

**IDENTIFYING AND DELINEATING  
THE GEOGRAPHIC REGIONS  
OF THE ISRAELITE MIGRATION  
FROM EGYPT TO CANAAN  
USING A HYDROLOGICAL APPROACH**

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## CERTIFICATION

### Statement of Original Authorship

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## ABSTRACT

The biblical books of Exodus, Numbers, and Deuteronomy describe the Israelite migration from Egypt to Canaan. The narratives name many stations, roads, and regions, the majority of which have not been identified on the ground. Scholars have largely abandoned hope that the texts can be reconciled with each other and with the terrain. This investigation examines the geography of the exodus, wanderings, and eastern conquest according to an original hypothesis—that the biblical regions correspond to major water catchments. The thesis finds and defines thirty geographic regions according to their toponymic types—wildernesses, national territories, and geomorphic zones—identifying and delineating the wildernesses and territories according to hydrology (watersheds and riverbeds) and distinguishing the geomorphic zones according to topography (elevation).

The three stages of the Israelite migration—Goshen to Sinai, Sinai to Kadesh, and Kadesh to the Jordan—proceed across a patchwork of contiguous water catchments. The hydrological model provides clear watershed and riverbed boundaries for the wildernesses and national territories and explains their relationship to the geomorphic zones. From Goshen to Sinai, the wildernesses correspond to the Mediterranean and Red Sea coastal catchments, the lake basins of the Suez Isthmus, and the major river systems of the Central Sinai Peninsula and Southern Negev. From Sinai to Kadesh, Israel encounters the wildernesses of the Central and Northern Negev as hydrological regions. From Kadesh to Jordan, the wildernesses and national territories are also hydrological regions, with the geomorphic zones of the Negev and Transjordan underlying them all. Regional analysis of the Transjordan includes the territories of the Amorite kings as far north as Mount Hermon.

By the application of a simple hydrological structure to biblical geography, a comprehensive system emerges that is consistent with all indications. Mapped together, the wildernesses and national territories account for the entire arena of the Israelite journeys through the Sinai, Negev, and Transjordan, while the geomorphic zones account for the entire arena of the Israelite kingdom and its Abrahamic neighbours. By this system it is possible to discern previously unknown regions like Ar, Jazer, and the Argob, to explain how Kadesh can be associated with two wildernesses, Zin and Paran, and to give clear borders for Ammon's territory before and after the Amorite and Israelite conquests.

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## FOREWORD

The focus of this investigation is on the geographic regions of the Israelite migration from Egypt to Canaan and the relationship of those regions to the hydrology of the Southern Levant. Much of the data come from the biblical narratives—travel notices mentioning stations, roads, and regions interspersed with chronological markers indicating distances travelled. Other data come from custom-made maps of the riverbeds and watersheds and from extra-biblical information regarding historical conditions and human activity in biblical times.

The geographic regions relevant to the Israelite migration lie between the eastern edge of the Nile Delta and the western edge of the Central Arabian Plateau. In modern political terms, these regions span parts of Egypt, Israel, Jordan, and Syria. In geographical terms, they span the Eastern Nile Delta, Sinai Peninsula, Negev, and Transjordan. The non-biblical terms Transjordan (meaning “across the Jordan”) and Cisjordan (meaning “this side of the Jordan”) are used to describe all the lands along the eastern and western sides of the Rift Valley respectively, from Mount Hermon in the north to the head of the Elath-Aqaba Gulf (Fig. 1). There is no such clear geographical division between the Sinai Peninsula and the Negev, these terms owing their existence more to modern political conceptions rather than geographical distinctions. For general reference, therefore, this dissertation coins the combined term “Sinai-Negev” for the large triangle of land between the Suez Gulf and Suez Isthmus on the west, the Elath-Aqaba Gulf and Arabah Valley on the east, and the Mediterranean Sea and Northern Negeb to the north.

A brief explanation is necessary regarding the English spelling of biblical, traditional, and contemporary toponyms. I have adopted the New Revised Standard Version (NRSV) for biblical toponyms and for all Bible quotes unless otherwise signified or as part of citations from other academic works. There are, of course, official transliteration methods for traditional and contemporary toponyms in Hebrew and Arabic but a strict transliteration renders some names unrecognisable. Another consideration is that diacritics impede the index and search functions in digital texts and are not used in most Bible atlases. For Arabic and non-biblical Hebrew toponyms, therefore, I have chosen one of the popular spellings or a simplified phonetic spelling, sometimes omitting the definite article, so that the toponymy is recognisable and pronounceable. Recent standardisation in Jordanian scholarship has eliminated the use of the English letter ‘e’ in

transliteration. Thus 'Tell', 'Jebel', and 'Khirbet' in proper nouns are now rendered 'Tall', 'Jabal', and Khirbat'. The common noun for a city-mound in Transjordan is still 'tell'.<sup>1</sup>

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<sup>1</sup> ADAJ, "System of Transliteration from Arabic," *Annual of the Department of Antiquities of Jordan*, Annual, 39 (1995): 6.

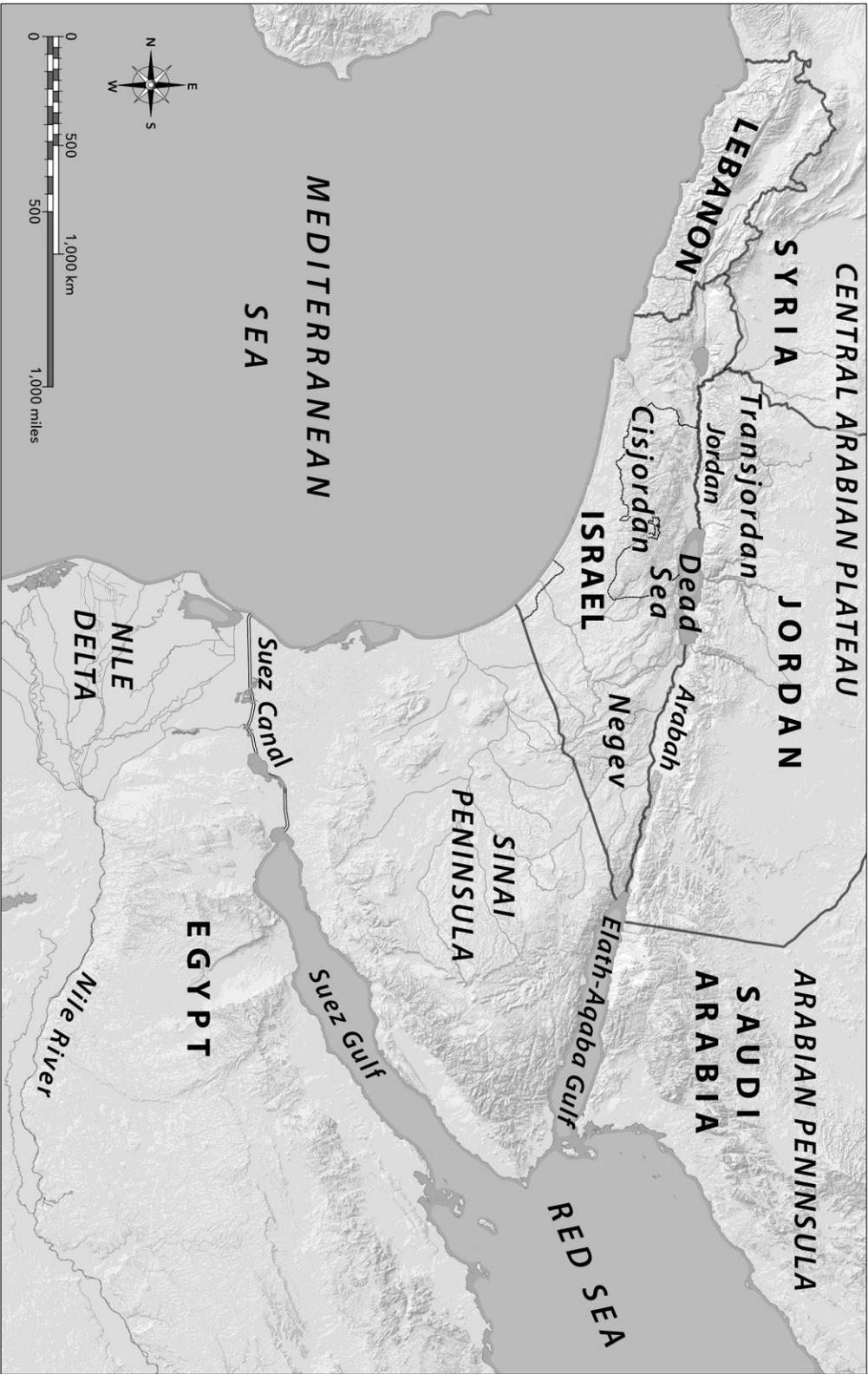


Figure 1 MODERN REGIONS

# CHAPTER 1: RESEARCH QUESTION AND METHODOLOGY

## 1.1 THE ISSUE UNDER INVESTIGATION

Despite nearly two centuries of exploration and investigation, most toponyms mentioned in the biblical books of Exodus, Numbers, and Deuteronomy have yet to be identified on the ground.<sup>1</sup> These toponyms include stations, roads, mountains, rivers, towns, and geographic regions. One reason for the impasse is the ongoing uncertainty over the location of Mount Sinai as the interim destination of the Israelite migration from Egypt to Canaan. Another lies in the observation that the biblical data appear insufficient and even contradictory, which, according to Roskop, causes serious geographical problems and a great deal of confusion.<sup>2</sup> A further obstacle according to Davies is that most places mentioned in the itineraries lack exact and independent ancient references. Since the early twentieth century, therefore, progress in the geographical investigation of the wilderness narratives has all but stalled.

After exploring the Sinai Peninsula in the 1930s, Jarvis concluded that the biblical authors did not understand the ancient geographic regions, thus considering a resolution of the Israelite itinerary from Egypt to Canaan to be impossible:

On reading the wanderings, mention is found of the wilderness of Sinai... wilderness of Shur, wilderness of Paran, &c. These have been studied most carefully, and it is to be regretted that it is impossible to arrive at any conclusion as to where the Israelites imagined that these various wildernesses began and ended. The books of Exodus and Numbers are both vastly interesting, and marvellous examples of the literature of those days; but as a convincing road report they leave very much to be desired. It is absolutely impossible to map out correctly the route the Israelites took, and any attempt to do so leaves one completely fogged.<sup>3</sup>

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<sup>1</sup> Graham I. Davies, *The Way of the Wilderness: A Geographical Study of the Wilderness Itineraries in the Old Testament*, SOTS: Monograph Series 5 (Cambridge: Cambridge University, 2009), 62.

<sup>2</sup> Angela R. Roskop, *The Wilderness Itineraries: Genre, Geography, and the Growth of Torah*, History, Archaeology, and Culture of the Levant 3 (Winona Lake, IN: Eisenbrauns, 2011), 139.

<sup>3</sup> Claude S. Jarvis, *Yesterday and Today in Sinai* (London: W. Blackwood and Sons, 1938), 173.

Nearly a century later, assessing the biblical record of Israel's journey through the Transjordan, Roskop Erisman confirms:

Biblical studies has a geography problem.... we have been inclined to date biblical texts based on the assumption of a straightforward correspondence between the geography in a text and the time in which it was written. Numbers 21 frustrates any such effort because the geography is utterly incoherent.<sup>4</sup>

Perhaps because of the random nature of landscape morphology, no scholar has expected to find an ancient system for identifying and describing biblical regions. This study, however, proposes that such a system is implicit in the geographical data of the wilderness narratives and that hydrology provides a means for discovering it. The investigation operates within the field of historical geography, a synthetic discipline that takes into account where and when events took place.<sup>5</sup> Historical geographers of the biblical world compare text to text, and text to terrain, while engaging many earth and human sciences with bearing on the past, such as archaeology, geology, hydrology, climatology, and even anthropology.<sup>6</sup>

The geographic regions of the Sinai, Negev, and Transjordan comprise the *canvas* on which the Israelite journeys are traced and the events portrayed. It stands to reason that the roads and stations of the wilderness itineraries cannot be identified and connected until the underlying geographic regions are located and delineated. Accordingly, every station should lie within an identifiable region, while itinerary notices for entries *into*, passages *through*, exits *from*, and bypasses *of* the various regions should appear in their proper places among the stations. This expectation of coherent and consistent geography is a very high bar for such ancient texts to clear. In light of the apparent lack of such regularity, Miller famously characterises the itinerary notices of the Israelite journey around Moab as “a geographical hodgepodge totally

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<sup>4</sup> Angela Roskop Erisman, “For the Border of the Ammonites Was... Where? Historical Geography and Biblical Interpretation in Numbers 21,” in *The Formation of the Pentateuch: Bridging the Academic Cultures of Europe, Israel, and North America*, ed. Jan C. Gertz et al., FAT III (Tübingen: Mohr Siebeck, 2016), 761.

<sup>5</sup> Paul H. Wright, “Introduction to Historical Geography,” in *Behind the Scenes of the Old Testament: Cultural, Social, and Historical Contexts*, ed. Jonathan S. Greer, John W. Hilber, and John H. Walton (Grand Rapids, MI: Baker Academic, 2018), 5.

<sup>6</sup> Wright, 5–6, 8.

incomprehensible in terms of the geographical realities of southern Transjordan.”<sup>7</sup> Ben-Gad HaCohen calls for a deconstructive rather than reconstructive approach to biblical geography:

I wish to indicate a different realm of the study of geography and the Bible, neither the historical geography of the biblical period nor biblical toponymy but rather geographical criticism of the Bible. Biblical toponymy searches for continuity and similarity in place names in order to enable the identification and location of sites mentioned in the Bible. The research method employed in geographical criticism, in contrast, is identical to that used in biblical textual criticism: finding the differences in place names and the inconsistencies in lists of toponyms or journey lists.<sup>8</sup>

This current investigation considers whether there is an alternative approach to geographical criticism of the Israelite migration narratives by bringing to bear new insights arising from a consideration of the hydrology of the regions.

A review of scholarly literature on the geographic regions of the Israelite journeys must necessarily extract references from broader studies of the wilderness itinerary. No academic publications deal solely and specifically with the geographic regions, perhaps because the biblical and historical data do not seem to provide enough information for a dedicated study. In place of comments about the geographic regions specifically, a sample of summary statements in recent decades regarding the itinerary material may serve to illustrate scholarly thinking on the geographical quality of the narratives.

Bartlett considers it obvious that Old Testament historians and prophets knew little of the topography and cities of Edom first hand.<sup>9</sup> Davies concludes that the geographical details of the wilderness texts do not amount to a system that is unified or consistent enough to be used as a route-map through the desert.<sup>10</sup> Burton MacDonald doubts whether the itinerary writer was at all

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<sup>7</sup> J. Maxwell Miller, “The Israelite Journey Through (Around) Moab and Moabite Toponymy,” *Journal of Biblical Literature* 108, no. 4 (Winter 1989): 587.

<sup>8</sup> David Ben-Gad HaCohen, “Biblical Criticism from a Geographer’s Perspective: ‘Transjordan’ as a Test Case,” in *The Formation of the Pentateuch: Bridging the Academic Cultures of Europe, Israel, and North America*, ed. Jan C. Gertz et al., FAT III (Tübingen: Mohr Siebeck, 2016), 687–88 italics added.

<sup>9</sup> John R. Bartlett, *Edom and the Edomites*, ed. David J. A. Clines and Philip R. Davies, JSOT: Supplement Series 77 (Sheffield: JSOT, 1989), 53.

<sup>10</sup> Graham I. Davies, “The Wilderness Itineraries and Recent Archaeological Research,” in *Studies in the Pentateuch*, ed. J. A. Emerton, Vetus Testamentum Supplement 41 (Leiden: Brill, 1990), 171–72.

familiar with the geography and topography of Transjordan.<sup>11</sup> Nathan MacDonald asks whether we have been taking the correct approach to the biblical text, given that attempts to provide a single, coherent itinerary have failed.<sup>12</sup> Ben-Gad HaCohen concludes that no logic can be found in the “jumble of the Transjordan itinerary” by means of any interpretation.<sup>13</sup> Thus, current scholarship concludes that the construction of a coherent itinerary for the Israelite journeys is beyond reach because the geographical data are not just insufficient but faulty.

Seeking an explanation for the incoherence of the narratives, Roskop Erisman characterises the wilderness narrative as a composite of many conflicting voices, a “geographical palimpsest”.<sup>14</sup> In the same vein, Maeir compares it to “a multi-period archaeological site, a ‘tell’—with all its layers, contexts, disturbances, and artifactual complexity.”<sup>15</sup> Dozeman asks to what genre pentateuchal geography belongs and warns against expecting too much of religious texts that use geographical means to serve theological ends:

Most debates about geography in the Pentateuch focus on historical problems, such as the specific location of a city or a region, and not on its unique literary form or function, in which geographical realism and religious worldview are blended. How do we read pentateuchal geography that is realistic in its representation but often not literal?<sup>16</sup>

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<sup>11</sup> Burton MacDonald, *“East of the Jordan”: Territories and Sites of the Hebrew Scriptures*, ASOR Books 6 (Boston, MA: American Schools of Oriental Research, 2000), 98.

<sup>12</sup> Nathan MacDonald, “The Book of Numbers,” in *A Theological Introduction to the Pentateuch: Interpreting the Torah as Christian Scripture*, ed. Richard S. Briggs and Joel N. Lohr (Grand Rapids, MI: Baker Academic, 2012), 139.

<sup>13</sup> Ben-Gad HaCohen, “Biblical Criticism,” 690.

<sup>14</sup> Angela Roskop Erisman, “Navigating the Torah’s Rough Narrative Terrain into the Land,” *The Torah*, July 12, 2019, <https://www.thetorah.com/article/navigating-the-torahs-rough-narrative-terrain-into-the-land>.

<sup>15</sup> Aren M. Maeir, “Exodus as a Mnemo-Narrative: An Archaeological Perspective,” in *Israel’s Exodus in Transdisciplinary Perspective: Text, Archaeology, Culture, and Geoscience*, ed. Thomas E. Levy, Thomas Schneider, and William H. C. Propp, *Quantitative Methods in the Humanities and Social Sciences* (Cham: Springer International, 2015), 410.

<sup>16</sup> Thomas B. Dozeman, “The Historical Geography of the Pentateuch and Archaeological Perspectives,” in *The Formation of the Pentateuch: Bridging the Academic Cultures of Europe, Israel, and North America*, ed. Jan C. Gertz et al., *FAT III* (Tübingen: Mohr Siebeck, 2016), 729.

