

CHAPTER 1

Destination Specified and Challenges Identified: Research Objectives and Obstacles

Steven W. Boyd and Andrew A. Snelling

Analogy and Orientation. As in any sea voyage, this voyage of research of the Cataclysm Chronology Research Group (CCRG) has a clear destination: ascertaining the chronology of the Genesis Flood—a goal easily stated but not easily achieved, because there are significant challenges to correctly doing so. Succinctly put, the ideal chronology of the Flood would be a description that gives the absolute time of the beginning and end of the events of the Flood recorded in Scripture. Or, alternatively, the time of their beginnings and their durations would secure the chronology. We are not given these absolute dates, but rather, relative dates. So, for us, this voyage is a pursuit of the sequence of the beginning of events and their duration. And, as in the heyday of the great sailing ships, the prospect of a voyage caused those so engaged to anticipate the challenges and dangers that would test the mettle of the most competent of hardy seamen, we must do the same, because challenges and danger lie before us, seven challenges to ascertaining the temporal sequences and thus avoiding the one ever present danger in biblical studies, arriving at an incorrect interpretation of Scripture. These seven are the challenge of the theological bent of the narrative, the challenge of the interaction of the structures in Genesis as a whole with those of the narrative itself, the challenge of the text, the challenges of the grammar, the challenges of the semantics, the challenge of the calendar,

and the challenge of the nature of time itself. We will take these up in turn briefly in this chapter, but they will be taken up in great detail in the subsequent chapters. We will also consider how the chronology sets the parameters of the geology, geophysics, and paleontology of the Flood with the main crucial questions and issues being raised by these earth scientists.

Outline

1. Resolving the Chronology of the Flood Narrative
2. Setting the Parameters of Flood Geology, Geophysics, and Paleontology

1. Resolving the Chronology of the Flood Narrative

The seven challenges to resolving the chronology of the Flood, mentioned above and discussed below, are innate to the Flood narrative itself, but most are not confined to this narrative. In fact, all but one challenge are incumbent to every narrative; only the challenge of the calendar is uniquely pertinent to this narrative. We will now take these up in order, starting with the theological.

- 1.1 The Theological Bent of the Narrative
- 1.2 The Structures
- 1.3 The Text
- 1.4 Grammar
- 1.5 Semantics
- 1.6 Calendar
- 1.7 Time

1.1 *The Theological Bent of the Narrative*

Arguably, the extended narrative spans from Genesis 5:28 through 9:29. And clearly the central human character is Noah. Furthermore, it is obvious that the center of this extended narrative is 8:1, “God remembered Noah,” in that this focal point is marked by several chiasmic structures. There is the concentric structure of the numbers seven, forty, and one hundred fifty before this verse and one hundred fifty, forty, and seven after it; an inclusio of almost identical syntactic structures in 6:17 and 9:9, with 1cs (first common singular) *ipp* (independent personal pronoun) *hinneh* (indicates imminence) +1cs, “come” or “enter” *Hiphil* (causative verb stem) *ptc.* (participle) *’et* (definite direct object marker) *Hammabbûl*, “the Flood,” in the former and 1cs *ipp hinneh*+1cs *qûm* “rise up,” *Hiph* *ptc.* *’et b^orit*, “covenant,” +1cs in the latter; and Noah building the Ark before the Flood and an altar afterwards—to

mention a few. Such theological centralization makes it difficult to determine the sequence of the beginning of events, which is one of two hallmarks of chronology; the other being their duration. Specifically, the aforementioned centralization clouds the issue of the sequence of the events in 7:24 with those in 8:1. Also, of interest is the striking lexical change seen in the narrative. The root *bw'* occurs fifteen times before 8:11 but not at all after this.

