek its own level—and it must do so quickly! (pp. 1-2, emp. in orig.).

Critics, however, have been quick to suggest that “all the high mountains” need not mean necessarily **all** the high mountains, since the word “all” can be used in a relative or distributive sense. H.C. Leupold dealt a deathblow to that argument.

A measure of the waters is now made by comparison with the only available standard for such waters—the mountains. They are said to have been “covered.” Not a few merely, but “all the high mountains under all the heavens.” One of these expressions alone would almost necessitate the impression that the author intends to convey the idea of the absolute universality of the Flood, e.g., “all the high mountains.” Yet since “all” is known to be used in a relative sense, the writer removes all possible ambiguity by adding the phrase “under all the heavens.” A double “all” (*kol*) cannot allow for so relative a sense. It almost constitutes a Hebrew superlative. So we believe that the text disposes of the question of the universality of the Flood (1942, pp. 301-302).

How deep, then, was this water “over all the high mountains”? The text indicates it was “fifteen cubits upward” that the water “prevailed.” This phrase obviously cannot mean that the waters went **only** fifteen cubits high (approximately 22 feet), for the phrase is qualified by the one that immediately follows—“and the mountains were covered.” The true meaning of the phrase is to be found in comparing Genesis 7:19-20 with Genesis 6:15, where it is stated that the ark was thirty cubits high. The phrase “fifteen cubits” gives us an indication of how much clearance the ark would have had

SPEAKING SCHEDULES

Dr. Bert Thompson

January 21-23	Kissimmee, FL	(407) 847-5749
January 28-30	Milan, TN	(731) 686-7561

Dr. Brad Harrub

January 21-23	Augusta GA	(706) 855-0801
March 11-13	Evant, TX	(817) 417-5705

Dr. Dave Miller

March 4-6	Lakeland, FL	(863) 682-4702
March 18-20	Tucson, AZ	(520) 886-0437

Kyle Butt

January 9	Florence, AL	(256) 766-3617
January 21-23	Pell City, AL	(205) 422-7888

Eric Lyons

January 7-8	Haleyville, AL	(205) 486 -9247
January 21-23	Augusta, GA	(706) 855-0801

over the tallest mountain. The draft of a boat built for seaworthiness (such as the ark) is generally half the ship's height. That is, when fully loaded, it sinks in the water to a depth equal to half the height. **If the ark was thirty cubits high, and if it sank half of that, then it would sink fifteen cubits!** If the waters prevailed upward "fifteen cubits," that would be adequate to protect the ark as it floated on the waters all over the Earth for a little more than a year. Thus, the ark would not have hit any mountaintops while being tossed to and fro during the Flood.

A careful reading of the Genesis text indicates that the Flood lasted approximately a year. The chronology would have included the following:

- 40 days of rain (Genesis 7:4)
- 110 additional days of water "prevailing on the earth," for a total of 150 days (Genesis 7:24)
- 74 days until mountains were viewed (from the 17th day of the seventh month to the 1st day of the tenth month: 13 + 30 + 30 + 1) [Genesis 8:5]
- 40 days elapsed before Noah sent out the raven (Genesis 8:6-7)
 - 7 days elapsed before Noah sent out the dove for the first time (8:8)
 - 7 days elapsed before Noah sent out the dove for the second time (Genesis 8:10)
 - 7 days elapsed before Noah sent out the dove the final time (Genesis 8:12)
- 29 days elapsed to correlate with the date of 601st year, 1st month, 1st day (Genesis 8:13)
- 57 days elapsed before Noah and the animals disembarked (Genesis 8:14-16)
- 371 days total

Whitcomb and Morris provided the following summary.

The order of events as set forth in the first part of the eighth chapter of Genesis would seem, then, to be as follows: (1) After the waters had "prevailed upon the earth" 150 days, the waters began to assuage. (2) The Ark rested upon the mountains of Ararat the same day that the waters began to assuage, for the 17th day of the 7th month was exactly 150 days after the Flood began. (3) The waters continued to subside, so that by the 1st day of the 10th month (74 days later), the tops of various lower mountains could be seen. This would suggest a drop of perhaps fifteen or

twenty feet a day, at least during the initial phase of this assuaging period. (4) The Flood level continued to fall for forty more days, so that Noah, no longer fearing that the Flood would return, sent forth a raven to investigate the conditions outside the Ark (p. 7).