He seems to propose a retreat from the modern “geography of religion” towards a premodern “religious geography” where the biblical setting is realistic but not real, and the story is history-like but not historical.<sup>17</sup>

Bruins and van der Plicht take perhaps the least pessimistic stance on the problem of locating the biblical wildernesses, pointing to the incidental nature of biblical toponymy as the cause of uncertainty:

There are a great number of different desert landscapes in the southern Levant, within the modern regions of Sinai, the Negev, and southwestern Jordan. The non-technical nature or non-diagnostic wording of the biblical text in modern scientific terms make it often very difficult to locate the precise position of biblical desert regions and place names. Various geographic options may be available that could fit the ancient texts.<sup>18</sup>

If the confusion inherent in exodus-era geography is merely (or mostly) due to the non-technical or non-diagnostic wording of the texts, then it may be possible to undergird the incomplete biblical data with extra-biblical information in order to fill the gaps and make sense of the whole. Such a proposition is a very long shot considering how many historical geographers have tried and failed to find a scientific model to account for all the biblical data without distortion or contradiction. The possibility remains, however, that there is some ancient understanding which modern scholars have missed.

## **1.2 RESEARCH QUESTION**

The pressing issue, therefore, is whether the geographical problems of the wilderness narratives are truly insoluble or whether more information, a different logic, and a new model might advance the current state of understanding. Consequently, the research question to be considered in this investigation is as follows:

Is it possible to identify and delineate the geographic regions of the Israelite migration from Egypt to Canaan using a hydrological approach?

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<sup>17</sup> Dozeman, 740–44.

<sup>18</sup> Hendrik J. Bruins and Johannes van der Plicht, “Radiocarbon Dating the “Wilderness of Zin”,” *Radiocarbon* 49, no. 2 (2007): 483.

A hydrological approach to the biblical regions explores the possibility that the wildernesses and national territories may be related to the river and lake systems across the biblical arena.

Assumptions implicit in this research question are as follows:

The geographic regions mentioned in the biblical texts:

- a) correlate with separate areas of earthly terrain that have not significantly changed in their morphology within historical times
- b) have distinct names that were known to the biblical authors and their readers
- c) can be investigated together as a set of contiguous, interrelated regions that between them divide the biblical lands into identifiable units.

The scope of the research question is delimited as follows:

This investigation *will* address:

- a) the locations, boundaries, features, and histories of all geographic regions mentioned in the wilderness narratives to a level of detail appropriate to the information available and its significance to the argument
- b) the connection of the nations and tribes mentioned in the wilderness narratives to the various geographic regions so as to determine the extent of their rule and habitation.

This investigation *will not* address:

- a) the identities, locations, archaeological profiles, or histories of the many stations, roads, and towns mentioned in the wilderness texts unless such discussion is essential to the argument
- b) the chronology of biblical history, the time-span of the archaeological eras, or the dates in years of the purported events unless such discussion is essential to the argument
- c) the locations or histories of the various water sources across the region.

Whatever date and compositional history scholars may attribute to the books of Exodus, Numbers, and Deuteronomy, these texts refer to a set of regions as background for a proposed

route from Egypt to the borders of Canaan. Geographers can use the clues they provide to discern whether these regions may still be distinguished and identified today. The primary task of this investigation is to develop a model for locating each biblical region within its broader geographical context and to understand its distinctive character. The secondary task of this investigation is to discern whether the regions as defined and outlined by the model are consistent with the biblical descriptions of the national territories and tribal allocations of the peoples who inhabited or transited these regions throughout biblical history.

### 1.3 HISTORICAL GEOGRAPHY

An investigation of the geographic regions of the Israelite journeys belongs to the time-honoured field of historical geography. The beginnings of historical geography are found in the Bible itself, where the primeval histories and patriarchal narratives of the Pentateuch incorporate ancient geographical traditions. Starting with the Genesis account which names rivers (e.g. Gen 2:10-14; 15:8), lands (e.g. 4:16; 11:31), mountains (e.g. 8:4; 22:14), towns (e.g. 4:17; 10:10-12, 19, 30), regions (e.g. 2:8; 12:9), and peoples (e.g. 12:10-12; 14:5-7), the entire saga of Hebrew revelation and salvation is set in the ancient Middle East and Near East on terrain one may recognise and explore today. The historical and prophetic books follow in the same vein (e.g. Josh 15; Est 1:1-3; Jer 48), and even some poetic passages cite toponyms of the biblical arena (e.g. Psa 29:5-8; Song 4:8). Historical geography has not lost its standing in biblical exegesis, therefore, despite the challenges arising from modern critical theories of biblical composition. Aiken traces the pedigree of sacred geography to the early Christian pilgrims:

Writing geographies of the Holy Land is an activity that has a history stretching to antiquity.... Geographies of the Christian Holy Land have existed almost as long as Christianity itself. The earliest texts were born in the era of the Roman Empire which provided the communications network necessary for long distance travel with reasonable ease.<sup>19</sup>

In the writing of historical geographies, Wright advocates for a “sensitive synthesis of geographical and biblical data” employing a methodology that is text-based, and grounded in

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<sup>19</sup> Edwin J. Aiken, *Scriptural Geography: Portraying the Holy Land*, vol. 2, Tauris Historical Geography (London: I.B. Tauris, 2009), 2.

philology.<sup>20</sup> Such an approach has proven helpful in discovering and interpreting archaeological finds. Eilat Mazar, for instance, who has had apparent success in locating and digging for King David's palace in Jerusalem, has this to say about seeking biblical descriptions and directions:

One of the many things I learned from my grandfather [Benjamin Mazar] was how to relate to the Biblical text: Pore over it again and again, for it contains within it descriptions of genuine historical reality. It is not a simple matter to differentiate the layers of textual sources that have been piled one atop the other over generations; we don't always have the tools to do it. But it is clear that concealed within the Biblical text are grains of detailed historical truth.<sup>21</sup>

Mazar accepts historical criticism of the texts but finds the geographical details to be reliable nonetheless. Rainey and Notley also recognise that, despite the traditionally literary nature of biblical texts, they contain geographical data of considerable empirical value.”<sup>22</sup>

## **1.4 METHODOLOGY**

The methodology for this investigation rests on three pillars: a holistic approach, a harmonistic method, and a cumulative case.

### **1.4.1 HOLISTIC APPROACH**

The quest to locate and delineate the geographic regions of the Israelite migration demands a *comprehensive framework* for managing a complex corpus of geographical data. Proposed solutions that account for only some of the biblical data, or that are not compatible with geographical realia both past and present must be rejected as inadequate. Clines advocates a holistic view as a corrective to atomistic interpretations. Although he has literary criticism in mind, the principle is also useful in the practice of historical geography:

The holistic, total view, while always open to revision in the light of the merest detail, must have the last word in interpretation.... at the end of the day it is the

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<sup>20</sup> Wright, “Introduction to Historical Geography,” 9.

<sup>21</sup> Eilat Mazar, “Did I Find King David's Palace?,” *Biblical Archaeology Review* 32, no. 1 (2006): 20.

<sup>22</sup> Anson F. Rainey and R. Steven Notley, eds., *The Sacred Bridge: Carta's Atlas of the Biblical World* (Jerusalem: Carta, 2006), 118.

whole (whether a psalm or the book of Job or the Pentateuch), in the articulation of its parts, and in its manifold variety, that should be the object of our quest.<sup>23</sup>

A holistic approach employs broad-based problem-solving strategies, so that no proposed local solution is inconsistent with the requirements of the global solution. Accordingly, this investigation seeks a model that identifies all the biblical regions of the Sinai, Negev, and Transjordan and relates each region to its neighbours without denying, distorting, or disrupting the data. The resulting location and extent of each region must reflect its unique geopolitical history, and the few known biblical sites must be found to lie within the region to which biblical and extra-biblical texts attribute them.

#### 1.4.2 HARMONISTIC METHOD

A harmonistic method of investigation takes the geographical data of the Hebrew Bible at face value or with the best logical sense, and does not seek to set one text against another. This was the attitude of the European explorers of the nineteenth and early twentieth centuries, who were operating pre-archaeology and simply sought to match the geographical details of the biblical texts to the realia of the terrain.<sup>24</sup> By this approach, one reads the biblical account in all its genres with the presumption of *literary unity*. Clines recommends this method as an interpretive discipline:

If some parts seem hard to reconcile with other parts, we need not jump to the conclusion that the book is fundamentally at cross purposes with itself (though

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<sup>23</sup> David J. A. Clines, "Methods in Old Testament Study," in *Beginning Old Testament Study*, ed. J. W. Rogerson, new rev. ed. (London / St Louis: SPCK / Chalice, 1998), 33.

<sup>24</sup> Some famous examples: John Lewis Burckhardt, *Travels in Syria and the Holy Land* (London: John Murray, 1822); Edward Robinson, *Biblical Researches in Palestine, Mount Sinai, and Arabia Petraea: A Journal of Travels in the Year 1838*, vol. I (London: John Murray, 1841); Ulrich Jasper Seetzen, *Reisen durch Syrien, Palästina, Phönicien, die Transjordan-länder, Arabia Petraea und Unter-Aegypten*, vol. 3 (Berlin: G. Reimer, 1855); Arthur Penrhyn Stanley, *Sinai and Palestine: In Connection with Their History* (London: John Murray, 1856); Edward H. Palmer, *The Desert of the Exodus [Vol 1]: Journeys on Foot in the Wilderness of the Forty Years' Wanderings: Undertaken in Connexion with the Ordnance Survey of Sinai, and the Palestine Exploration Fund*, vol. Part I (Cambridge: Deighton, Bell, and Co., 1871); Charles T. Beke, *Sinai in Arabia and of Midian* (London: Trübner, 1878); Samuel Colcord Bartlett, *From Egypt to Palestine Through Sinai, the Wilderness and the South Country* (New York, NY: Harper, 1879); W. M. Flinders Petrie, *Researches in Sinai* (New York: Dutton, 1906); Gertrude Bell, *The Desert and the Sown: Travels in Palestine and Syria* (Heinemann, 1907); Aloïs Musil, *Arabia Petraea. Moab: Topographischer Reisebericht*, vol. 1, 3 vols. (Vienna: Alfred Hölder, 1907).

that is a possible conclusion, to be reached only at the end of a long and tiring road), but must seek to understand what a book so seemingly at variance with itself could possibly signify when taken as a whole.<sup>25</sup>

Accordingly, one may read the wilderness narrative intertextually across the books of the Pentateuch with the expectation that its geography is consistent also with references in the historical and poetic books of the Hebrew Bible. Where conflicts arise between texts or in matching text to terrain, one gives the biblical account the benefit of the doubt, seeking or awaiting further information or a new paradigm that may resolve the problems.

### 1.4.3 CUMULATIVE CASE

A cumulative case is one that does not consist of a single or decisive argument but instead demonstrates that one hypothesis makes more sense than alternative hypotheses in light of all the available evidence. This method is also known as *inference to the best explanation*, a concept formulated by philosopher Gilbert Harman. He describes a process that many would consider the foundation of the scientific method, whereby the best current explanation of some phenomenon warrants confidence simply on that account.<sup>26</sup> The principle is not easy to formulate and has come under attack,<sup>27</sup> primarily because the best current explanation of a problem may be the best of a bad lot, and, as Kuhn asserts, will inevitably be overthrown by another explanation.<sup>28</sup> There exist, of course, many problems for which the best explanation is not convincing and cannot account for all the data. In the matter of the uncertain locations and parameters of the biblical regions, however, there is no current unified explanation. Some regions are known, some are not, and some are contested. An empirical model for determining the location and extent of the biblical regions that can also provide a likely foundation for the

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<sup>25</sup> Clines, “Methods in OT Study,” 34.

<sup>26</sup> Gilbert H. Harman, “The Inference to the Best Explanation,” *The Philosophical Review* 74, no. 1 (1965): 88–95.

<sup>27</sup> Timothy Day and Harold Kincaid, “Putting Inference to the Best Explanation in Its Place,” *Synthese* 98, no. 2 (1994): 271–95.

<sup>28</sup> Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 3rd ed. (Chicago/London: Chicago University, 1996), 92–98.

Israelite journeys while resolving long-standing geographical problems would presently have few contenders.

These three methodological pillars together support the development and testing of a theoretical model for defining, identifying, delineating, and describing the geographic regions of the Israelite journeys. The primary assumption of such a model is that of a unified biblical text. The obligation created by this assumption is that the model must account for, and be compatible with, all relevant geographical data across the books of the Hebrew Bible. If the resulting model can be shown to accommodate all biblical information in a consistent and coherent manner, and if the proposed regions are geographically plausible, the assumption of a unified text is in turn supported. To this end, the steps of this investigation are as follows:

1. Identify toponymical patterns in the names of the geographic regions to distinguish them by type.
2. Develop a hydrological model of the entire span of the Israelite migration in order to identify and delineate the geographic regions.
3. Assess the model's efficacy in accounting for all the textual and terrestrial data pertaining to the geographic regions.

## **1.5 SUMMARY: THE INVESTIGATION**

The locations and boundaries of the geographic regions of the Israelite migration from Egypt to Canaan remain mostly unknown. Because the geographical data seem to be inadequate or contradictory, many scholars conclude that the Pentateuchal narrative is flawed. They assess the itinerary material as a “hodge-podge” and a “jumble”, “incomprehensible” and “utterly incoherent”. If there was ever a coherent geography behind the exodus tradition, it is presumed to be a casualty of the centuries-long compositional history of the Pentateuchal narrative. So many scholars have attempted to reconcile and map the biblical data that it seems too much to hope that there may be a vital insight or method they have missed.

The study of biblical regions operates within the field of historical geography, a discipline combining philology with earth and human sciences to discover the background to ancient written records. A holistic approach recognises the wider context for each regional

identity, while a harmonistic method reads the biblical account in all its genres with the presumption of literary unity. Proposed solutions that account for only some of the biblical data, or that are incompatible with the geographical realia both past and present must be rejected as inadequate. This investigation proposes new insights that may help to crack the puzzles of exodus geography by developing a model to reconcile the data of both text and terrain, and building a cumulative case to support the model on the balance of probability.

## CHAPTER 2: TOPONYMY OF THE BIBLICAL REGIONS

### 2.1 REGIONAL TOPONYMY

Many biblical toponyms from the wilderness era attach not only to a region but also to a site or geographical feature; thus, the name Sinai applies to both a wilderness and a mountain within that wilderness (Exod 19:1-2; Num 10:12, 33). Other toponyms which attach to both a region and a site or feature are Etham (Exod 13:20; Num 33:8), Shur (Gen 16:7; Exod 15:22), Paran (Num 10:12; Deut 1:1; 32:2), Zin (Num 13:21; 34:4), Seir (Deut 1:2; 2:4), Ar (Num 21:15; Deut 2:9), Jazer (Num 21:32; 32:1), Kedemoth (Deut 2:26; Josh 13:18), Gilead (Gen 31:21-25; Num 32:1), and Bashan (Deut 3:10; Psa 68:15). There may be more biblical regions with namesake sites or features that are not mentioned in the texts. Although no towns or mountains are named for the regions or territories of Goshen, Sin, Edom, Negeb, the Arabah, Moab, Ammon, the Mishor, and the Argob, such site-names may have existed nonetheless. Thus, the many localised sets of matching names add to the impression of historical authenticity and support the notion that biblical regions can be defined and delineated if only we can discern the geographic rationale.

Thirty named geographic regions are directly associated with the Israelite exodus from Egypt and migration to Canaan. Perhaps because of the number, variety, and distribution of toponyms, philologists and geographers seem not to have noticed a literary system amongst references to these regions. The biblical nomenclature, however, clearly distinguishes the types of regions, enabling their classification into wildernesses, national territories, or geomorphic zones (hereafter abbreviated to *geozones*). These three classes of geographic regions may be identified according to their toponymical forms, thus:

1. Wildernesses are always designated מִדְבָּר *midbar* “wilderness [of]”.
2. National territories are designated at least once in the Hebrew Bible with אֶרֶץ *erets* “land [of]”.

3. Geozones are designated at least once with אֶרֶץ *erets* “land [of]” and their names also appear at least once with הַ *ha-* “the”, the definite article.

## 2.2 WILDERNESSES, NATIONAL TERRITORIES, GEOZONES

According to these distinctions, there are ten of each kind of geographic region in the Eastern Delta, Sinai, Negev, and Transjordan:

### 2.2.1 WILDERNESSES

Each of these toponyms is constructed with מִדְבָּר *midbar* “wilderness”.

1. Shur מִדְבַר שׁוּר
2. Etham מִדְבַר אֶתָם
3. Red Sea מִדְבַר יַם־סוּף
4. Sin מִדְבַר סִין
5. Sinai מִדְבַר סִינַי
6. Paran מִדְבַר פָּאֲרָן
7. Zin מִדְבַר צֵן
8. Moab מִדְבַר מוֹאָב
9. Kedemoth מִדְבַר קֶדְמוֹת
10. [Edom] מִדְבַר אֶדוֹם

### 2.2.2 NATIONAL TERRITORIES

Each of these toponyms appears at least once in the Hebrew Bible constructed with אֶרֶץ *erets* “land” (or its equivalent).

1. Egypt אֶרֶץ מִצְרַיִם
2. Midian אֶרֶץ מִדְיָן
3. Goshen (of Egypt) אֶרֶץ גֹּשֶׁן
4. Edom אֶרֶץ אֶדוֹם
5. Moab אֶרֶץ מוֹאָב

6. Ar (of Moab) עַר מוֹאָב
7. Ammon אֶרֶץ בְּנֵי־עַמּוֹן
8. Jazer (of Ammon) אֶרֶץ יַעְזָר
9. Plains of Moab עַרְבַת מוֹאָב
10. [Canaan] אֶרֶץ כְּנָעַן

### 2.2.3 GEOZONES

Each of these toponyms appears at least once in the Hebrew Bible prefixed with the definite article הַ *ha-* “the”. All but one are also sometimes constructed with אֶרֶץ *erets* “land”.