1.2 *The Structures*

The Flood narrative evidences five structures, which complicates ascertaining the temporal sequence. First, the extended narrative is an atypical member of a ten-part genealogy beginning in Genesis 5:1, with generations two through six and eight exhibiting the typical formula and one, seven, nine, and ten being atypical. Moreover, second, intertwined with this is the Über-structure of Genesis, the *to^ldot* formulae, which separates the book into eleven parts, beginning with Genesis 2:4, with Genesis 1:1–2:3 serving as a prologue to the whole. A third structure is the interchange between God's dealings with the world and His dealings with Noah. A fourth is a recapitulation/elaboration structure, which occurs several times in the narrative. Fifth, and finally, are the chiasmic structures, which are mentioned above.

1.3 *The Text*

Just as whenever ancient sailors ventured out on the high seas, they found their whereabouts on the featureless expanse of the oceans on clear nights by orienting themselves to the “fixed stars,” so we must base any chronology of the Flood on the so-called fixed dates from the life of Noah, which anchor crucial moments of the cataclysm: its beginning, the day the Ark ran aground, the day the mountain tops reappeared, the day the ground appeared to be dry and Noah removed the cover of the Ark, and the day the land was completely dry, the end of the Flood. These “fixed dates” are not sure cyanotheses, however: the Hebrew Masoretic Text (MT), Jubilees and 4Q252 of the Dead Sea Scrolls, the Greek Septuagint (LXX), the Latin Vulgate, and other important witnesses to the text, differ on these dates. Longacre will unravel the tangled skein in **Chapter 3, Section 3; Chapter 4, Sub-subsection 2.1.2;** and in **Chapter 9.**

1.4 *Grammar*

There are two main grammatical issues pertaining to temporal sequence in the narrative and two lesser ones. As for the main issues, in question

is the temporal sequence of the chain of events represented by the chain of *wayyiqtoles*,¹ the most common verb forms in Hebrew narrative; and the temporal significance of *way^hbi*. The former of these will be discussed by Stroup—briefly in **Chapter 3, Subsection 4.2**, and in great detail in **Chapter 10**. And the latter of these will be introduced by Longacre in **Chapter 4, Sub-subsection 3.3.3**; and covered in more detail in **Chapter 15**. As for the lesser issues, which are the meanings of the three double infinitive absolutes and the meaning of all the verbs describing the transgression and regression of the water, these will be taken up by Stroup and by Akagi, respectively. The importance of the first is discussed in **Subsection 3.1**, but Stroup will present his findings in the next book. Akagi discusses the second in **Chapter 4, Sub-subsection 3.3.1** and **Chapter 11**.

1.5 *Semantics*

Although we are interested in the semantics of all parts of speech, the semantics of verbs and verb phrases is most germane to our study. We will be looking at the *semantic relations between verbs* and the *semantic characteristics of individual verbs*, both of which are keys to unlocking the temporal sequence of the events represented by the verbs. The former, which Boyd will briefly elucidate in **Chapter 3, Subsection 4.1** and **Chapter 4, Subsection 3.2** and **Sub-subsection 3.3.2**, and discuss in great detail in **Chapter 12**, are variously termed logical semantics, rhetorical relations, discourse relations, conjunctive relations, and coherence relations (our preference). The latter, which Akagi will briefly address in **Chapter 4, Sub-subsection 3.3.1**, and greatly expand on in **Chapter 11**, also have their share of nomenclature: lexical semantics, situational aspect, and *Aktionsart*, among others.