CONCLUSION

The temptation undoubtedly exists, especially in today's climate of scientific prowess, to exalt science above Scripture. Such a stance, while obviously to be expected of those who do not profess a belief in either God or His Word, simply is not an option for the person who accepts the truthfulness and inspiration of the Bible. John Morris addressed this particular temptation, and what happens when Bible believers fall prey to it, when he wrote:

Unfortunately, many others now have begun to judge Scripture's accuracy by its agreement with scientific dogma, and then to distort Scripture until the two seem to agree. In doing so, scientific opinions of some scientists are elevated to a level they don't deserve, and Scripture suffers.

If such a method of interpreting Scripture is followed throughout, other doctrines will fall also. After all, miracles are "scientifically" impossible. Scientists know that virgins don't give birth, men don't walk on water, and bodies don't rise from the dead. One may gain scientific credibility among the secularists by twisting Scripture to fit science, but it would be better to honor God by believing His word (1998, p. d).

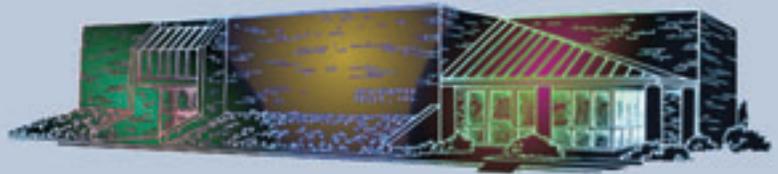
Christians need not have nagging doubts about the accuracy of the Flood account. Let us openly and fairly examine the biblical and scientific evidence that supports the Genesis Flood, and let us simultaneously urge others to do likewise. Biblical evidence establishes the fact that there **was** a universal Flood. Knowing that, we then may be alert to evidence from science that possibly provides support for the Flood model. At the same time, however, we must realize that it is not always an easy task to interpret such evidence, for none among us has experienced or witnessed a global Flood. The worldwide Flood recounted in Genesis has no parallel in today's world. Therefore, whatever measurements we make must, by necessity, be on a much smaller scale (e.g., using local flood information, etc.). This being the case, it behooves us to use great care, for we do not want to abuse, misuse, or over-extrapolate the evidence from science.

Let us be cautious as good students, but never willing to compromise inspired testimony. We must never forget that "the main concern, as always, should be, what do the Scriptures teach?" (Jones, 1996, p. 61).

REFERENCES

- Brown, Francis, S.R. Driver, and Charles B. Briggs (1901), *A Hebrew and English Lexicon of the Old Testament* (Peabody, MA: Hendrickson), 1979 reprint.
- Custance, Arthur C. (1979), *The Flood: Local or Global?* (Grand Rapids, MI: Zondervan).
- Faid, Robert (1990), *A Scientific Approach to Christianity* (Green Forest, AR: New Leaf Press).
- Filby, Frederick A. (1970), *The Flood Reconsidered* (Grand Rapids, MI: Zondervan).
- Jaffee, Walter W. (1993), *The Last Liberty: The Biography of the SS Jeremiah O'Brien* (Palo Alto, CA: Glencannon).
- Jamieson, Robert (1948 reprint), *Jamieson, Fausset and Brown Critical & Experimental Commentary* (Grand Rapids, MI: Eerdmans).
- Jones, Edwin S. (1996), *Studies in Genesis* (Abilene, TX: Quality).
- Leupold, H.C. (1942), *Exposition of Genesis* (Grand Rapids, MI: Baker).
- Major, Trevor J. (1989), "Questions and Answers," *Reason & Revelation*, 9:29-30, August.
- Mayr, Ernst and William B. Provine, eds. (1980), *Principles of Systematic Zoology* (New York, McGraw Hill).
- Morris, John and Tim LaHaye (1976), *The Ark of Ararat* (Nashville, TN: Nelson).
- Morris, John D. (1998), "How Does 'Old Earth' Thinking Affect One's View of Scripture's Reliability?," *Back to Genesis*, 116:d, August.
- Moss, S., Z. Wang, et al. (2000), "Anthropometry for WorldSID: A World-Harmonized Midsize Male Side Impact Crash Dummy," *Society for Automotive Engineers-Technical Paper Series*, June 19-21.
- Ramm, Bernard (1954), *The Christian View of Science and Scripture* (Grand Rapids, MI: Eerdmans).
- Rehwinkel, Alfred M. (1951), *The Flood* (St. Louis, MO: Concordia).
- Smith, John Pye (1854), *The Relation Between the Holy Scriptures and Some Parts of Geological Science* (London: Henry G. Bohn).
- S.S. Jeremiah O'Brien (no date), "Warships Associated With World War II in the Pacific," National Park Service, [On-Line], URL: http://www.cr.nps.gov/history/online_books/butowsky1/jeremiahobrien.htm.
- Vine, W.E., Merrill F. Unger, and William White Jr. (1996), *Vine's Complete Expository Dictionary of Old and New Testament Words* (Nashville, TN: Thomas Nelson).
- Whitcomb, John C. (1973), *The World That Perished* (Grand Rapids, MI: Baker).
- Whitcomb, John C. and Henry M. Morris (1961), *The Genesis Flood* (Philadelphia, PA: Presbyterian & Reformed).
- Willis, John T. (1979), *Genesis* (Austin, TX: Sweet).
- Woodmorappe, John (1996), *Noah's Ark: A Feasibility Study* (El Cajon, CA: Institute for Creation Research).