1. the Hill Country (Amorites) הַהָר
2. the Negeb הַנֶּגֶב
3. (Mount) Seir הַר שַׁעִיר
4. the Arabah הַעֲרָבָה
5. the Mishor הַמִּישֹׁר
6. (Mount of) the Gilead הַר הַגִּלְעָד
7. the Bashan הַבָּשָׁן
8. the Argob הַקָּבֵל הָאֲרָגֹב
9. the Mountains of the Abarim הַרֵי הָעֲבָרִים
10. [the Jeshimon] הַיַּשִּׁמּוֹן

The nomenclature of the wildernesses is consistent. Every wilderness toponym in the exodus narrative is constructed with מִדְבָּר *midbar* “wilderness” and the resulting regional names are employed to indicate large semi-arid areas, often without named settlements. Thus, the people travel through the Wilderness of Shur/Etham for three days without water (Exod 15:22; cf. Num 33:8), through the Wilderness of Paran likewise (Num 10:12, 33), and enter and leave the Wilderness of Sin without naming any stations (Num 33:11, 12). Wildernesses feature throughout the entire span of the Israelite journey from Egypt to Canaan, not only in the Sinai-Negev (wildernesses of the Red Sea, Shur, Etham, Sin, Sinai, Paran, and Zin) but in the Transjordan as far north as eastern Moab and the eastern Mishor (wildernesses of Moab and Kedemoth, cf. Deut 4:43). This is consistent with the geography of the wider region where the marginal areas are found to the south of Canaan and on the eastern side of the Transjordan.

Unlike the consistent wilderness names, the nomenclature of the national territories is variable, the toponyms constructed sometimes with the word עֵרֶץ *erets* “land” and sometimes without. The Plains of Moab עֲרֵבוֹת מוֹאָב *arevot moav* is the only national toponym that does not appear at all in the Hebrew Bible with the word “land”; this region, however, is clearly assigned to the Moab nation and the word “plains” stands in place of “land” (Num 22:1; 26:3).<sup>1</sup> The region of Ar אֶרֶץ likewise claims its status as a national territory by its attribution to Moab and its reference in parallel with the concept of “land”:<sup>2</sup>

*The LORD said to me: “Do not harass Moab or engage them in battle, for I will not give you any of its land as a possession, since I have given Ar as a possession to the descendants of Lot.” (Deut 2:9)*

The term אֶרֶץ הָעַמֹּרִי *erets ha-emori* “the land of the Amorites” (Num 21:31; Judg 10:8; not “the Hill Country of the Amorites”) has been omitted from the above list of national territories because it refers to a block of several geozones in the central and northern Transjordan where Amorites dwelt at the time of Israel’s arrival:

*So at that time we took from the two Kings of the Amorites the land beyond the Jordan, from the Wadi Arnon to Mount Hermon... all the towns of the tableland [the Mishor], the whole of [the] Gilead, and all of [the] Bashan, as far as Salecah and Edrei, towns of Og’s kingdom in [the] Bashan (Deut 3:8-10).*

The nomenclature of the geozones exhibits more variation than for the national territories. The toponyms may be constructed with the word עֵרֶץ *erets* “land” and/or the definite article, and may sometimes appear with neither. Lee seeks to find a pattern in the toponymical use of the definite article that may reflect changes from Standard to Late Biblical Hebrew:

The use or absence of the definite article *ha-* indicates that the article played a role in the historical development of some toponyms.... This practice of deleting the article in toponyms seems to be one of the characteristics of Late Biblical Hebrew.<sup>3</sup>

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<sup>1</sup> See 8.12 Plains of Moab.

<sup>2</sup> See 7.17 Land of Ar.

<sup>3</sup> S. Noah Lee, “The Use of the Definite Article in the Development of Some Biblical Toponyms,” *Vetus Testamentum* 52, no. 3 (2002): 334, 337.

Lee’s model, however, is not sufficiently consistent; “Bashan” and other regional toponyms appear *without* the article in early texts but *with* the article in late texts.<sup>4</sup> The intermittent presence of the definite article better correlates with references to the geozones of the wider region, as indicated by the overall regularity of the above categories, here expressed as formulae:

1. Wilderness: “wilderness of X”
2. National Territory: “land of X” or “X”
3. Geozone: “land of (the) X”, “the X”, or “X”

Among the ten toponyms of the exodus and wanderings geozones, (Mount) Seir is the only toponym that does not appear at least once in the Hebrew Bible with the definite article. This irregularity may be considered either an accidental omission or an indication of the great antiquity of the name.<sup>5</sup> The Argob is the only geozone toponym that does not appear at least once in the Hebrew Bible constructed with the word “land”.<sup>6</sup> It is, nonetheless, a geozone for it appears at least once prefixed with the definite article and, like the Bashan, was not the national territory of any Abrahamic nation until the half-tribe of Manasseh took possession from King Og of the Amorites (Deut 3:13). The only other apparent exceptions to the rules for identifying geozones—the Hill Country of the Amorites הַר הָאֱמֹרִי *har ha-emori* and הַרְי הָעִבְרִים *harey ha-avarim* the Mountains of the Abarim—lack a definite article for “hill country” and “mountains”. By Hebrew conventions of the construct chain, however, the definite articles for “Amorites” and “Abarim” apply also to “hill country” and “mountains” (these are the same word in Hebrew, הַר *har* “mount”).<sup>7</sup> Overall, therefore, the toponymical patterns for the three types of geographic regions are remarkably consistent, and their definitions are borne out in the geographical attributes of these regions as detailed in the sections following. Rainey analyses the nomenclature of biblical lands in many advanced ways— “linguistic, sociological, historical, and

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<sup>4</sup> Lee, 342, 346.

<sup>5</sup> See 7.13 Mount Seir (East): Geozone.

<sup>6</sup> See 8.8 The Argob: Geozone.

<sup>7</sup> Gary D. Pratico and Miles V. Van Pelt, *Basics of Biblical Hebrew Grammar*, 2nd ed. (Grand Rapids, MI: Zondervan, 2014), 96.

even archaeological” — but does not group the geographic regions by their simple toponymical forms.<sup>8</sup>

From an examination of the toponymical categories emerges a pattern of *nine-plus-one*— nine regional toponyms that meet all requirements, and one exception. The tenth toponym in each of the above lists—the Wilderness of Edom, the Land of Canaan, and the Jeshimon — indicate regions that do not quite fit the pattern for the other nine toponyms in each of the same lists. In the narratives of the Israelite journeys, either the region is named but not traversed, or traversed but not named:

1. The Wilderness of Edom is not named in the wilderness narratives and appears only once in the Hebrew Bible as part of an ancient road-name, “the Way of the Wilderness of Edom” דֶּרֶךְ מִדְבַּר אֶדוֹם *derekh midbar edom* (2 King 3:8). Nonetheless, the Israelites probably passed through this unnamed wilderness on their way through the Transjordan in the fortieth year of the wilderness era. It may be identified as the unnamed wilderness “which is before Moab [עַל-פְּנֵי מוֹאָב] *al-peney moav* lit. “to the face of Moab”] toward the sunrising” (Num 21:11 KJV) as the Israelites approach Moab’s southern border on their journey through the Transjordan.
2. The Land of Canaan is named many times in the wilderness narratives as the ultimate destination of Israel’s exodus from Egypt (e.g. Exod 6:4). Except for the twelve spies who traversed Canaan from Kadesh to the Lebanon (Num 13:2, 17-21), and the Israelite army which entered Southern Canaan (the Negeb) twice (Num 14:44-45; cf. Deut 1:44; Num 21:1-3; cf. 33:40), the Israelite nation as a whole did not pass through any part of Canaan until the wanderings era was over (Exod 16:35). The designation “Canaan” also differs from the other national territories in that it describes a region occupied by many tribal groups (“nations” Deut 7:1).

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<sup>8</sup> Anson F. Rainey, “The Toponymics of Eretz-Israel,” *Bulletin of the American Schools of Oriental Research*, no. 231 (1978): 1–17; Anson F. Rainey, “Historical Geography,” in *Benchmarks in Time and Culture: An Introduction to Palestinian Archaeology*, ed. J. F. J. Drinkard, G. L. Mattingly, and J. M. Miller (Atlanta, GA: Scholars, 1988), 356–59.

3. The Jeshimon appears in the biblical narrative as a region associated with the Plains of Moab and Balaam's final attempt to curse Israel (Num 21:20; 23:28 KJV). Most translations obscure the toponym, however. On both occasions, it indicates a wasteland (from יָשָׁם *yasham* "lie waste") visible from the eastern rim of the Jordan Valley. In David's time, the term "the Jeshimon" designates the barren slopes on the western side of the Dead Sea (cp. 1 Sam 23:19, 24). The town Beth-jeshimoth's location on the northeastern shore of the Dead Sea suggests the dry eastern slopes of the Dead Sea were also called the Jeshimon (Num 33:49; Josh 12:3). During the wanderings era, Israel did not pass through the Jeshimon but rather entered the southern Jordan Valley from the Mishor (Num 33:46-49).

## 2.3 ANCIENT ROADS

The nine-plus-one pattern is evident in other aspects of the exodus story, notably the ten plagues on Egypt (Exod 7:14-11:10). Nine plagues affected all the Egyptians (the Hebrews in Goshen experienced only the first three plagues) and one deadly plague afflicted the Egyptian firstborn only. The Ten Commandments might also be divided into a nine-plus-one pattern, the nine prescribing or proscribing specific actions, and one (Do not covet) proscribing specific thoughts (Exod 20:1-17; Deut 5:1-21). In addition to the ten wildernesses, ten territories, and ten geozones of the Israelite journeys, there are also ten ancient roads named in the wilderness narratives: nine roads by which the Israelites travelled between Egypt and Canaan, and one road—the Way of the Land of the Philistines—by which they did not travel.

*When Pharaoh let the people go, God did not lead them by way of the land of the Philistines, although that was nearer; for God thought, "If the people face war, they may change their minds and return to Egypt." So God led the people by the roundabout way of the wilderness toward the Red Sea. The Israelites went up out of the land of Egypt prepared for battle. (Exod 13:17-18)*

### 2.3.1 WAY OF דֶּרֶךְ *derekh*:<sup>9</sup>

1. [the Land of the Philistines (Exod 13:17)]
2. the Wilderness of the Red Sea (Exod 13:18)
3. the Hill-Country of the Amorites (Deut 1:19)
4. Mount Seir (Deut 1:2)
5. the Red Sea (Num 14:25; 21:4; Deut 1:4; 2:1)
6. the Atharim (Num 21:1)
7. the Aravah (Deut 2:8)
8. the Wilderness of Moab (Deut 2:8)
9. the King (Num 20:17, [v. 19]; 21:22; [Deut 2:27])
10. the Bashan (Num 12:33; Deut 3:1)

In deciding whether the phrase דֶּרֶךְ הַמִּדְבָּר יַם־סוּף *derekh ha-midbar yam suf* (Exod 13:18) is a road-name (Way of the Wilderness of the Red Sea) or a prepositional phrase (by way of the wilderness of the Red Sea) the *sets of ten* pattern indicates firmly in favour of an ancient road-name. Considering that most biblical roads are named for the land of their destination not the land of their passage,<sup>10</sup> and that the Wilderness of the Red Sea was probably distant from the Eastern Delta where the choice of roads was made, the case is strengthened that the toponym Way of the Wilderness of the Red Sea is a proper road-name.<sup>11</sup> The phenomenon of four types of toponyms describing the entire substructure of the wilderness itinerary—all its regions and roads—and the overall regularity of the categories suggests that the biblical author(s) used an established and widely accepted system for describing the different kinds of geographical phenomena.

Archaeological surveys confirm that many ancient roads passed beside riverbeds (valleys) or along watersheds (ridges and plateaus), especially where the valleys were open and

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<sup>9</sup> As per the NRSV translation.

<sup>10</sup> Zecharia Kallai, “The Campaign of Chedorlaomer and Biblical Historiography,” in *Biblical Historiography and Historical Geography: Collection of Studies*, Beiträge Zur Erforschung Des Alten Testaments Und Des Antiken Judentums, Band 44 (Frankfurt am Main: Peter Lang, 1998), 230 n. 27.

<sup>11</sup> See 5.9 Wilderness of the Red Sea.

the heights were level.<sup>12</sup> This phenomenon is called *geographical determinism*, a term explained by Beitzel thus:

In the ANE, there were certain largely unchanging physiographic and/or hydrologic factors which determined... that routes followed by caravans, migrants, or armies remained relatively unaltered throughout extended periods of time.<sup>13</sup>

Accordingly, even though we do not possess an ancient map of the Near East, the location of the main roads at least can be logically inferred with a high degree of probability.<sup>14</sup>

Uzi Avner observes that hundreds of prehistoric cult sites attend the ancient roads in the Negev and Sinai. Flint items and pottery sherds indicate that the entire network of the desert roads was already well established in the early Neolithic period.<sup>15</sup> Riverbeds have good water sources but poor views; watersheds have poor water sources but good views. By necessity, therefore, ancient roads might follow a sequence of both formations. Only in relatively level areas is it practical to cut across country, the rocky slopes, cliffs, and ridges otherwise making bee-lines impractical or impossible. The fundamental association of ancient roads with riverbeds and watersheds suggests a role for hydrology in determining the biblical regions.

## 2.4 GEOZONES: SINAI-NEGEV AND TRANSJORDAN

The central insight regarding the discovery of three kinds of geographic regions—wildernesses, national territories, and geozones—is that the geozones are not in competition for land area with the wildernesses and national territories but rather provide the terrestrial foundation for them. The mountainous region of the Gilead, for example, underlies territory occupied by Ammon and Sihon's Amorites before the Israelite conquest, and by Ammon and the

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<sup>12</sup> David A. Dorsey, *The Roads and Highways of Ancient Israel* (Baltimore, MD / London: John Hopkins University, 1991), 40–42.

<sup>13</sup> Barry J. Beitzel, “Pre-Roman Roads and Highways,” in *Anchor Bible Dictionary*, ed. David Noel Freedman (New York, NY: Doubleday, 1992), 776.

<sup>14</sup> Beitzel, 776.

<sup>15</sup> Uzi Avner, “The Desert’s Role in the Formation of Early Israel and the Origin of Yhwh,” *Entangled Religions* 12, no. 2 (2021): para. 52 n. 92.

Israelite tribe of Gad thereafter (Deut 2:32-37; Josh 12:2; 13:24-25).<sup>16</sup> Sometimes the term “the Gilead” loosely refers to all the high country to the east of the Jordan Valley (2 King 10:33; Josh 12:2; 22:9), an area which underlies also the tribal allocations of Reuben and half-Manasseh (Josh 13:15-21; 22:9).<sup>17</sup> Most geographers understand this principle. Wright, for example, recognises the distinction between geographic and ethnographic maps:

There is often some correspondence between a natural region and a cultural or ethnic region, and this needs to be defined in every case. Approaches based on geographical regions are generally more powerful than those based on political divisions, simply because geographical divisions are much more stable over time.<sup>18</sup>

Baly maps the geozones (he calls them “Regional Names”),<sup>19</sup> by laying broad labels over undivided terrain to indicate the general locations of the Negeb, Sharon, Carmel, Galilee, Argob, Bashan, Gilead, Abarim-Pisgah, Mishor, and Arabah. Baly’s collection of toponyms is not a complete compilation of the biblical geozones;<sup>20</sup> nonetheless he has correctly selected and depicted only toponyms which attract the definite article.

The geomorphic regions (geozones), therefore, are not reckoned in the same way as are the geopolitical regions (wildernesses and territories). The geozones are primarily recognised by location and elevation and must be mapped separately from the wildernesses and territories which are recognised by other factors (Fig. 2). Elevation profiles of the Transjordan and Cisjordan serve to illustrate that the edges of the geozones can only be approximate (Fig. 12). Baly explains how geozones are also differently perceived relative to the elevation of their neighbours:

But it is not enough to know merely the difference in height. One must know also how one place is related to another. This is the real difficulty of making a satisfactory map of Palestine, for it must, as far as possible, take account of the three essential aspects of the relief, which cannot easily be shown on one sheet

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<sup>16</sup> See 8.4 The Gilead: Geozone; 8.7 The Bashan: Geozone.

<sup>17</sup> See 8.10 Amorite and Israelite Territories.

<sup>18</sup> Wright, “Introduction to Historical Geography,” 10.

<sup>19</sup> Denis Baly, *Geographical Companion to the Bible* (London: Lutterworth, 1963), 69.

<sup>20</sup> See 2.5 Geozones: Cisjordan (Canaan/Israel).

of paper: the exact height above or below sea-level, the character of the slopes (i.e. steep, rocky, smooth, etc.), and the fact that a portion of the country is quite abnormal in being more than a thousand feet below sea-level. This is where the question of relationships in space becomes important, for the same area which in one relationship must be described as a low-lying plain, must in another be called an uplifted plateau. Thus, the upwarped region of the Negeb is, in relation to the coastal plain, a mere upland, with gentle and easy slopes, but relative to the depression of the Arabah it is mountainous, and the slopes precipitous and rocky.<sup>21</sup>

In contrast to the fuzzy boundaries of the geozones, the boundaries of the wildernesses and national territories in the Sinai-Negev and Transjordan seem to be quite firm. Travel notices in the narratives and itineraries of the Israelite journeys mark Israel's entries into, and exits from, the wildernesses as occurring between one station and the next (Exod 15:22; cf. Num 33:8; Num 10:12, 33; 33:11, 12; Deut 2:26 cf. Num 21:23). Other travel notices mark where the people cross, or avoid crossing, national borders (Num 20:16, 17; 21:13; Deut 2:4, 18; 3:16). Most maps of biblical regions, however, depict borders for the national territories but not for the biblical wildernesses, the latter commonly indicated, like the geozones, with broad labels oriented vaguely across the map.<sup>22</sup> These decisions are no doubt due to the scarcity of geographical information regarding the marginal regions of the biblical lands. Wildernesses are, nonetheless, inhabited and transited ethnographic territories, as evidenced by the fact that the biblical authors know their names, their extents, and the peoples who utilise these areas. In countries where pastoral-nomadic activity is common, therefore, the wildernesses are also geopolitical regions.

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<sup>21</sup> Baly, *Geographical Companion*, 63.

<sup>22</sup> See 5.2 Bible Atlases: Egypt-Sinai-Negev.