1.6 *Calendar*

Calendrical issues abound in this chronological undertaking, which can be roughly divided into two multi-faceted groups, issues pertaining to points of time and those pertaining to duration of time. But what complicates any analysis of the chronology and seemingly defies our efforts is that when the text gives us the point in time, such as the date the Ark ran aground, six hundred years seven months seventeen days (the six hundredth year of the life of Noah, the seventh month of this year and the seventeenth day of this month), the accompanying durations are unknown. If we did know them, we could easily calculate how many days after the beginning of the Flood (six

1. The *wayyiqtol* verb is elsewhere called the preterite or the *waw*-consecutive imperfect.

hundred years two months seventeen days) the Ark ran aground. For the sake of argument let us suppose that months have thirty days. Then the number of days in question would have been the number of days remaining in the second month (thirty minus seventeen) plus the number of days in four months (four times thirty) plus the seventeen days of the seventh month, which yields a grand total of one hundred fifty days. But the fact of the matter is that we do not know. Nevertheless, since the author of the narrative gives us dates, it is natural to ask: what calendar did the author use for this detailed chronological record? Noah's or his? How many days were in a year? Was it three hundred sixty-five, that is, a solar calendar? Or was it three hundred fifty-four—a lunar calendar? Or, perhaps three hundred sixty—a schematic calendar? Or even the three hundred sixty-four day calendar, which is found in the Book of Jubilees? This triggers the next round of questions. How many days were in a month? How many months in a year? What—if any—adjustments were made to the calendar to bring it into line with the real passage of time? Were intercalary months inserted? Or, alternatively, were epagomenal days added at the end of the calendar year? Or was the method apparently employed in Jubilees used, the insertion of inter-seasonal days after the third, sixth, ninth, and twelfth months? Conversely, when we are given the length of intervals of time, we do not know to what point of time they attach. Should we count the one hundred fifty days from the beginning of the Flood, from after the first forty days, or from a different point in time?

1.7 *Time*

Finally, time itself is against us. Time is mysterious. Philosophers have striven to understand it; physicists have tried to explain how it works; and linguists discuss the relationship between time and events. Among the first group there are those who argue that time does not exist at all. Aristotle and Newton are two of the better known of these. Plato argued for the reality of time. Augustine, contemplating the experience and perception of time, concluded that we only experience the present; the past and the future are in our minds.

Physicists understand time to be a fourth dimension like the three spatial dimensions. In Einstein's theories of special relativity and general relativity time intervals change with velocity and acceleration, respectively. This is known as time dilation, the amount of which can be calculated according to the theory but is difficult if not impossible to conceptualize. But providentially we do not have to look at time relativistically in the Flood narrative. Nevertheless, we must ask some probing questions with respect to events, which linguists ask, such as: is time to be understood as discrete

or continuous; are we dealing with points of time, intervals, or both; can we go from points to intervals and vice-versa; and how does time depend on different kinds of events, and conversely, how do different kinds of events depend on time? The first three of these are of a more theoretical nature, but the fourth is quite practical for our purposes, because the duration of time in an event is one of two components of the situational aspect of verbs—the other being dynamic (or not). Both *states* (e.g., The sky was overcast all day) and *activities* (e.g., John ran) involve duration in time. On the other hand *achievements*, which are instantaneous changes of state (e.g., Bob arrived at the house), and *accomplishments* (e.g., Bob built his house in three months) do not. In addition, states have the property that during any point in the interval of time the referent will be in that state (called right downward monotonicity); whereas, with action events the time interval is controlled by the event (called upward monotonicity)

So the voyage is ahead of us, a fascinating study to be sure in its own right; but it is also vitally significant to our understanding of Flood geology, to which we now turn.

2. Setting the Parameters of Flood Geology, Geophysics, and Paleontology

Resolving the chronology of the Flood from the Genesis narrative is crucial to setting the parameters for the geology, geophysics, and paleontology of the Flood. In particular, the timing in the development of the geologic record needs to be correlated with the various stages of the Flood so that the catastrophic Flood model for earth history can be firmly reestablished as a credible scientific alternative to the reigning secular gradualistic model. Furthermore, there are potential descriptions of the actions of the Floodwaters and other features that might possibly be gleaned from the Hebrew text that would be very helpful to aligning details of the geologic record with the outcomes of the Flood event. These geological, geophysical, and paleontological issues are discussed in detail by Snelling in **Chapters 5, 6, and 7**, respectively, but some of the main questions being asked are briefly elaborated on here.