NOTE FROM THE EDITOR



ANNOUNCING: REASON & REVELATION/DISCOVERY 2004 BOUND VOLUMES

When we began publishing *Reason & Revelation* in 1981, we realized that many of the articles would remain relevant far beyond the time period during which they were authored. We thus decided to produce a bound volume of all twelve issues at the end of each calendar year. Twenty-four volumes later, we still remain dedicated to that initial commitment.

For two-and-a-half decades, many of our subscribers have made it a regular habit to purchase copies of each year's bound volume of *Reason & Revelation*. No doubt they have benefited from having the articles available in a permanent format that allows continued study of the themes covered within the various articles. If sales of bound volumes through the years are any indicator, I believe it is safe to say that our readers have appreciated their availability.

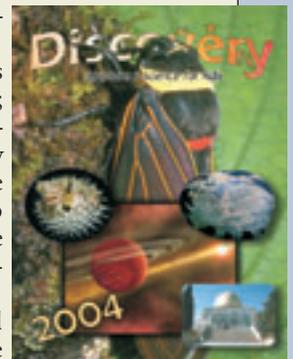
Previously, we have offered bound volumes of *Reason & Revelation* for 1994-2003. With the collating and binding of all issues for 2004, we now have available **eleven years' worth** of bound volumes. Volumes contain all twelve issues for the year, as well as an author/subject index and an attractive cover.

The 2004 bound volume of *Reason & Revelation* now is available from our offices, and contains articles on such topics as: the origin of the brain and mind; the origin of consciousness; biblical inerrancy; archaeology and the Old Testament; archaeology and the New Testament; a case study in salvation; a scientific examination of homosexuality and the "gay gene"; an investigation of the biblical evidence against homosexuality; situation ethics; an examination of Noah's ark and the global Flood; etc. You may purchase the 2004 bound volume (as well as those from 1994-2003) for only \$8 each. Or you may purchase the entire set of eleven at the special price of \$75. Whenever the bound volumes go out of print, they are gone forever; we do not reprint them.

We also would like you to know that the 2004 bound volume of *Discovery*, our monthly magazine on Scripture and science for children, now is available. In addition, we have in stock bound volumes for 1998-2003 (the 1990-1997 volumes are out of print permanently). Individual bound volumes of *Discovery* cost just \$12 each. The entire set of seven (1998-2004) can be purchased for only \$75. Each bound volume of *Discovery* provides a veritable storehouse of information for children on both scriptural and scientific matters—information that is difficult (or impossible) to find elsewhere. Each issue contains articles written by faithful Christians on various topics related to science and/or the Bible, and is heavily illustrated with beautiful, professionally produced artwork. In addition, most issues of *Discovery* contain two full pages of activities—not just "things to do," but assignments that are intended to reinforce in the mind of a child the eternal truths within the articles.

During 2004, *Discovery* contained articles on such timely topics as: incredible animals; eastern religions; morals; dinosaurs; biomimicry; scientists who believed in God; and many others. Kyle Butt and Eric Lyons serve as the editors of *Discovery*, and do a marvelous job of ensuring that the content throughout the year is varied so that children receive well-rounded instruction.

You may order any, or all, of these bound volumes via credit card by calling us toll-free at 800/234-8558. Or, you may order them by mail if you prefer. [Calculate shipping at \$1.75 for the first volume, plus 50¢ for each additional volume.] Bound volumes of *Reason & Revelation* or *Discovery* make great gifts for youngsters, students in college, or Bible class teachers. They also make nice gifts for public or church libraries. Why not order two sets—one for yourself, and one to give away?



Bert Thompson