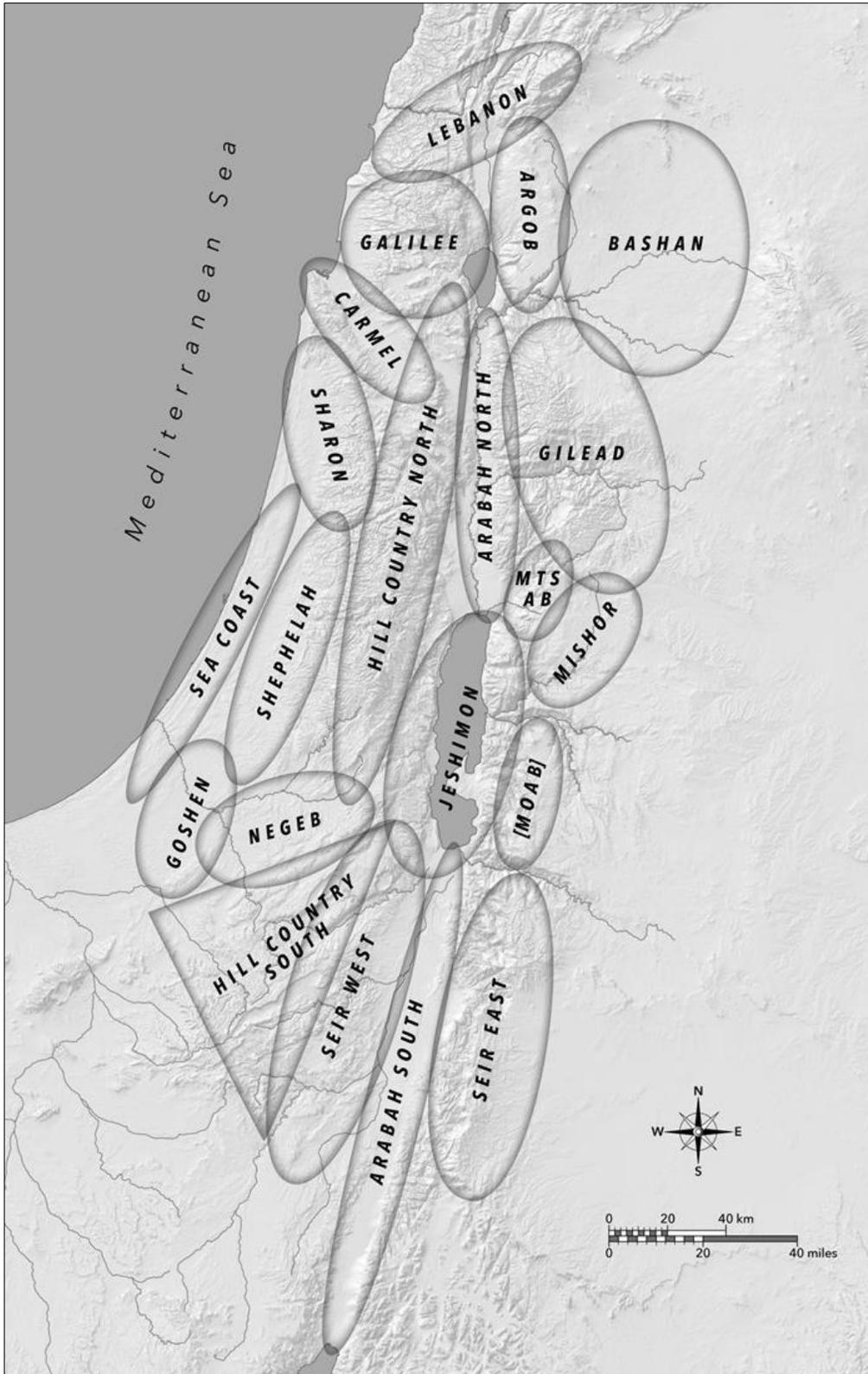


Figure 2 GEOZONES

## 2.5 GEOZONES: CISJORDAN (CANAAN/ISRAEL)

The distinction in type between geomorphic regions (geozones) and geopolitical regions (wildernesses and national territories) in the Sinai-Negev and Transjordan is borne out across the biblical arena. Yoel Elitzur remarks on the enduring correlation of the definite article with the biblical regions, listing several examples in the Cisjordan also:

As a rule in Biblical Hebrew, and to a great extent in modern Hebrew as well, the regions of the land are referred to using the definite article: the Negev (Ha-Negev); the Sharon plain (Ha-Sharon); the Galilee (Ha-Galil); the valley of the Lebanon (Ha-Levanon); the Carmel region (Ha-Karmel); the Bashan (Ha-Bashan); the Gilead (Ha-Gil'ad).<sup>23</sup>

Accordingly, he identifies a family of toponyms with a common nominal pattern, every toponym being the ancient Semitic name for a large geographical area. He deduces that each three-letter root “expresses something connected to the topographic scenery or to the agriculture of the region, or perhaps to the manner in which animals were raised.” The geozones are perennial; so whereas the geopolitical regions in Canaan/Israel and the Transjordan may shift and change throughout human history, their earthly foundations remain fixed and recognisable albeit eroded and ecologically depleted over the millennia.

The geozones of the Cisjordan appear at least once in the Hebrew Bible in the same distinctive form as those of the Sinai-Negev and Transjordan, that is, with the definite article, as compiled from the following three passages with strong regional themes. Some translators, not recognising the pattern of proper names, have translated rather than transliterated some of the toponyms and neglected to include the definite article for others:

*Resume your journey, and go into the hill country of the Amorites as well as into the neighboring regions—the Arabah, the hill country, the Shephelah, the Negeb, and the seacoast—the land of the Canaanites and the Lebanon, as far as the great river, the river Euphrates. (Deut 1:7)*

*So Joshua took all that land: the hill country and all the Negeb and all the land of [the] Goshen and the lowland [Shephelah] and the Arabah and the hill*

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<sup>23</sup> Yoel Elitzur, “Parashat Bo: The Land of Goshen,” Text, Virtual Beit Midrash, January 20, 2015, <https://etzion.org.il/en/parashat-bo-land-goshen>.

*country of Israel and its lowland, from Mount Halak, which rises toward Seir, as far as Baal-gad in the valley of [the] Lebanon below Mount Hermon.*  
(Josh 11:16-17)

*The glory of [the] Lebanon shall be given to it, the majesty of [the] Carmel and [the] Sharon. (Isa 35:2)*

This collection of Cisjordan toponyms gives another *set of ten* geozones to add to the ten geozones of the Negev-Transjordan collection, and all together these geozones account for the lands of the Israelite kingdom and its Abrahamic neighbours (Fig. 2). The biblical authors only mention geomorphic regions as far as a line approximating the Way of the Red Sea (Darb al-Ghazza) along the idealised southern border of Israel (Exod 23:31).

### 2.5.1 GEOZONES: CISJORDAN

1. the Hill Country הַהָרִים
2. the Negeb הַנֶּגֶב
3. the Goshen הַגֹּשֶׁן
4. the Shephelah הַשְּׁפֵלָה
5. the Arabah הָעֲרָבָה
6. the Sea Coast חוֹף הַיָּם
7. the (Mount) Carmel הַכַּרְמֶל
8. the Sharon הַשָּׂרֹן
9. the Galilee הַגָּלִיל
10. [the Lebanon] הַלְבָנוֹן

The geozone called “the Goshen” הַגֹּשֶׁן *ha-goshen* (Josh 11:16) is not the same as the national territory of Egypt called “Goshen” גֹּשֶׁן *goshen* (Gen 45:10; Exod 9:26). In the Cisjordan, it is the marginal land between the Shephelah הַשְּׁפֵלָה *ha-shefelah* and the Negeb הַנֶּגֶב *ha-negev*, an area which seems to approximate the region now called “the Western Negev” (Fig. 2).<sup>24</sup> The Hebrew patriarchs sojourned here among the original Philistines (Gen 20:1-2; 26), Simeonite towns are listed in this area (Josh 19:1-9), and David conducted raids in this

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<sup>24</sup> Yigal Levin, “‘From Goshen to Gibeon’ (Joshua 10:41): The Southern Frontier of the Early Monarchy,” *Maarav* 10 (2003): 200–201.

region when he was living with the Philistines (1 Sam 27:7-9). The Sharon and the (Mount) Carmel are not anticipated in the exodus narrative or named in the conquest narratives, but there are Canaanite city-states by these names in the expected localities (Josh 12:18, 22), and prominent references to both regions in the Israelite kingdom era (“the Sharon”: Song 2:1; Isa 33:9; 35:2; 65:10; cf. Josh 12:18, “the Carmel”: 1 King 18:19; 2 King 2:25; Jer 50:19).<sup>25</sup>

Throughout the kingdom period, the Sea Coast was largely retained by the Philistines (Josh 13:2-3; 1 Sam 14:52; 2 Sam 5:21; 1 King 4:21; 2 King 18:8) but was nonetheless considered an integral part of Israel’s inheritance (Exod 23:31; 1 Sam 7:13-14; Obad 1:19-21). Of the ten geozones of the Cisjordan, the Lebanon may be the one that does not conform with the nine because this mountainous region lies only partially within the borders of the Promised Land (Deut 1:7; 3:25; Josh 13:1-7; Judg 3:3). The Lebanon was marked for conquest (Num 13:21; Deut 3:25; 11:23-24; Josh 1:4; 11:17; 12:7) but, like Philistia, was not fully incorporated into Israel (Josh 13:1-6; Judg 3:1-6). In case of debate over the Lebanon’s inclusion on the list, the Jeshimon on the western side of the Dead Sea might take its place (Num 21:20; 23:28 KJV), although it is strictly part of the Arabah,<sup>26</sup> uncultivable, and only features as a specific geozone in David’s time (1 Sam 23:19, 24; 26:1, 3). The Arabah appears in both Transjordan and Cisjordan regional lists because the Rift Valley is, of course, a feature along both sides of the Jordan River (Deut 11:30; Josh 8:14; 18:18).

## 2.6 SUMMARY: REGIONAL TOPONYMY

The first step in the investigation of the biblical regions was to collate and examine the toponyms from the biblical accounts. The Israelite migration from Egypt to Canaan involves thirty named geographic regions which may be arranged into three toponymical categories of ten: ten wildernesses (*midbar-*), ten national territories (*erets-*); and ten geozones (*erets-* and *ha-*). The ten named geozones of the Israelite journeys in Egypt, the Sinai-Negev, and Transjordan are matched by ten named geozones in the Cisjordan. There are also ten named

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<sup>25</sup> See 5.5 Land of Goshen.

<sup>26</sup> See 8.13 The Jeshimon: Geozone.

roads associated with the Israelite journeys; thus the whole geographical foundation of the biblical arena seems to be organised in sets of ten.

It is evident that geomorphic regions (i.e. geozones) and geopolitical regions (i.e. national territories and wildernesses) are determined by different criteria and must be mapped separately. Geozones are large land formations known by their location and relative elevation; thus, they do not have distinct boundaries with their neighbouring geozones but rather fuzzy interfaces. Wildernesses and national territories, on the other hand, divide the land into hydrological units; thus, they have distinct boundaries with their neighbouring geopolitical regions, as evidenced by biblical mentions of entries into, and exits from, both wildernesses and national territories between one itinerary station and the next. Hence, at this stage of the investigation, the ancient system for defining and describing geographic regions looks to be precise and comprehensive.

## CHAPTER 3: HYDROLOGICAL MODEL

### 3.1 HYDROLOGY OF BIBLICAL LANDS

Identifying and delineating the geopolitical regions is a difficult task without knowledge of ancient geographical systems. Most Bible atlases indicate the biblical regions with broad labels oriented vaguely across the map. Ancient pastoralists and traders, however, would not have related to such a view from above. Their experience of land was from below, at walking speed of ‘man or beast’, and no more than a few hours from a water source. The knowledge of where water was to be found, whence it came, and where it went was a matter of survival. Landmarks aside, how else could they give reliable directions to fellow travellers? Even for settled peoples in agricultural areas, knowledge of the river systems was key to understanding the terrain, the roads, and the neighbouring economies. It makes sense, therefore, to look to the major river catchments as the primary units into which the land divides.

Central to each river catchment is a riverbed that leads downhill to join other riverbeds, ultimately flowing into a lake or sea.<sup>1</sup> Each river catchment is a hydrological system with a unique ecology according to its precipitation, gradient, and soil type, these factors together affecting vegetation and land-use. A hydrological framework, therefore, is a promising approach to the puzzle of the geographic regions of the Israelite migration, not least because defining wildernesses by their drainage systems appeals to common sense. The first step in developing a hydrological model for the regions of the Israelite journeys is to map the watersheds between the Egyptian Delta and the Arabian Desert.<sup>2</sup>

The word *watershed* has two understandings: 1. the entire region draining into a river, river system, or other body of water, or 2. a ridge of high land dividing two areas that are drained

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<sup>1</sup> Arabic وادي *wadi* and Hebrew נַחַל *nahal* both refer to rivers in arid and semi-arid regions that generally only flow after rain.

<sup>2</sup> The maps for this investigation were prepared by Mapping Specialists Ltd. in Fitchburg WI drawing on data provided by the World Wildlife Fund.

by different river systems.<sup>3</sup> This study prefers and adopts the latter meaning of watershed—the dividing line between two drainage areas—while referring to drainage areas as *catchments* or *basins* when appropriate (not all catchments are basins). James M. Monson, who taught Biblical Geography at the Institute of Holy Land Studies (also known as Jerusalem University College), and cartographer Steven P. Lancaster produced the 1979 *Student Map Manual: The Historical Geography of the Holy Land* and the 2010-2011 series of workbooks called *Geobasics in the Land of the Bible*. In the latter work he assesses the importance of watersheds in land-use and ethnography

Major watershed ridges (high ground dividing surface runoff) create large catchment areas (stream-beds flowing in a common direction and usually to a common outlet). Farmers and herdsman instinctively knew the watersheds within their locality, and watersheds also served as boundaries between clans or peoples.... The Bible carefully distinguishes these ‘watershed geobasics’ in a type of eye witness [sic] fashion, describing borders and events understood by ancient peoples living in the area. Modern urbanites would have difficulty recognising such nuanced boundaries and descriptions.<sup>4</sup>

This statement presents a valuable insight, although the authors do not elaborate further. More than most other biblical geographers, Glueck also notices the watersheds, often mentioning them in his Transjordan and Negev surveys.<sup>5</sup> Baly uses the term *water parting* but attributes no particular significance to this feature in connection with regional boundaries.<sup>6</sup> Dearman, taking a

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<sup>3</sup> “Opinion on the literal geographic meaning of ‘watershed’ is divided. On one side of the debate are those who think the word can only refer to a ridge of land separating rivers and streams flowing in one direction from those flowing in the opposite direction. That’s the term’s original meaning, one probably borrowed in the translation of the German *Wasserscheide*. On the other side of the argument are those who think ‘watershed’ can also apply to the area through which such divided water flows.” “Watershed, Definition,” in *Merriam-Webster Dictionary*, accessed September 2, 2021, <https://www.merriam-webster.com/dictionary/watershed>; “Watershed Definition and Meaning,” in *Collins English Dictionary*, accessed September 2, 2021, <https://www.collinsdictionary.com/dictionary/english/watershed>.

<sup>4</sup> James M. Monson and Steven P. Lancaster, *Geobasics Study Guide: Map Studies in the Geography of the Land of the Bible: Part Two—Central Arena*, Version 4.3, Geobasics Study Guide: Map Studies in the Geography of the Land of the Bible (Rockford, IL: Biblical Backgrounds, Inc., 2011), 94–95.

<sup>5</sup> Nelson Glueck, “Transjordan,” *Biblical Archaeologist* 9, no. 3 (September 1946): 50, 54; *Rivers in the Desert: A History of the Negev*, vol. 5, Evergreen Encyclopedia (New York, NY: Grove, 1959), 87; “Archaeological Exploration of the Negev in 1959,” *Bulletin of the American Schools of Oriental Research*, no. 159 (October 1960): 15.

<sup>6</sup> Baly, *Geographical Companion*, 52, 89; *The Geography of the Bible*, New and revised ed. (New York, NY: Harper & Row, 1974), 36.

*relative aridity* approach to the border between Edom and Arabia, completely overlooks the possible role of the watershed:

The eastern border of Edom cannot be easily defined, as the already arid region merges with the Arabian desert.<sup>7</sup>

A hydrological focus, however, would suggest that the biblical lands of the Transjordan—Edom, Moab, Ammon, and the Bashan—are divided from the Arabian Desert at their continuous natural boundary, the eastern watershed of the greater Dead Sea catchment (Fig. 3, Fig. 4).

It is worth pursuing the notion that the wildernesses and national territories named in the exodus and wanderings narratives may relate in some way to the water-catchments across the biblical arena. Water-catchments do, after all, subdivide terrain, both mountainous and level, into measurable units that between them account for all the land in a given region. River catchments also often correlate with distinct and distinctive ecological zones. The exciting prospect of a hydrological hypothesis is the possibility of discovering clear boundaries for the biblical wildernesses and national territories. A hydrological model for the regions of the Israelite wanderings seeks to identify and delineate the wildernesses and national territories of the Sinai-Negev and Transjordan by their relation to the river catchments of the regions.

## 3.2 PRIMARY CATCHMENTS

*Primary catchments* is a term here used to describe the foundational drainage areas of the biblical lands, each named for the base water-body into which it drains. There are just three primary catchments in the biblical arena—two seas and a lake—easily remembered as Red, Med (for Mediterranean), and Dead:

1. Red: יַם־סוּף *yam suf* “Sea of Suph” in both its gulfs (Suez, Exod 10:19; 13:18; Aqaba-Elath, Exod 23:31; Num 21:4; 1 King 9:26) is a sea of the Indian Ocean.
2. Med: הַיָּם הַגָּדוֹל *ha-yam ha-gadol* “the Great Sea” or הַיָּם הַאַחֲרֹן *ha-yam ha-aharon* “the Western Sea” (Num 34:6; 11:24), is a sea of the North Atlantic Ocean.

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<sup>7</sup> J. Andrew Dearman, “Edom, Edomites,” in *New Interpreter’s Dictionary of the Bible* (Nashville, TN: Abingdon, 2007), 189.

3. Dead: יַם הַעֲרָבָה *yam ha-aravah* “Sea of the Arabah” or יַם־הַמֶּלַח *yam ha-melah* “Salt Sea” (Josh 3:16), does not drain to any sea or ocean and is, therefore, a lake.

Biblical Hebrew does not distinguish between a lake and a sea, so all three base water-bodies plus the Lake Kinnereth<sup>8</sup> יַם־כִּנְרֵת *yam kinnereth* are termed “sea” יַם *yam*. The three primary catchments comprise the entire arena of the Israelite exodus and conquest, and most of the patriarchal and kingdom histories as well. The regions beyond the Dead Sea catchment—Lebanon and Syria to the north, the Central Arabian Plateau to the east, and the Arabian Peninsula to the south—are outside the purview of the exodus, wanderings, and conquest narratives.