- 2.1 What were “the Fountains of the Great Deep” and “the Windows of Heaven”?
- 2.2 When did the Floodwater Level Reach its Peak?
- 2.3 Did the Floodwaters and their Levels Fluctuate and Oscillate during their Prevailing?
- 2.4 When were the “Fountains” Stopped and the “Windows” Closed?
- 2.5 Did the Floodwaters also Fluctuate and Oscillate during their Abating?

- 2.6 Does the Hebrew Indicate when all Life had Perished?
- 2.7 Does the Description in the Hebrew of the Mountains Appearing Refer to Only the Waters Abating, or did the Mountains also Rise?

2.1 What were “the Fountains of the Great Deep” and “the Windows of Heaven”?

These two descriptions of significant physical realities have long puzzled biblical scholars and Flood geologists alike. Knowing exactly what the Hebrew text allows these to be is very important for our understanding of the geology and physics of the Flood. It has been suggested that these “fountains” breaking up to initiate the Flood event could be supersonic steam jets produced by the rifting of the earth’s crust around the globe into tectonic plates, which then sprinted around the globe, colliding to form mountains and more as the Flood event continued. And these “windows” could be a description of the intense global rainfall resulting from the ocean waters entrained in those supersonic steam jets cascading back to the earth’s surface.

2.2 When did the Floodwater Level Reach Its Peak?

Did the waters only lift the Ark off the ground on the fortieth day of the Flood, or did the waters actually peak on that day? Or did it take until the one hundred fiftieth day for the waters to peak? Or did they peak before the one hundred fiftieth day? This is crucial to know, because the waters peaking would correlate with the apparent relative sea level inferred from the geologic record and with the deposition of the sediments carrying and burying marine creatures in rock layers right across all the continents. This seems to have been achieved early in the geologic record of the Flood event, after sediment-laden waters advanced rapidly onto the continents eroding off the pre-Flood land surface.

2.3 Did the Floodwaters and their Levels Fluctuate and Oscillate during their Prevailing?

The usual mental image of the Flood is that the waters steadily rose, peaked, and then subsided. Such an erroneous perception has readily facilitated the tranquil flood and local flood compromises. However, the fossil-bearing sedimentary rock layers that record the passage of the Floodwaters across the continents are stacked in distinctive megasequences that seem to record fluctuating water levels as the ocean waters oscillated across the continents, first advancing (transgressing) and then retreating (regressing). So does the Hebrew text of the Flood account allow for this? Specifically,

does the Hebrew describe the waters' actions as oscillating forwards then backwards, and the water levels rising and falling while the "fountains" and the "windows" were open? The physical realities of daily tidal fluctuations and water surges due to earthquake-generated tsunamis would require such a description of the Floodwaters. It may be that the Hebrew text doesn't specify such details but would accommodate them.

2.4 When were the "Fountains" Stopped and the "Windows" Closed?

The answer to this question is very critical. If the "fountains" are to be equated with supersonic steam jets produced by the rifting of the earth's crust driven by upwelling and convecting molten mantle rock material, then the timing of their stopping potentially implies the start of the cessation of rifting and the deceleration of both mantle convection and the sprinting of the continental plates. This in turn would allow correlation of that point in the geologic record coinciding with the final phase of the plate movements with that point in the chronology of the Flood event (presumably the one hundred fiftieth day). This would have profound implications for our understanding of the timing of the mechanics of the Flood and the alignment of its geologic record with the Hebrew text. Equally important is to know whether the "windows" were closed at the same time as the "fountains" were stopped, as that would potentially confirm a causal link between them, namely, the supersonic steam jets as they shot up into the atmosphere entraining ocean waters that cascaded back to the earth's surface as intense global rainfall. But what if the intense global rainfall described as the "windows" ended after the first forty days?