The dark lines on the Primary Catchments map represent the watersheds between the Red, Med, and Dead catchments (Fig. 3). The Red–Med watershed divides the Sinai Peninsula into halves, north and south, with the Northern and Central Sinai draining northward into the Mediterranean, and the Southern Sinai draining southward into the Red Sea. The Med–Dead watershed divides the Land of Israel into halves, east and west, marking also the edge of the rainshadow of the eastern Cisjordan (there is another rainshadow to the east of the high ridge of the Transjordan).<sup>9</sup> The Red–Dead watershed is a relatively short line (approx. 100 km or 62 miles) that runs NNE across the Southern Negev to the southern Arabah. All water to the south and east of this watershed drains to the Red Sea, while all to the north and west drains to the Dead Sea.

The landlocked Dead Sea primary catchment covers about half of the total area of Israel’s conquest of Canaan as well as the national territories of Israel’s Abrahamic neighbours in the Transjordan—Edom, Moab, and Ammon. The Mediterranean Sea primary catchment covers the remaining half of the area of Israel’s conquest of Canaan as well as the national territories of Israel’s Cisjordanian neighbours—Syria, Lebanon, Philistia, and Egypt. All regions to the east of the Dead Sea primary catchment pertain to the Central Arabian Plateau, seldom alluded to in the wilderness narratives, and with sparse detail in the rest of the Hebrew Bible (e.g. “this side of the Euphrates... east of Gilead”, 1 Chron 5:9-10; “wilderness of Damascus”, 1 King 19:15). For the

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<sup>8</sup> I prefer the phonetic ‘Kinnereth’ spelling to the NRSV “Chinnereth” or “Chinneroth”.

<sup>9</sup> Monson and Lancaster, *Part Two—Central Arena*, 118, 135; Bartlett, *Edom and the Edomites*, 34; Baly, *Geography*, 1974, 59, 61.

sake of simplicity, this hydrological model accounts all major river systems as secondary catchments even though most rivers of the Negev join Wadi Arabah and those of the Transjordan join Nahal Yarden (Jordan) and connect only indirectly to Dead Sea.<sup>10</sup> Strictly, they should be counted as tertiary catchments, that is, as tributaries of the rivers of the Rift Valley.<sup>11</sup>

According to divine promise, the idealised southern border of Israel runs from the Red Sea (at the head of the Gulf of Elath) to the Mediterranean Sea (at the coast near Gaza):

*I will set your borders from the Red Sea to the sea of the Philistines, and from the wilderness to the Euphrates [River] (Exod 23:31).*

Throughout much of biblical history, however, the Red Sea catchment is a peripheral region. The Israelites enter it for brief periods in the exodus and wanderings era, during their journeys from

1. Goshen to Mount Sinai by the Way of the Wilderness of the Red Sea (Exod 13:18; Num 33:7-11),
2. Mount Sinai to Kadesh when passing through the stations of Jotbathah, Abronah, and Ezion-geber in the southern Arabah (Num 33:33-36; Deut 10:7), and
3. Kadesh to the Jordan River by the Way of the Red Sea when they go around Edom via Jotbathah (Deut 10:7; cf. Num 33:33; Deut 2:8).

There is no further Israelite activity recorded in the Red Sea catchment until King Solomon's and King Jehoshaphat's shipping ventures (1 King 9:26; 10:22; 22:48; 2 Chron 8:17-18; 20:35-37) and a short-lived coup by King Azariah (Uzziah) over Syrian interests in Elath (2 King 14:21-22; 16:6; 2 Chron 26:1-2).<sup>12</sup> Most of Israelite history plays out in regions from the Beersheba Valley northwards, that is, in modern terms, the Northern Negev and the Central Hill Country of Israel.<sup>13</sup>

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<sup>10</sup> The present Israel-Jordan border passes lengthwise through the Arabah and Jordan valleys, sometimes along the central waterway, sometimes not. In this work, for the sake of equity, the Arabah river is called Wadi Arabah (Arabic), while the Jordan River is called Nahal Yarden (Hebrew).

<sup>11</sup> See 3.4 Tertiary Catchments.

<sup>12</sup> See 7.11 Land of Edom.

<sup>13</sup> See 6.10 The Negeb: Geozone.

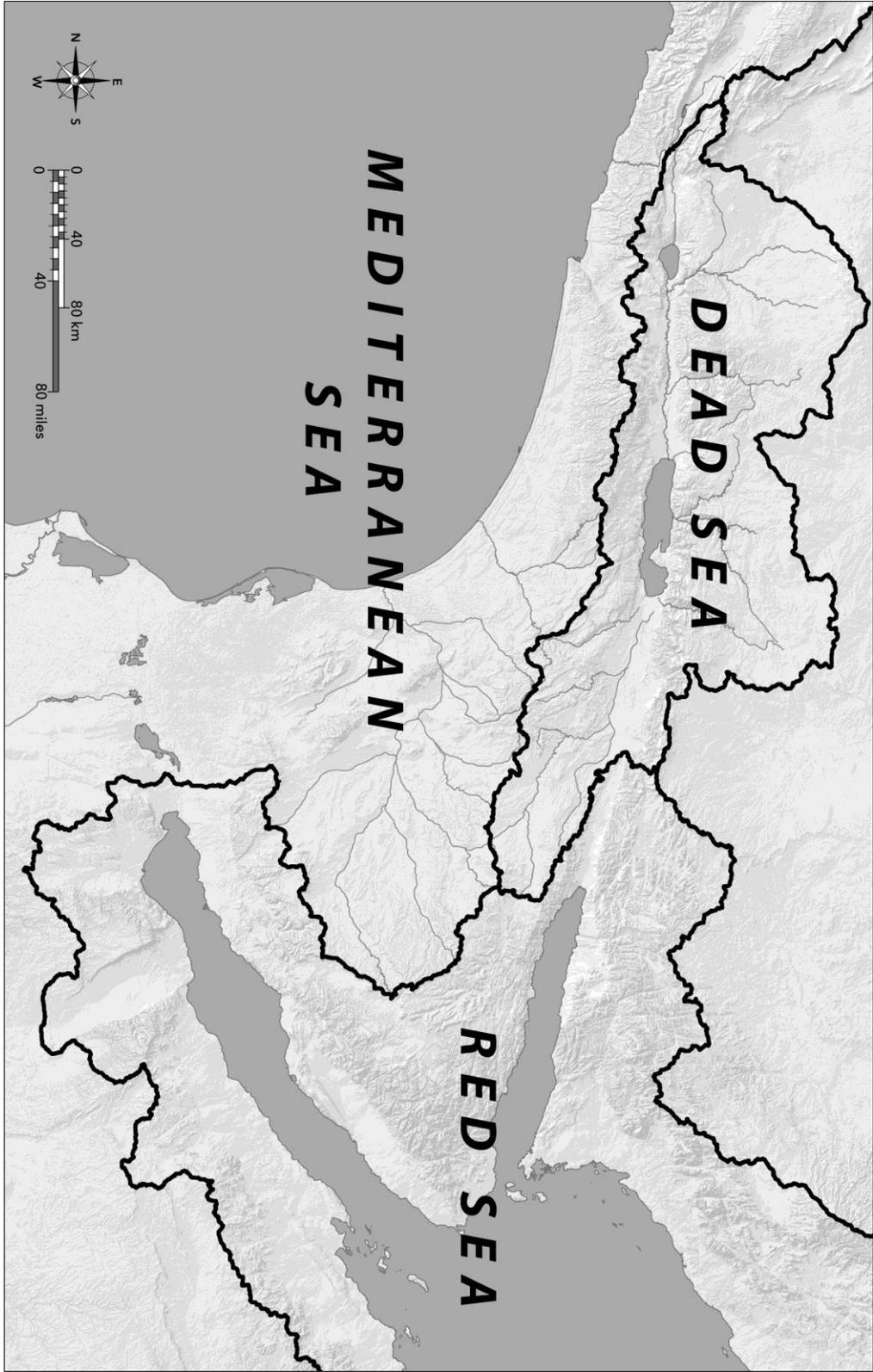


Figure 3 PRIMARY CATCHMENTS

### 3.3 SECONDARY CATCHMENTS

*Secondary catchments* is a term here used to describe the major rivers that feed into the Red, Med, and Dead primary catchments. Many of these river-names are familiar to biblical geographers who may, nonetheless, never have thought of them in terms of the total area that they drain. The Secondary Catchments map outlines the principal river catchments of the Sinai-Negev and Transjordan by their outer watersheds (Fig. 4). Each river catchment shares its watersheds with neighbouring catchments on every side, and together they form a *patchwork* of contiguous regions across the biblical arena. These catchments, here named in Arabic or Hebrew for the current names of their central rivers or lakes, may provide the key to understanding the wildernesses and national territories mentioned in the exodus narratives.

Just the making of a map of the major river catchments and their watersheds in biblical lands is a revelation. When viewed with the expectation that biblical wildernesses might correlate with river catchments, some likely identities immediately suggest themselves. The Nahal Besor catchment seems to correlate with the biblical Negeb, an area more or less equivalent to the present-day Northern Negev.<sup>14</sup> In the Transjordan, the Yarmuk River catchment presents as the likely foundation for the biblical Bashan.<sup>15</sup> The coastal catchment of the southeastern Mediterranean Sea seems the best parallel to the Wilderness of Shur.<sup>16</sup> In the early years of the modern state of Israel, the Governmental Names Commission renamed from the Arabic sixteen rivers within the borders of the modern state of Israel according to biblical indications of their ancient Hebrew identities.<sup>17</sup> In the Negev, the stand-out examples are Nahal Zin in the Central Negev and Nahal Paran in the Southern Negev,<sup>18</sup> their catchments apparently forming the basis for the biblical wildernesses of the same names.<sup>19</sup>

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<sup>14</sup> See 6.10 The Negeb: Geozone.

<sup>15</sup> See 8.7 The Bashan: Geozone.

<sup>16</sup> See 5.6 Wilderness of Shur.

<sup>17</sup> Maoz Azaryahu and Arnon Golan, “(Re)Naming the Landscape: The Formation of the Hebrew Map of Israel 1949–1960,” *Journal of Historical Geography* 27, no. 2 (April 1, 2001): 187.

<sup>18</sup> Hebrew נַחַל *nahal* is the name for ‘river’ or ‘stream’, more applicable to a winter torrent than a large river with perennial flow for which the word נָהָר *nahar* is often used, e.g. Euphrates (Deut 1:7).

<sup>19</sup> See 5.14 Wilderness of Paran; 6.13 Wilderness of Zin.

Other secondary catchments across the regions of the Israelite journeys include the following: Wadi Arish, Wadi Arabah, Nahal Neqaroth, Nahal Hayun, Wadi Hasa (Zered River), Wadi Mujib (Arnon River), Wadi Zarqa (Jabbok River), Wadi Yarmuk, and Nahal Yarden (Jordan River). In the Suez Isthmus near ancient Egypt, the landlocked basins of the Timsah Lake and Bitter Lakes here also count as secondary catchments chiefly because of their insignificant size relative to the Red, Med, and Dead primary catchments. The lakes of the Suez Isthmus were not always landlocked; in some ancient eras, they were seasonally or tidally connected to the Nile or the Mediterranean Sea,<sup>20</sup> and now, artificially, by the Ismailia sweet-water canal and the Suez shipping canal opened in 1869.<sup>21</sup> The relationship of these water-catchments to the biblical regions are explored in Chapters 5 to 8, beginning with the Sinai-Negev regions and concluding with the Transjordan regions.

The following map represents the second level in the hierarchy of drainage systems across the regions of the Israelite journeys through the Sinai-Negev and Transjordan (Fig. 4). For clarity, minor catchments are incorporated into larger catchments; for example, the many small drainage systems along the coast of each sea, lake, or river are included within the primary catchment of that water-body. Other than the visual consolidation of the water catchments into three levels—primary, secondary, and tertiary—the topographical data has been fairly and accurately represented (Fig. 4).

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<sup>20</sup> Menashe Har-El, *The Sinai Journeys: The Route of the Exodus*, New (English) and Revised Edition (San Diego, CA: Ridgefield, 1983), 88, 149, 312.

<sup>21</sup> Lord Houghton, “Opening of the Suez Canal,” in *Proceedings of the Royal Geographical Society of London*, vol. 14, 1869, 88–105.

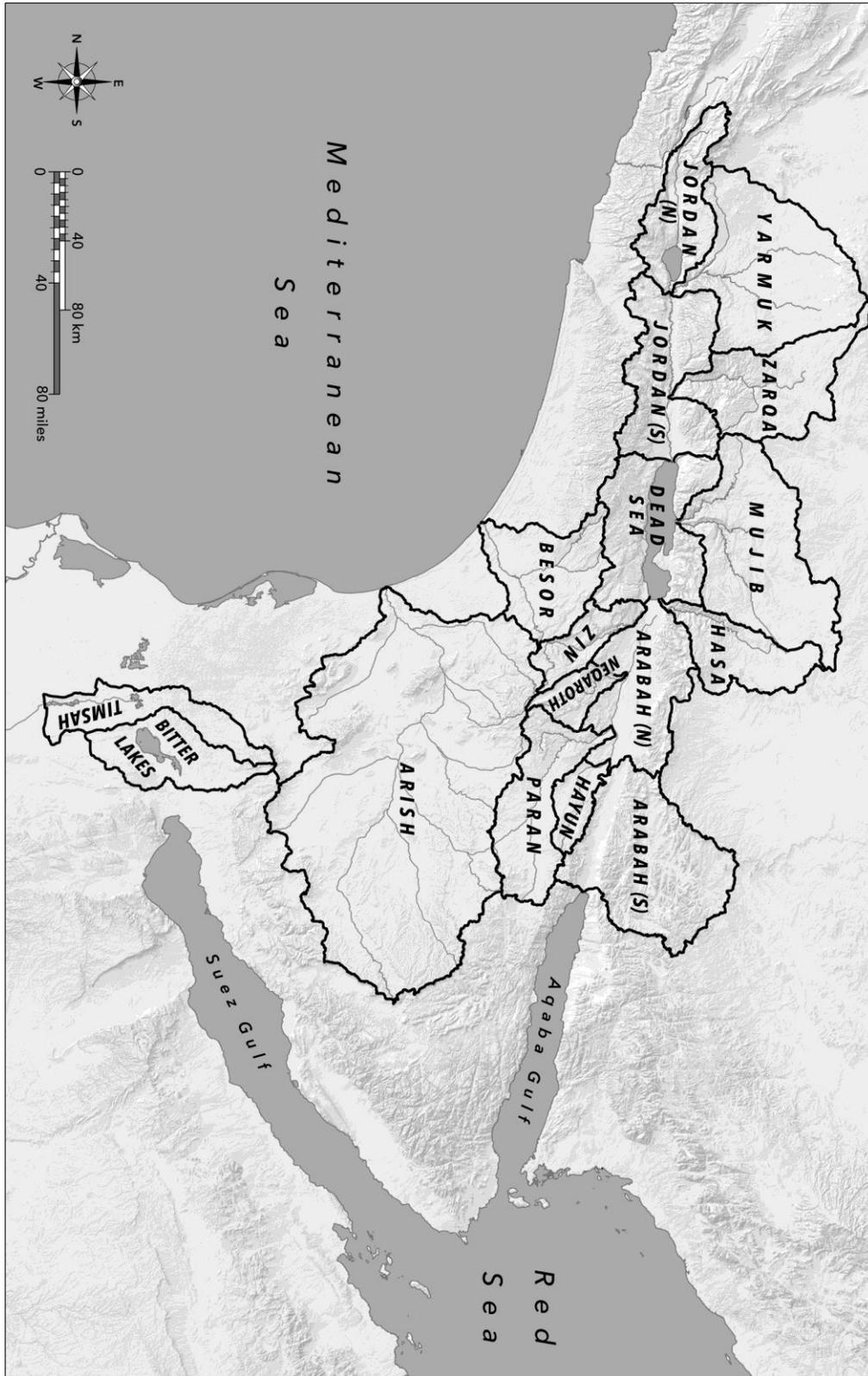


Figure 4 SECONDARY CATCHMENTS

### 3.4 TERTIARY CATCHMENTS

*Tertiary catchments* are the next level in the hierarchy of drainage systems.<sup>22</sup> In a hydrological model where primary catchments drain into seas or lakes and secondary catchments drain into major rivers,<sup>23</sup> tertiary catchments are the areas drained by main tributaries of major rivers. Some of these tributary catchments are distinct geographical and ecological regions on account of their size, location, elevation, and features. Of the numerous tertiary catchments across the Sinai-Negev and Transjordan, only a few are significant to exodus geography in that their names have been preserved in the Hebrew Bible along with some details of their geography and human history. These regions are discussed in order generally according to the progression of the Israelite journeys from Egypt and Canaan.<sup>24</sup> A map of the significant tertiary catchments appears with the discussion in *Chapter 6: Regions to the West of the Rift Valley (Wilderness of Sinai to the Arabah)* (Fig. 9).

### 3.5 SUMMARY: HYDROLOGICAL MODEL

This investigation seeks to test the hypothesis that the geopolitical regions named in the biblical narratives of the Israelite journeys correlate to the major river catchments of the Sinai-Negev and Transjordan. Accordingly, the investigation develops a hydrological model of the biblical wildernesses and national territories to account for all the relevant geographical data. Subsequent chapters apply the hydrological model first to the biblical regions of Egypt-Sinai-Negev (Chapters 5 and 6) and then to the Transjordan (Chapters 7 and 8). In the process of developing this model, the rules for locating and delineating the geopolitical regions are developed and nuanced to make the best overall sense of text and terrain. The investigation also discusses the geomorphic regions in order among the geopolitical regions even though the geomorphic regions (geozones) are determined topographically not hydrologically. A consistent model for locating and delineating both geopolitical and geomorphic regions of the Sinai-Negev

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<sup>22</sup> See 3.4 Tertiary Catchments.

<sup>23</sup> See 3.2 Primary Catchments; 3.3 Secondary Catchments.

<sup>24</sup> See 6.4 Tertiary Catchments: Sinai-Negev; 7.15 Tertiary Catchments: Transjordan.

and Transjordan should help considerably in future efforts to trace the itinerary of the Israelite migration between Egypt and Canaan.

## CHAPTER 4: THE ISRAELITE JOURNEYS

### 4.1 BIBLICAL DATA OF THE ISRAELITE JOURNEYS

The itinerary of the Israelite migration between Egypt and Canaan is not the focus of the present investigation and there is no attempt to identify and connect the many unknown or disputed stations between the terminals. Nonetheless, much of the geographical data for the biblical regions are drawn from the narratives of the Israelite journeys. It is necessary, therefore, to summarise the biblical accounts of the Israelite journeys before examining the geographic regions. It is also necessary to discuss the locations of the interim destinations of the Israelite migration—Mount Sinai and Kadesh-barnea—because it is not otherwise possible to check whether a hydrology model of the biblical regions is feasible. The location of Kadesh-barnea (often simply appearing as Kadesh) is long established in northeastern Sinai;<sup>1</sup> however, the location and identity of Mount Sinai (often appearing as [Mount] Horeb) is still disputed.<sup>2</sup> A hydrological analysis of the biblical geographic regions should shed some light on this vexatious problem because Mount Sinai is itself within a geographic region, the Wilderness of Sinai.

Geographical data for the Israelite migration from Egypt to Canaan are found throughout the Hebrew Bible, not only in the Torah (Pentateuch) but in many incidental references in the Prophets and Writings such as the books of Judges, Jeremiah, and Psalms. The principal accounts of the Israelite journeys are found in the blocks of text hereafter described as the Exodus narrative (Exod 12-19), the Numbers narrative (Num 10-22), the Numbers itinerary (Num 33), and the Deuteronomy review (Deut 1-3). There is also a brief summary of the Transjordanian conquest in the book of Judges in Jephthah's response to the king of Ammon (Judg 11:14-22). These accounts provide the primary geographical data of the Israelite journeys: places, descriptions, distances, and directions. Secondary data may be gleaned by comparing and contrasting these accounts, observing how the information is termed and framed, and even

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<sup>1</sup> See 6.2 Kadesh District.

<sup>2</sup> See 5.16 Mount Sinai-Horeb.

finding significance in what is omitted. Yet more information may be deduced by seeking and applying toponymical patterns and geographical principles.

The Israelite migration from Egypt to Canaan divides into three stages according to the biblical accounts of the journeys, designated by their year and terminals as follows:

1. First year: Goshen to Mount Sinai (Exod 12:37-19:1; Num 33:1-15)
2. Second year: Mount Sinai to Kadesh-barnea (Num 10:33-12:16; cf. 13:26; 33:16-36; Deut 1:19)
3. Fortieth year: Kadesh-barnea to the east bank of the Jordan River (Num 20:22-21:20; Deut 1:46-3:29).<sup>3</sup>

Between the second and fortieth years of the wilderness era, the biblical texts offer no geographical data. During these interim years there are, apparently, no journeys as a nation hence no mention of campsites other than Kadesh (Num 20:1; Deut 1:46). No roads are mentioned and, for the focus of this study, no regions. The descriptions of the three stages of the Israelite migration, however, abound with geographical data, including approximate totals of forty campsites, thirty geographic regions, ten roads, ten named wildernesses, and many mountains, rivers, and towns.<sup>4</sup> The first task in the investigation of the geographic regions is to list the regions in the order they appear in the biblical accounts of the Israelite journeys. The three stages of the overall Israelite migration provide a convenient framework for grouping the regions by context.

#### **4.1.1 REGIONS: GOSHEN TO SINAI**

The journey from Goshen to Mount Sinai is attested in the Exodus narrative (Chs. 12-19) and the Numbers itinerary (33:1-15). Except for the Land of Goshen, which is in Egyptian territory (Gen 47:4, 6, 27), all named geographic regions of this journey are designated as wildernesses. These are, in order of appearance in the narrative and itinerary, the wildernesses of the Red Sea (Exod 13:18), Shur and Etham (Exod 15:22; cp. Num 33:8), Sin (Exod 16:1; 17:1; Num 33:11-12), and Sinai (Exod 19:1-2; Num 33:15). The Wilderness of the Red Sea is

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<sup>3</sup> Rainey and Notley use these same divisions. *The Sacred Bridge*, 119–22.

<sup>4</sup> See 2.2 Wildernesses, National Territories, Geozones.

mentioned only once as part of a road-name, דֶּרֶךְ הַמִּדְבָּר יַם־סוּף *derekh ha-midbar yam suf* “the Way of the Wilderness of the Red Sea”, the route presumably passing by, or to, the wilderness of the יַם־סוּף *yam suf* “Red Sea” (Judg 11:16), whatever and wherever one may conceive that sea to be. The wildernesses of Shur and Etham are also each mentioned only once in the biblical accounts in connection with Israel’s three-day journey after the Red Sea crossing to the station of Marah (Exod 15:22; Num 33:8). It is reasonable to deduce that this section of the journey passed along the boundary between the wildernesses of Shur and Etham or that the toponyms are dual names for a single wilderness.<sup>5</sup>

#### 4.1.2 REGIONS: SINAI TO KADESH

After approximately a year of encampment at the foot of Mount Sinai, the Israelites set out to (and through) the Hill Country of the Amorites to invade Canaan (Exod 19:1; Num 10:11-12; Deut 1:7-8, 19-20) but their mission was interrupted and ultimately aborted at the station called Kadesh-barnea (Num 12:15-16, 14:28-35; Deut 1:35-40). The Sinai-to-Kadesh journey is attested in the Numbers narrative (Chs. 10-13), the Numbers itinerary (Ch. 33:18-36); and the Deuteronomy review (1:19), and combined with the exodus journey in Jephthah’s summary (Judg 11:16). Despite reference to this stage in four texts, the details are sketchy and no regions are mentioned among all the stations after the first arrival at Kadesh.

According to the Numbers narrative, the journey begins with an exit from the Wilderness of Sinai into the Wilderness of Paran (Num 10:12, 33) and ends with another mention of the Wilderness of Paran upon arrival at Kadesh (12:16; cf. 13:13, 26). The Numbers itinerary mentions only the Wilderness of Zin, also upon arrival at Kadesh (33:36). The Deuteronomy review, concerned more with geopolitical than geographical details of the journey, mentions neither wilderness Paran nor Zin, but rather the Hill Country of the Amorites a total of six times (1:7, 19, 20, 41, 43, 44). By all biblical and historical indications, the wildernesses of Zin and Paran are anchored to regions north of Elath and south of Canaan/Israel—Zin to the Central

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<sup>5</sup> See 5.6 Wilderness of Shur; 5.7 Wilderness of Etham.

Negev (Num 13:21; 20:1; 27:14; 33:36; 34:3; Deut 32:51; Josh 15:1)<sup>6</sup> and Paran to the Southern Negev (Gen 14:6; Num 33:3, 26; Deut 1:1; 33:2; 1 King 11:18; Hab 3:3).<sup>7</sup>

Other than the two wildernesses (Paran, Zin) and the hill country (of the Amorites), no other geographic regions are named in the biblical accounts of the Sinai-to-Kadesh journey. The Arabah is implicated, however, because the Numbers itinerary lists the stations of Jotbathah, Ebronah, and Ezion-geber immediately before Israel arrives at Kadesh (Num 33: 33-36). These three stations probably lie in the southern Arabah. Jotbathah is commonly identified with Ein Ghadyan, the spring and marshlands near the modern town of Yotvata in the southern Arabah.<sup>8</sup> Despite some debate about its precise location, Ezion-geber is securely situated on the Red Sea coast near Elath (Deut 2:8; cf. 1 King 9:26).<sup>9</sup> Ebronah is represented in modern maps as Ein Avronah in the southern Arabah about half-way between Yotvata and Elath, as determined by Israel's Governmental Names Commission in 1950.<sup>10</sup> These three stations aligned north to south in the southern Arabah indicate that Israel's movements during the Sinai-to-Kadesh journey involved the area approaching the head of the Elath gulf.

#### **4.1.3 REGIONS: KADESH TO JORDAN**

The Israelite journey from Kadesh to the Plains of Moab is attested in the Numbers narrative (Chs. 20-21), the Numbers itinerary (33:37-48), the Deuteronomy review (Chs. 1-3; [10]), and a high-level summary in Judges (11:14-22). The details of the first half of the Kadesh-to-Jordan journey are sketchy (Num 20:22-29; 21:4; Deut 1:46-2:1; 10:6-7; Judg 11:18a). On their way from Kadesh to the Arabah Valley, Israel had two possible routes—one through the Wilderness of Paran, the other through the Wilderness of Zin, both wildernesses associated with Kadesh (Num 12:16; cf. 13:3, 26; cp. 33:36). The only geographic region mentioned for the Negev half of the journey, however, is Mount Seir which region they circumvented by the Way

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<sup>6</sup> See 6.13 Wilderness of Zin.

<sup>7</sup> See 5.14 Wilderness of Paran.

<sup>8</sup> Graham I. Davies, "The Wilderness Itineraries: A Comparative Study," *Tyndale Bulletin* 25 (1974): 92–93.

<sup>9</sup> MacDonald, *East of the Jordan*, 79–81.

<sup>10</sup> Azaryahu and Golan, "(Re)Naming the Landscape," 186.

of the Red Sea (Deut 2:1-4; cf. Num 21:4).<sup>11</sup> From the Arabah eastward and northward, many more geographic regions are named, reflecting the varied terrain and conditions in the Transjordan and the increased geopolitics of the latter half of the journey.

The named geographic regions of the Transjordan commence with mention of the Land of Edom (Num 20:23; 21:4; 33:7; Judg 11:18; cp. Deut 2:4-5), then the Wilderness of Moab (Deut 2:8), the Land of Ar (Deut 2:9, 18, 29; cf. Num 21:15), the Land of Moab (Num 21:11, 13; Judg 11:15, 18), the Wilderness of Kedemoth (Deut 2:26), the Mishor (“tableland”, Deut 3:10), the Gilead (Deut 2:36; 3:10), the Land of Ammon (Deut 2:19, 37; Judg 11:15), the Plains of Moab (Num 22:1; 33:48-49), the Land of Jazer (Num 32:1; cf. 21:32), the Bashan (Num 21:33; Deut 3:1, 10), and the Argob (Deut 3:4, 13). The Mountains of the Abarim might well also be considered a region rather than a station (Num 33:47-48).

## **4.2 SUMMARY: THE ISRAELITE JOURNEYS**

Much of the geographical information regarding the biblical regions is drawn from the details of the Israelite migration between Egypt and Canaan as described in the Pentateuch. The two interim destinations—Mount Sinai and Kadesh-barnea—divide the overall journey into three stages: Goshen-to-Sinai, Sinai-to-Kadesh, and Kadesh-to-Jordan. Kadesh-barnea’s identity in the northeastern Sinai Peninsula is established and broadly accepted; Mount Sinai’s identity, and hence its location, is disputed. The various Mount Sinai candidates indicate or require different parameters for the biblical regions according to the projected routes to and from each mountain. In the quest for the identity of Mount Sinai, a hydrology model of the biblical regions may assist in predicting its likely location and may even support an existing candidate. Without a method and a model, however, analysis can only be provisional and the results ad hoc.

This investigation now proceeds to apply a holistic approach and a harmonistic method to the identities, locations, and extents of the biblical regions. The insights gained help to build a cumulative case in support of the hypothesis that the geographic regions are related to the major river catchments of biblical lands. The hydrological model is applied to the biblical regions of the Israelite journeys, first to those on the west side of the Rift Valley (Chapters 5 and 6, Egypt-

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<sup>11</sup> See 6.12 Mount Seir (West): Geozone.

Sinai-Negev) and then to those on the east side (Chapters 7 and 8, Transjordan). All wildernesses, national territories, and geozones are discussed in the general order in which they appear in the biblical narratives of the Israelite journeys, starting with the Land of Egypt.

As already established in the toponymical analysis,<sup>12</sup> geozones, unlike wildernesses and national territories, are defined and circumscribed by topography not hydrology.<sup>13</sup> Nonetheless, geozones are also geographic regions and must be included in a study of biblical geography. Geozones are, in fact, integral to the investigation, providing a way to check that the proposed identities for the hydrological regions are correctly aligned with the known identities of the topographical regions. Accordingly, and consistent with a holistic approach to all the biblical regions, analysis of the geozones is interspersed with analysis of the wildernesses and national territories, each region discussed in regard to its unique features and its relevance to biblical history. The subsections for the biblical regions are also interspersed with subsections on related topics as necessary to advance the argument.

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<sup>12</sup> See Chapter 2: Tononymy of the Biblical Regions.

<sup>13</sup> See 2.4 Geozones: Sinai-Negev and Transjordan.

# CHAPTER 5: REGIONS WEST OF THE RIFT VALLEY (GOSHEN TO THE WILDERNESS OF SINAI)

## 5.1 INTRODUCTION: EGYPT-SINAI REGIONS

The first four chapters of this dissertation have established the foundation for a hydrological investigation into the geographic regions of the Israelite journeys. Chapter 1 observed that there is no current method for identifying and delineating the regions other than to deduce their general position by comparing biblical data to geographical realia.<sup>1</sup> The discovery of three clear toponymical categories for the biblical regions—wildernesses, national territories, and geozones—promises to assist in the analysis of the biblical regions. The pattern of regions in each toponymical category leads to the conclusion that the wildernesses and national territories are determined on different principles to the geozones. This observation together with maps of the major riverbeds and watersheds in the biblical arena offers a way forward for determining the location and extent of each wilderness and national territory (Fig. 5), and the nature and distribution of the geozones (Fig. 2).

According to the preliminary model of the biblical regions, secondary catchments generally correlate to geopolitical regions with recognised borders and boundaries, whether settled by agriculturists, roamed by pastoralists, or transited by traders. Thus, the geopolitical regions are the wildernesses and national territories, determined hydrologically with watershed and/or riverbed boundaries and borders. The geomorphic regions, on the other hand, are the geozones, determined topographically in terms of large land masses, each with recognisable characteristics and land-use. Their regional names are perennial, that is, the name applies throughout the biblical period regardless of the nations or tribes in residence.<sup>2</sup>

All the biblical regions discussed in this chapter appear in the first stage of the Israelite migration, Goshen-to-Sinai.<sup>3</sup> The named wildernesses of this journey—Red Sea, Shur, Etham,

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<sup>1</sup> See 1.1 The Issue Under Investigation.

<sup>2</sup> Wright, “Introduction to Historical Geography,” 10.

<sup>3</sup> See 4.1.1 Regions: Goshen to Sinai.

Sin, and Sinai—are integrated with the stations as places of arrival and departure. In other words, ancient travellers marked when they entered and exited these regions just as they knew when they arrived at, and left from, the stations. This fact can be seen in the following brief summary of the journey: After the Red Sea crossing, Israel יצא *yatsa* “goes out” three days into the Wilderness of Shur or the Wilderness of Etham (Exod 15:22 KJV; cp. Num 33:8) before passing through the stations of Marah, Elim, and another campsite on the Red Sea (Exod 15:23, 27; Num 33:8-10). Then they באו *bo* “come” to, or חנה *hanah* “camp” in, the Wilderness of Sin (Exod 16:1; Num 33:11). The text records incidents but no named campsites before the people “set out” נסעו *nasa* from the Wilderness of Sin (Exod 17:1; Num 33:12). Then they pass through three unaffiliated stations—Dophkah, Alush, and Rephidim—before entering the Wilderness of Sinai (Num 33:12-15) where, it seems, they camp at the mount the same day they arrive (Exod 19:1-2).

No geozones (i.e. regions with toponyms attracting the definite article הַ *ha-* “the”) are named in the narrative and itinerary of the first stage of the Israelite migration, the Goshen-to-Sinai journey (Fig. 2). This cannot be because there were no named geomorphic regions in the Eastern Delta and Sinai Peninsula; rather that the biblical author(s) may not have been familiar with them or that such information was unnecessary to the story.<sup>4</sup> The three named geozones to the west of the Rift Valley—the Hill Country, the Negeb, and Seir—are all connected with the spying expedition and the failed Israelite invasion of Canaan during the Sinai-to-Kadesh journey.<sup>5</sup> The national territories of the first stage of the itinerary are the lands of Egypt, Goshen, and, indirectly, Jethro’s homeland, the Land of Midian (Exod 18:27).<sup>6</sup> The Land of Canaan is mentioned as the ultimate destination of the Israelite migration (Exod 6:4; Lev 25:38), but does not feature in the text until the spying expedition from Kadesh in the second stage of the itinerary, Sinai-to-Kadesh (Num 13:2, 17).

Ideally, the wildernesses of the Sinai and Negev can be located, delineated, and distinguished from each other in a systematic way that satisfies all biblical indications and geographic requirements. The route of the Israelite migration depends largely upon the location of Mount Sinai as the destination of the Goshen-to-Sinai journey and as the departure point for

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<sup>4</sup> See 2.5 Geozones: Cisjordan (Canaan/Israel).

<sup>5</sup> See 6.9 The Hill Country: Geozone; 6.10 The Negeb: Geozone; 6.12 Mount Seir (West): Geozone.

<sup>6</sup> See 7.9 Land of Midian.

the Sinai-to-Kadesh journey. Biblical cartographers, therefore, identify the biblical regions between Goshen and Kadesh in line with their preferences for the location of Mount Sinai. This inevitably results in speculative self-referencing theories lacking a rationale for regional identification and producing sketchy results. A holistic method and a proper mapping model should make better science and sense of the biblical and terrestrial data. It is now time to turn to a consideration of each biblical region in turn according to the hydrological principles already established above.<sup>7</sup>

## 5.2 BIBLE ATLASES: EGYPT-SINAI-NEGEV

The travel notices of the Israelite journeys suggest that the regions were identifiable and recognisable to people passing through them. Biblical geographers, however, are often vague regarding the locations and limits of the biblical regions (especially the wildernesses), posting labels broadly across their maps with no attempt to outline or divide between them. Yohanan Aharoni, for example, in the “Exodus and Desert Routes” map in his *Land of the Bible: A Historical Geography*, applies the label for the Wilderness of Paran over the entire central Sinai Peninsula.<sup>8</sup> This decision is driven by locating Mount Sinai at Jebel Musa in Southern Sinai, deducing from travel notices that the Sinai and Paran wildernesses are adjoining regions (Num 10:12, 33), and also that Kadesh is in the Wilderness of Paran (Num 12:16; cf. 13:3, 26). Aharoni does not locate the Etham or Sin wildernesses, even though they are significant to the exodus narrative and itinerary (Num 33:8, 12; Exod 16:1; 17:1).

In their 2006 Carta atlas *The Sacred Bridge*, Rainey and Notley base the “Exodus and Wandering” map on Aharoni’s geography. Again, the label for the Wilderness of Paran covers the Central Sinai, that of the Wilderness of Sinai covers the Southern Sinai, and the wildernesses of Etham and Sin do not appear.<sup>9</sup> Beitzel’s 2009 *New Moody Atlas of the Bible* also locates the

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<sup>7</sup> See Chapter 3: Hydrological Model.

<sup>8</sup> Yohanan Aharoni, *The Land of the Bible: A Historical Geography*, trans. Anson F. Rainey, Revised and Enlarged Edition (Philadelphia, PA: Westminster, 1979), 197 map 13.

<sup>9</sup> Rainey and Notley, *The Sacred Bridge*, 120.