2.5 Did the Floodwaters also Fluctuate and Oscillate during their Abating?

As stated above, the usual mental image of the Flood is that the waters steadily rose, peaked, and then subsided. But the realities of the physical movements of waters due to almost twice daily global tides and earthquake-generated tsunamis, and of the resultant deposition of the fossil-bearing rock layers, strongly imply water level oscillations and fluctuating currents and surges throughout the accumulation of the geologic record. A fluctuating relative sea level is inferred in the geologic record, even after the continent-covering waters apparently peaked high up in the rock record. So again, it is important to know whether the Hebrew words used in the Flood account can accommodate such descriptions of the waters also during the abating stage of the Flood event, even if such details are not directly specified.

2.6 Does the Hebrew Indicate when all Life had Perished?

One obvious evidence of the Flood as God's judgment on the earth and its inhabitants is the billions of dead animals and plants found buried and fossilized in sedimentary rock layers that have been rapidly deposited by water all over the continents. However, not only are the fossilized bodies of animals found in the rock record, but their fossilized trails and footprints. This means that these animals were alive and moving around during the advance of the Floodwaters. That would have been facilitated by fluctuating water levels, particularly because it would allow land vertebrates caught up in the Floodwaters to have left behind their footprints and tracks on any temporarily exposed soft sediment surfaces they were "beached" on. But once the waters peaked globally it would be assumed all land life had perished, just as the Genesis account describes, and maybe from then on only carcasses were buried. If the Hebrew text can shed some light on this question, then it will help Flood geologists in their interpretation of the fossil record, especially on the issue of where in the record is the location of the Flood/post-Flood boundary.

2.7 Does the Description in the Hebrew of the Mountains Appearing Refer to Only the Waters Abating, or did the Mountains also Rise?

This at first might appear to be a somewhat obscure question. But to Flood geologists this is very relevant. No one contests the view that today's highest mountains were formed only recently from the last tectonic plate collisions. Earthquakes and volcanic eruptions in recorded history are testimony to the fact that slow plate movements are still ongoing today. The Genesis account records that the Ark landed on the mountains of Ararat, apparently on the one hundred fiftieth day of the Flood event, perhaps even on the same day as the Floodwaters peaked and the "fountains" were stopped. So if the Floodwaters were peaking, the grounding of the Ark *at the same time* only makes sense if these mountains were in the process of being formed and therefore rose up from under the waters to intersect with the Ark. And even though the Floodwaters apparently then began to abate and levels presumably started falling, when seventy-four days later the tops of surrounding mountains became visible, perhaps those mountains were also being formed and thus also were rising up through the Floodwaters. This question may be asking for elaboration from the Hebrew text which it cannot provide. If that were the case, then at least the Flood geologists and geophysicists would be free to adopt mountain-building models consistent and compatible with the geologic record without violating the Hebrew text of the Flood account.

The foregoing is just a summary of the main vital questions Flood geologists, geophysicists, and paleontologists are asking of the Hebrew text that an in-depth study of the Genesis Flood narrative might resolve as the Flood's chronology is unravelled and the meanings of key words are elucidated. As the Hebraists and biblical scholars dissect the Genesis narrative using linguistic and other tools to unpack the chronology of the Flood, it is hoped that many, if not all, of these and other questions might be resolved. Yet it is also guaranteed that as these biblical scholars provide the needed feedback to the Flood geologists, geophysicists, and paleontologists, other issues and questions relevant to the geology, geophysics, and paleontology of the Flood will undoubtedly arise, that will sorely test us researchers in this voyage together.

Only with God's Word in our hands, the Holy Spirit's guidance of our minds, and God preserving our hearts steadfastly resolved on His calling to this task, will we have any assurance of safely reaching the destination we covet—a coherent chronology of the Flood event that successfully informs, elucidates, and constrains the parameters for understanding and building a robust, consistent model for the Flood's geology, geophysics, and paleontology that is defensible with integrity.