Wilderness of Paran in the Central Sinai but not as far to the west. He places the Wilderness of Sin in the Southern Sinai near Jebel Musa and omits the wildernesses of Etham and Sinai.<sup>10</sup>

For the 2009 *Crossway ESV Bible Atlas*, Currid and Barrett also position the wilderness names broadly across large areas.<sup>11</sup> They locate the Wilderness of Sin in Southern Sinai along the route from Goshen to Jebel Musa but omit the wildernesses of Etham and Sinai. Kadesh lies between the wildernesses of Zin and Paran in the Negev, no doubt to associate it with both wildernesses (as per Num 13:3, 26; 20:1; 33:36). This decision comes at the cost of the detail that the Israelites entered the Wilderness of Paran directly from the Wilderness of Sinai after their year's encampment at the mount (Num 10:12, 33), a connection incompatible with Jebel Musa as Mount Sinai.<sup>12</sup>

The 2019 *Fortress Atlas of the Biblical World* adopts the same labels and omissions but locates the Wilderness of Sin to the northeast of Kadesh, apparently conflating Sin with Zin.<sup>13</sup> In all these atlases, the wilderness regions are vague; no geographer attempts to define them by their geographical features or to draw boundary-lines between them. These examples from current atlases confirm that an uncertain identity for Mount Sinai and the lack of a method for determining and delimiting biblical regions have together prevented progress in resolving the wilderness itinerary data.

### 5.3 SECONDARY CATCHMENTS: EGYPT-SINAI-NEGEV

The primary catchments—Red, Med, and Dead—provide the foundation for a hydrological study of the geographic regions of the Israelite migration from Egypt to Canaan (Fig. 3). The secondary catchments of the Egypt-Sinai-Negev are the next level in the hierarchy of drainage systems between the Egyptian Delta and the Rift Valley (Fig. 4). Most of the secondary catchments of the Egypt-Sinai-Negev are rivers, two are lakes. The Lake Timsah and

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<sup>10</sup> Barry J. Beitzel, *The New Moody Atlas of the Bible*, New Ed. (Chicago, IL: Moody, 2009), 110–11 map 34.

<sup>11</sup> John D. Currid and David P. Barrett, *Crossway ESV Bible Atlas* (Wheaton, IL: Crossway, 2010), 85 map 3.2.

<sup>12</sup> See 5.15 Wilderness of Sinai.

<sup>13</sup> Mark V. Hoffman and Robert A. Mullins, *Atlas of the Biblical World* (Minneapolis, MN: Fortress, 2019), 36–37.

Bitter Lakes catchments in the central Suez Isthmus here count as secondary catchments because they are comparable in size and significance to the river catchments across the region. The Ballah Lakes in the northern Suez Isthmus, however, are tidally and seasonally connected to the Mediterranean Sea. Accordingly, they are incorporated into the Mediterranean coastal catchment.<sup>14</sup> The Lake Timsah and Bitter Lakes catchments straddle the Suez Isthmus dividing Egypt from the Sinai Peninsula in the same way that the Arabah catchment in both its parts, northern and southern, straddles the Rift Valley dividing the Sinai Peninsula from Arabia.

*Table 1 EGYPT-SINAI-NEGEV SECONDARY CATCHMENTS AND BASE WATER BODIES*

<b>Secondary Catchments: Egypt-Sinai-Negev</b>	<b>Base Water Body</b>
Lake Timsah	Lake Timsah
Bitter Lakes	Bitter Lakes
Wadi Arish	Med Sea
Nahal Paran	Dead Sea
Nahal Zin	Dead Sea
Nahal Besor	Med Sea
Wadi Arabah (northern Arabah)	Dead Sea
Nahal Neqaroth	Dead Sea
Nahal Hayun	Dead Sea
Southern Arabah (no waterway)	Red Sea

The map for the proposed geopolitical regions (wildernesses and national territories) both west and east of the Rift Valley is here provided in anticipation of the discussion of each region of the Israelite migration (Fig. 5). This position seems to be the better of various options for the placement of the map, because readers can then refer back (rather than ahead) to the map as Chapter 5 progresses through the regions from Egypt to the Wilderness of Sinai. The “Wildernesses, Territories” map utilises the same watersheds image as the Secondary

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<sup>14</sup> See 5.5 Land of Goshen.

Catchments map (Fig. 4), but the labels are the proposed regional names rather than the modern river names for the catchments. Biblical regions which straddle two catchments (e.g. Edom) or occupy only half-catchments (e.g. Argob) are discussed under their own names in this and subsequent chapters (Chapters 5 to 8). So also are the regions that occupy single catchments (e.g. Wilderness of Sin). The geozones appear in their own map because they are determined by location and relative elevation not hydrology, but they are also discussed in their appropriate places among the hydrological regions (Fig. 2).

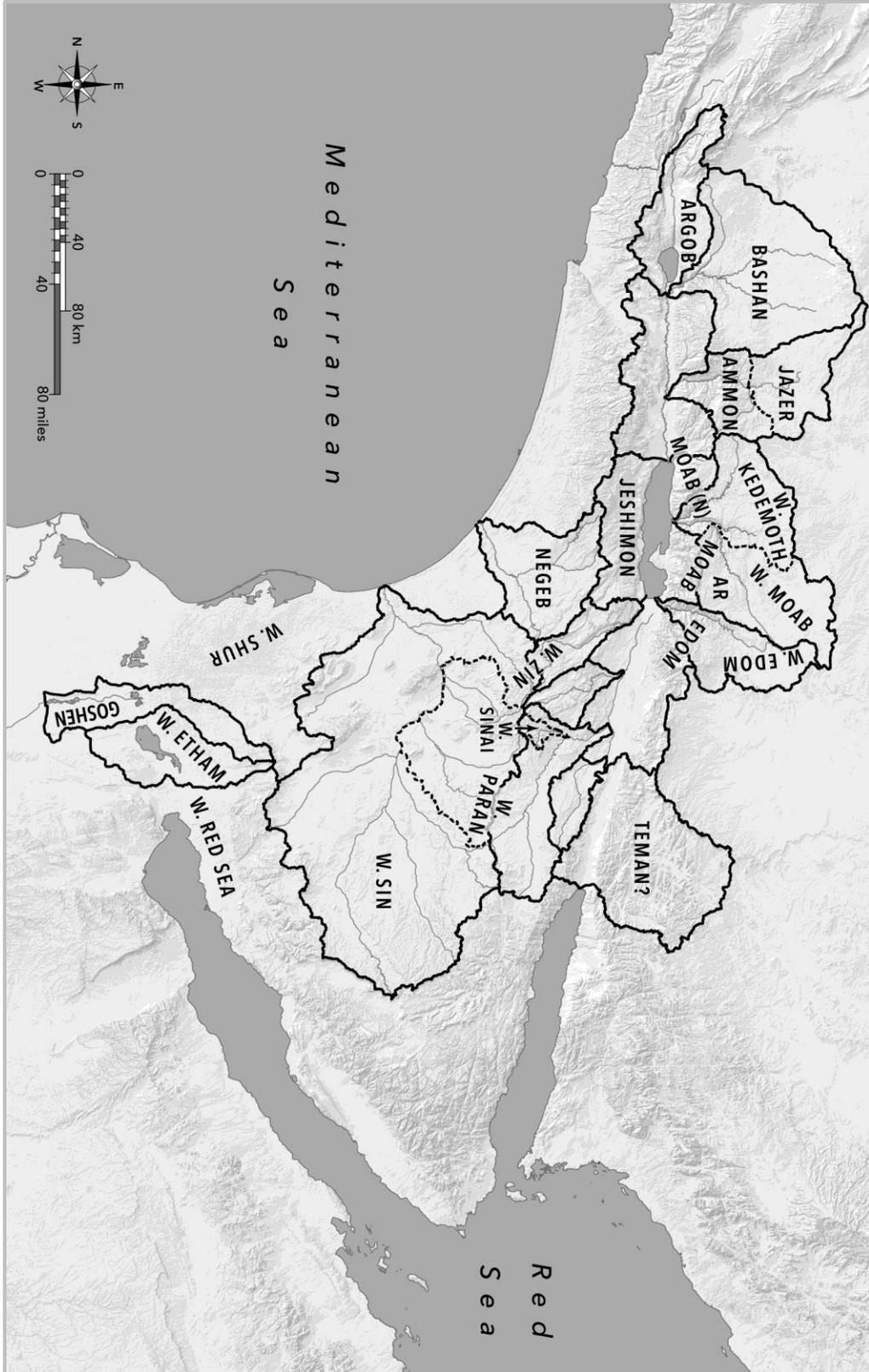


Figure 5 WILDERNESSES, TERRITORIES

## 5.4 LAND OF EGYPT

According to the biblical account, Egypt מִצְרַיִם *mitsrayim* is the country from which the liberated Hebrew slaves migrated to Canaan (Lev 25:38). The national territory of ancient Egypt comprised all the land watered by the Nile (Exod 7:19-21) as determined by Herodotus in his consultation with Egyptian priests who in turn cited a god and an oracle:

The god however... said that that land which was Egypt which the Nile came over and watered, and that those were Egyptians who dwelling below the city of Elephantine drank of that river.<sup>15</sup>

Egypt is the gift of the Nile.<sup>16</sup>

Thus it was answered to them [the priests] by the Oracle about this: and the Nile, when it is in flood, goes over not only the Delta but also of the land which is called Libyan and of that which is called Arabian sometimes as much as two days' journey on each side, and at times even more than this or at times less."<sup>17</sup>

Egypt is, therefore, the first geopolitical region of the Israelite journeys that is defined and delineated by a water catchment, in this case a major river, its delta, and its distributaries.<sup>18</sup>

Herodotus' statement about the Nile waters extending into Arabia by two day's travel is of interest. This distance is consistent with the details of the exodus journey, a total of two days' journey from the royal precinct to the Suez Isthmus:

Day 1. Rameses to Succoth (Exod 12:37; Num 33:3, 5)

Day 2. Succoth to Etham (Exod 13:20; Num 33:6).

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<sup>15</sup> Herodotus, "An Account of Egypt: Being the Second Book of His Histories Called Euterpe," trans. G. C. Macaulay, Gutenberg, II: 18, accessed November 22, 2020, <https://www.gutenberg.org/files/2707/2707-h/2707-h.htm> Grammar defective.

<sup>16</sup> II. 5; It is possible that this statement is by Hecataeus. J. Gwyn Griffiths, "Hecataeus and Herodotus on 'A Gift of the River,'" *Journal of Near Eastern Studies* 25, no. 1 (1966): 57 The southern extent of ancient Egypt is a matter of some debate.

<sup>17</sup> "An Account of Egypt," II: 18-19.

<sup>18</sup> Neither the Nile catchment (Egypt) or the Mediterranean coastal catchment (western Canaan) are depicted on the watershed maps in order to focus on the regions between the terminals of the Israelite migration.

Incidental biblical references confirm Egypt's eastern border in the Suez Isthmus. The Israelites left Egypt on the same day they left Succoth (Exod 12:37; cp. v. 51; 13:18) to encamp at Etham "on the edge of the wilderness" (Exod 13:20; Num 33:6). At the next station, Pi-hahiroth on the Red Sea shore, the Israelites considered themselves to be outside of Egypt (Exod 14:11-12; cf. Judg 11:16). Another marker of the eastern border of Egypt is Shur lying "before [or east of] Egypt" (Josh 13:3; 1 Chron 13:5). Lake Timsah in the central isthmus receives its water from the Nile via an east-flowing wadi, Wadi Tumilat, thereby including the central isthmus within Egypt as per Herodotus' rule of the "gift of the Nile".

Three ancient roads connected Egypt with the eastern nations,<sup>19</sup> each road leading to one of the three primary catchments of the wider area:

1. Way of the Land of the Philistines to the Mediterranean Sea catchment (Exod 13:17)
2. Way of Shur to the Dead Sea catchment via Kadesh (Gen 16:7; 20:1)
3. Way of the Wilderness of the Red Sea to the Red Sea coastal catchment (Exod 13:18).

The Way of the Land of the Philistines was primarily a soldiers' route, the Way of Shur a nomads' route, and the Way of the Wilderness of the Red Sea was mostly used by miners and traders.<sup>20</sup>

Noth gives a broad geography of the Land of Egypt setting its southern extent from the first cataract of the Nile, though this border varies throughout the Egyptian kingdoms:<sup>21</sup>

The Nile rises from sources in equatorial East Africa and on the highlands of Abyssinia. Then with its tributaries it crosses the Sudan, pouring its productive waters into a narrow valley confined by deserts. Below the first cataract it forms

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<sup>19</sup> Kenneth A. Kitchen, "Exodus, The," in *Anchor Bible Dictionary*, ed. David Noel Freedman (New York, NY: Doubleday, 1992), 704.

<sup>20</sup> Manfred Bietak, "Comments on the 'Exodus,'" in *Egypt, Israel, Sinai: Archaeological and Historical Relationships in the Biblical World*, ed. Anson F. Rainey (Tel Aviv: Tel Aviv University, 1987), 170; William H. Shea, "Leaving Egypt: The Starting Point," *Adventist Review* 3 (May 11, 1990): 103-5, <https://www.biblia.work/sermons/leavingegypt/>.

<sup>21</sup> John A. Wilson, "Buto and Hierakonpolis in the Geography of Egypt," *Journal of Near Eastern Studies* 14, no. 4 (1955): 228-29.

a level river valley, at first narrow but broadening out farther down and from 15 to 30 and even 50 km [from 9 to 18 or even 30 miles] in width. Finally, in the region of the Nile Delta it expands into an extensive fertile alluvial land. We call this fertile valley ancient Egypt, based on the name coined by the Greeks. On both sides this river region is bordered by high desert plateaus, in the east by the Arabian desert, and in the west by the Libyan desert, which contains various oases. The fertility of the land, which receives only a bit of rain, depended until the construction of the Aswan dam on being regularly flooded by the water of the Nile, following the melting of snows at its sources. (Actually, the bulk of the late summer and early fall flood of the Nile is derived from the accumulation of summer rainfall on the East African plateau and the Ethiopian massif). The Nile begins to rise perceptibly in July. It reaches its high point some time in October. At that time it covers all of the farmland in the Nile Valley proper. By about January it has again returned to its low level. At the same time the Nile is the natural commercial artery of the country.<sup>22</sup>

In a general description of Egyptian hydrology, Herodotus lists the branches of the Delta by their Greek (and now common) names:

The Nile from the Cataract [at the city of Elephantine] onwards flows to the sea cutting Egypt through the midst; and as far as the city of Kercasoros the Nile flows in one single stream, but from this city onwards it is parted into three ways; and one, which is called the Pelusian mouth, turns towards the East; the second of the ways goes towards the West, and this is called the Canobic mouth; but that one of the ways which is straight runs thus,—when the river in its course downwards comes to the point of the Delta, then it cuts the Delta through the midst and so issues out to the sea. In this we have a portion of the water of the river which is not the smallest nor the least famous, and it is called the Sebennytic mouth. There are also two other mouths which part off from the Sebennytic and go to the sea, and these are called, one the Saïtic, the other the Mendesian mouth. The Bolbitinitic and Bucolic mouths, on the other hand, are not natural but made by digging.<sup>23</sup>

Thus, the hydrological borders of Egypt are all hydrological: watersheds to the east and west of the Nile, a disruption in the course of the Nile to the south, the Mediterranean Sea to the north,

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<sup>22</sup> Martin Noth, *The Old Testament World*, trans. Victor I. Gruhn (London: Adam & Charles Black, 1966), 185.

<sup>23</sup> Herodotus, “An Account of Egypt,” II: 17.

and an unusual arrangement beyond the northeast Delta with a series of border lakes in the central Suez Isthmus.

## 5.5 LAND OF GOSHEN

The Land of Goshen, also known as the Land of Rameses (Exod 12:37, cf. 1:11), was the district where the Hebrew nation settled upon their migration from Canaan to Egypt (Gen 47:1, 4). From the description of their arrival and their meeting with Joseph, it is clear that Goshen lay within Egyptian territory (Gen 47:11, 27) between the Eastern Delta and the western terminus of the nomads' road from Beersheba, elsewhere identified as the Way of Shur (Gen 46:1, 5-6, 28; cf. Gen 16:7). Described by Pharaoh as “the best part of the land” (Gen 47:6, 11), Goshen was suitable for both the grazing of livestock and the cultivation of crops (Exod 12:38; Num 11:5). Details of the Israelite sojourn reveal that Goshen bordered on the Egyptian royal precinct (Gen 45:10). During the oppression, Moses' mother placed his ark in the river at the place where Pharaoh's daughter came to bathe, returning home, presumably a short distance, leaving a child to keep watch (Ex. 2:4, 5). Throughout the period of the plagues on Egypt, Moses went back and forth at short notice between the Hebrew district and Pharaoh's palace (Exod 10:16; 12:31). In Goshen, the Hebrews had Egyptian neighbours from whom they “borrowed” valuable items (Exod 11:2; 12:35). Yet Goshen also seems to be somewhat separate (“set apart”) from Egypt proper, as suggested in the detail that the last seven plagues did not affect the habitations or possessions of the Hebrews (Exod 8:20, 22; 9:4, 6, 26; 10:23; 12:13).

The toponym Goshen *גֹּשֶׁן* appears several times in the Hebrew Bible constructed with the word *אֶרֶץ* *erets* “land [of]” (e.g. Gen 45:10; Exod 8:22). The single time the toponym also appears with the definite article, i.e. *אֶרֶץ הַגֹּשֶׁן* *erets ha-goshen*, it refers to a region in Southern Canaan conquered by Joshua (Josh 11:16). It is tempting to stretch the Judean Goshen some 200 km (125 miles) across Northern Sinai to meet the Egyptian Goshen. As Elitzur rightly concludes, however, “this kind of view is patently impossible. The idea that Joshua could have conquered Canaanite land in the eastern Nile Delta is perplexing.”<sup>24</sup> The problem of the two Goshens—one in northeastern Egypt and one in southwestern Canaan—may be resolved by

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<sup>24</sup> Elitzur, “Land of Goshen.”

appeal to the toponymical categories for biblical regions.<sup>25</sup> “The land of Goshen” of the Eastern Delta is not the same kind of region as “the land of *the* Goshen” of Southern Canaan; the former is a national territory in Egypt while the latter a geozone in the Cisjordan (Fig. 2).

The two regions are comparable, however, as pastoral lands “between the desert and the sown”.<sup>26</sup> Goshen is the interface between the Egyptian Delta and the Sinai desert, while “*the* Goshen” is the interface between the Sinai desert and the Judaeian Shephelah. If, as John Gray supposes, גֹּשֶׁן *goshen* is a common noun describing a certain type of country,<sup>27</sup> it may mean “buffer” or “margin”. The Mediterranean coastal plain between Goshen in Egypt and “the Goshen” in Southern Canaan is called the Wilderness of Shur (Exod 15:22).<sup>28</sup> In Joshua’s time, it was inhabited by Geshurites—a Canaanite tribe who occupied the long desert bridge between the Egyptians and the Philistines (Josh 13:2-4)—not to be confused with the Syrian Geshurites who lived at the edge of the Bashan in far northern Canaan (Josh 12:5; 2 Sam 15:8).<sup>29</sup>

According to the toponymical categories established in this investigation, Goshen in Egypt is a geopolitical region.<sup>30</sup> It should, therefore, correspond to a water catchment of the eastern Nile Delta in the direction of travel to Canaan. The eastern border of ancient Egypt is marked by a series of shallow lakes in the Suez Isthmus, a low-lying depression through which runs the Suez Canal along a generally north-south line:

The Canal intersects the African–Asian land bridge at its narrowest point, where the Mediterranean and a spur of the Indian Ocean approach to within 112 km (70 miles) of each other. Geographically the isthmus, which at its highest point reaches a mere 16 m (53 ft) above sea level, is the boundary between Africa and Asia.<sup>31</sup>

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<sup>25</sup> See Chapter 2: Toponymy of the Biblical Regions.

<sup>26</sup> A famous phrase from the poem by Omar Khayyam, “The Rubaiyat,” trans. Edward Fitzgerald, The Internet Classics Archive, Trans. 1859 1120, Stanza XI, <http://classics.mit.edu/Khayyam/rubaiyat.html>.

<sup>27</sup> John Gray, *Joshua, Judges, Ruth*, ed. Ronald E. Clements and Matthew Black, The New Century Bible (London: Nelson, 1986), 112.

<sup>28</sup> See 5.6 Wilderness of Shur.

<sup>29</sup> See 8.9 Geshur and Maacah.

<sup>30</sup> See 2.2 Wildernesses, National Territories, Geozones.

<sup>31</sup> Gerold Walser, “Battlefields and Roads: From Romano-Byzantine Days to the Present,” in *Sinai: Pharaohs, Miners, Pilgrims, and Soldiers*, ed. Beno Rothenberg, trans. Ewald Osers, 1st Eng. ed. (Berne: Kümmerly & Frey, 1979), 227.

The northern Suez Isthmus with the Menzaleh and Ballah lakes is part of the Mediterranean Sea primary catchment, while the southern Suez Isthmus is part of the Red Sea primary catchment (Fig. 4). The central Suez Isthmus contains Lake Timsah, intermittently filled by the inundation of the Nile,<sup>32</sup> and the Great and Little Bitter Lakes. These lake basins, being landlocked, are strictly primary catchments but they are very small compared to the Med, Red, and Dead primary catchments. Thus, they are here classified as secondary catchments, each potentially correlating to a geographical region of the Israelite exodus according to a hydrological model where wildernesses and national territories are based on water catchments.<sup>33</sup>

In his extensive survey of biblical and historical indications, geographer Menashe Har-El concludes that the Land of Goshen correlates to the length of the Wadi Tumilat, the only lateral (east-flowing) distributary of the Nile, crossing from the ancient Pelusiac branch of the eastern Nile Delta to the central Suez Isthmus:

This stream served in the past as a major transit route between the desert on the east of Egypt and the delta region because of its gentle topographical structure, its good soil conditions and multiple water-resources. It also served as the main eastern gateway to Egypt for the nomads wishing to obtain protection from the kings of Egypt in order to keep themselves and their stock alive, as mentioned in Papyrus Anastasi 5. It is interesting to note that both the contemporary road and the railway which were constructed in the Zagazig region on the Nile to Ismailia on the Suez Canal, traverse the whole length of Wadi Tumilat. In view of all the evidence mentioned we can assume that Wadi Tumilat is the most suitable region to be identified as the Land of Goshen, both historically and archaeologically... because of its strategic and political status, and on account of its geographical and agricultural situation.<sup>34</sup>

Wadi Tumilat is 52 linear km (32 miles) long, and its arable (irrigated) land about 2 km (1.2 miles) wide along most of its length.<sup>35</sup> Its catchment extends up to 15 km (9 miles) on either side, north and south. The waterway was a natural feature of great convenience to travellers,

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<sup>32</sup> Joseph Williams Blakesley, "M. de Lesseps and the Suez Canal" (Foreign and Commonwealth Office Collection, 1860), 410.

<sup>33</sup> See 5.7 Wilderness of Etham.

<sup>34</sup> Har-El, *Sinai Journeys*, 307.

<sup>35</sup> James K. Hoffmeier, *Ancient Israel in Sinai: The Evidence for the Authenticity of the Wilderness Tradition* (Oxford: Oxford University, 2005), 43.

providing continuous sweet (fresh) water, pasture, and supplies a full 60 km (37 miles) east of the Delta.

Early Western explorers recognised the singular geography of the Wadi Tumilat on account of which Goshen could be both part of, and separate from, Egypt. Trumbull points to the wadi's origin in the Delta, its errant trajectory, and its arable corridor:

... the Wady Toomilat (which sweeps from above Cairo, northerly and easterly toward Lakes Timsah and Ballah), together with more or less of the country on either side of that wady.<sup>36</sup>

Bartlett describes “a narrow, fertile strip that shoots east of the Nile”,<sup>37</sup> “sandwiched between two interminable zones of sand”.<sup>38</sup> Steele reports “a thin line of brilliant green, flanked, on either side, by an arid and tawny stretch of desert sand, above which rise the low plateaux of ancient river cliffs”.<sup>39</sup> Before modern irrigation, the desert around the Tumilat depression isolated the valley from the Eastern Delta.<sup>40</sup> Ebers observes how the valley opens up as it approaches the isthmus:

As far as it is possible to fix its ancient limitations, it exhibits the form of a cornucopia, bounded towards the east, at the widest end or opening of the cornucopia, by the water-way [the series of lakes through which runs the Suez Canal] that divides Africa from Asia.<sup>41</sup>

Bietak connects a lake named Gesemin Papyrus Anastasi IV with paleogeographical evidence of a large natural overflow lake in Wadi Tumilat that was fed by the easternmost Nile

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<sup>36</sup> H. Clay Trumbull, *Kadesh-Barnea – Its Importance and Probable Site: Including Studies of the Route of the Exodus and the Southern Boundary of the Holy Land* (London: Hodder & Stoughton, 1884), 382–83.

<sup>37</sup> Samuel Colcord Bartlett, “The Exodus of Israel,” *The North American Review* 131, no. 284 (1880): 35.

<sup>38</sup> Bartlett, *From Egypt to Palestine*, 10.

<sup>39</sup> Lawrence E. Steele, “The Exodus and the Egyptologist,” *The Irish Church Quarterly* 1, no. 2 (April 1, 1908): 123.

<sup>40</sup> Bartlett, *From Egypt to Palestine*, 144–45.

<sup>41</sup> Georg M. Ebers, *Egypt: Descriptive, Historical and Picturesque 1*, ed. Samuel Birch, trans. Clara Bell, vol. 1 (London / New York: Cassell, Petter, Galpin, 1881), 87–88.

branch.<sup>42</sup> Semitic toponyms in Papyrus Anastasi V and VI include Succoth (“Tjeku”), Pithom (“Per-Atum”), and the words for “lake” and “enclosure”:

The cumulative linguistic evidence of these Semitic words and toponyms in the Wadi Tumilat region, used even by Egyptian scribes... speaks very strongly for locating the land of Goshen in this frontier region of Egypt.<sup>43</sup>

Noting that the Septuagint translation of the Torah (Pentateuch) into Greek retains the toponym Goshen as Γεσεμ Ἀραβίας “Gesem of Arabia” (Gen 45:10; 46:34),<sup>44</sup> Bietak concludes that Wadi Tumilat “would fulfil in every respect the model of the land of Goshen (or the land of Ramses) in the Bible.”<sup>45</sup> Over a span of 2000 years, Pharaohs and conquerors dug canals through the wadi on the north and south sides of the stream.<sup>46</sup> Before the 1960s construction of the Aswan Dam in the Nile River, an enormous amount of silt was transported by the Nile,<sup>47</sup> advancing the Delta seawards and eventually clogging the Pelusiac branch and its offshoot, Wadi Tumilat.<sup>48</sup>

In 1863 as part of the Suez Canal project, the wadi’s water-bearing function was replaced by the Ismailia sweet-water canal that runs some 0.5 to 3 km (up to 2 miles) north of the wadi-bed to bring Nile water to the towns and fields in the Suez Isthmus. Reporting on the progress of the project, Blakesley confirms that Wadi Tumilat terminates in Lake Timsah and is very shallow throughout its length:

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<sup>42</sup> Manfred Bietak, “On the Historicity of the Exodus: What Egyptology Today Can Contribute to Assessing the Sojourn in Egypt,” in *Israel’s Exodus in Transdisciplinary Perspective: Text, Archaeology, Culture, and Geoscience*, ed. Thomas E. Levy, Thomas Schneider, and William H. C. Propp, Quantitative Methods in the Humanities and Social Sciences (Cham: Springer International, 2015), 2 n. 14.

<sup>43</sup> Manfred Bietak and Gary A. Rendsburg, “Egypt and the Exodus,” in *Ancient Israel, From Abraham to the Roman Destruction of the Temple*, ed. Hershel Shanks and John Merrill, Revised expanded edition (Washington, D.C.: Biblical Archaeology Society, 2021), 24.

<sup>44</sup> Classical Arabia was all the desert land between Egypt and Mesopotamia, hence, “Herodotus calls the entire region east of the Nile and the Pelusian Branch, from the Mediterranean to the Red Sea, ‘Arabia’, and its population ‘Arabs’ (2: 8, 15, 19, 30, 75, 124, 158)”. Israel Eph’al, *The Ancient Arabs: Nomads on the Borders of the Fertile Crescent 9th–5th Centuries B.C.* (Jerusalem / Leiden: Magnes, 1982), 193.

<sup>45</sup> Bietak, “On the Historicity of the Exodus: What Egyptology Today Can Contribute to Assessing the Sojourn in Egypt,” 30.

<sup>46</sup> Carol A. Redmount, “The Wadi Tumilat and the ‘Canal of the Pharaohs,’” *Journal of Near Eastern Studies* 54, no. 2 (1995): 130–31.

<sup>47</sup> Blakesley, “M. de Lesseps and the Suez Canal,” 414.

<sup>48</sup> Claude R. Conder, “The Exodus: I,” *Palestine Exploration Quarterly* 15, no. 2 (April 1883): 80–83.

Along this valley a fresh water canal, derived from the Nile, is intended to pass and to debouch into Lake Timsah.... unquestionably following in the footsteps of the Pharaohs, the dykes of whose canal are still traceable, and between them the mud left by the Nile at the time of its recent inundation also showed itself. Except in this hollow, the valley is covered with sand, and the hillocks to the right and left are so slightly elevated in most parts, as to be scarcely perceptible to the eye. Nevertheless, it is obviously by this course that the Nile water during the inundation, even now finds its way to Lake Timsah and bestows upon it that feature which distinguishes it from the Bitter Lakes.<sup>49</sup>

According to the emerging hydrological model of this thesis, the Egyptian Land of Goshen stretches the full length of Wadi Tumilat from its point of divergence at the ancient Pelusiac branch of the Nile as far as the Lake Timsah basin in the central Suez Isthmus. It includes all the arable land along the valley floor and all the pastoral land between the watersheds, especially in the eastern part where the wadi opens out into the isthmus. The Land of Goshen comprises only the western half of the elongated Lake Timsah catchment (the half watered by the Nile)—the eastern half in Northern Sinai is desert, its terrain indistinguishable from the Mediterranean coastal catchment to the north<sup>50</sup> and the Bitter Lakes basin to the south.<sup>51</sup> Such division of water catchments at their central water-body (riverbed or lakeshore) proves to be a pattern in the hydrological model.

## 5.6 WILDERNESS OF SHUR

The Wilderness of Shur מִדְבַּר שׁוּר *midbar shur* can be readily identified with the plains of Northern Sinai through which ran the Way of Shur (Gen 16:7) and the Way of the Land of the Philistines (Exod 13:17).<sup>52</sup> A hydrological model confirms the location and extent of the Wilderness of Shur between Egypt and Philistia (Fig. 5). Most of the other wildernesses of the Israelite journeys are secondary catchments (river systems or lake basins), but the Wilderness of

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<sup>49</sup> Blakesley, “M. de Lesseps and the Suez Canal,” 410.

<sup>50</sup> See 5.6 Wilderness of Shur.

<sup>51</sup> See 5.7 Wilderness of Etham.

<sup>52</sup> Hoffmeier, *Ancient Israel in Sinai*, 159–61.

Shur is the coastal part of the Mediterranean primary catchment, incorporating all the small drainage systems along the Mediterranean coast (Fig. 4):

Most of the territory of the northern plain lacks a continuous drainage network. Its absence stems from the moving sand dunes which block or fill the few existing stream beds, and from the coarseness of the sands which readily absorb the rainwater, permitting it to percolate to depth instead of flowing on the surface to the sea.<sup>53</sup>

The Wilderness of Shur incorporates the lower Arish catchment where the Arish stem crosses the coastal plain to debouche into the sea (Fig. 7). The upper Arish of Central Sinai drains the limestone plateau known as Badyat al-Tih.<sup>54</sup> The lower Arish of Northern Sinai drains sandy plains interspersed with a series of low mountains including, from west to east, Jebel Jiddi, Jebel Yaallaq (or Yelleg), Jebel Maghara, and Jebel Halal ranging from 2058-3200 ft. (630-975 m) ASL.<sup>55</sup>

According to the Exodus narrative, after the Red Sea crossing, Israel travels for three days through the Wilderness of Shur to Marah.

*Then Moses ordered Israel to set out from the Red Sea, and they went into the wilderness of Shur. They went three days in the wilderness and found no water. (Exod 15:22)*

According to the Numbers itinerary, this same segment of the Goshen-to-Sinai journey takes place in the Wilderness of Etham:

*They set out from Pi-hahiroth, passed through the sea into the wilderness, went a three days' journey in the wilderness of Etham, and camped at Marah. (Num 33:8)*

Beitzel identifies the apparent contradiction in the name of the wilderness:

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<sup>53</sup> Efraim Orni and Elisha Efrat, *Geography of Israel*, 3rd rev. ed. (Jerusalem: Israel Universities Press, 1971), 126.

<sup>54</sup> See 5.11 Wilderness of Sin.

<sup>55</sup> Michael Avi-Yonah, "Sinai," in *Encyclopedia Judaica* (Jerusalem: Keter, 1972), 1594.

*It is unclear whether the wilderness of Shur and the wilderness of Etham are being differentiated or equated in these texts.*<sup>56</sup>

The station of Etham appears in both narrative and itinerary (Exod 13:20; Num 33:6), but Shur as a station appears not at all. This omission is significant in determining the direction of Israelite travel from Goshen—the people arrive at the station of Etham but not at the station of Shur. The Way of Shur, also known as the Way of Egypt (Jer 2:18 KJV), does not appear in the exodus itinerary, so it does not count among the named roads of the Israelite journeys.<sup>57</sup> Thus, Shur’s exact location as the terminus of the Way of Shur is not essential to the argument regarding the geographic regions of the exodus journey.<sup>58</sup>

The biblical narratives imply that in the exodus era, all three roads eastward from Egypt—the Way of the Land of the Philistines, the Way of Shur, and the Way of the Wilderness of the Red Sea—passed through Succoth, the station where the exodus route seems to have been chosen (Exod 13:17-18 cf. 12:37). Succoth, the first station of the exodus journey after Rameses (Exod 12:37; Num 33:5), is securely located eastward in the Wadi Tumilat.<sup>59</sup> For Succoth to have been at the head of all three eastern roads in the exodus era, the western end of the Mediterranean coastal highway must have crossed the Suez Isthmus some 25 km (15 miles) to the south of the modern road as it did in the nineteenth century:

In the Roman time the route to Gaza from Memphis and Heliopolis passed the western end of the Wadi-t-Tumeylát [Tumilat]... and the chief modern [as current in 1863] route from Cairo to Syria passes along the Wadi-t-Tumeylát and leads to Gaza.<sup>60</sup>

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<sup>56</sup> Barry J. Beitzel, *Where Was the Biblical Red Sea? Examining the Ancient Evidence* (Bellingham, WA: Lexham, 2020), 12.

<sup>57</sup> See 2.3 Ancient Roads.

<sup>58</sup> See 1.2 Research Question.

<sup>59</sup> Hoffmeier, *Ancient Israel in Sinai*, 65–68; John Van Seters, “The Geography of the Exodus,” in *The Land That I Will Show You: Essays on the History and Archaeology of the Ancient Near East in Honor of J. Maxwell Miller*, ed. M. Patrick Graham and J. Andrew Dearman (Sheffield, UK: Sheffield Academic, 2001), 259.

<sup>60</sup> William G. Smith, “Red Sea, Passage Of,” in *A Dictionary Of The Bible, Comprising Its Antiquities, Biography, Geography, and Natural History* (Boston, MA: Little, Brown, & Company, 1863), 1016.

Such a link between Wadi Tumilat and the coastal road, once past the isthmus, would pass northeastward via Bir Makdal to Bir al-Abd on the south side of the Sirbonis Lake and thence along the Mediterranean coast via Arish and Raphiah to Gaza in Philistia.

References to Shur and its variations שִׁחֹר *Shihor* and הַשִּׁיחֹר *ha-shihor* the Shihor indicate a town and agricultural region on the eastern edge of Egypt with access to the waters of the Nile (Josh 13:3; Isa 23:3; 1 Chron 13:5). The Ballah–Timsah watershed, rising to only 16 m (50 ft) ASL, is the highest ridge across the isthmus and “constitutes the boundary between the basin of the Red Sea and that of the Mediterranean.”<sup>61</sup> Edouard H. Naville ponders why the Israelites did not just return to Southern Canaan along the most direct road by which Israel’s Hebrew ancestors first arrived in Egypt from Southern Canaan.

The Israelites had only to go along the canal [Wadi Tumilat] as far as its opening... at a short distance from Succoth; then pushing straight forward, they would skirt the northern shore... and reach the desert and the Palestine way without having any sea to cross.<sup>62</sup>

The narrative gives a reason for avoiding the Way of the Land of the Philistines (Exod 13:17) but none for avoiding the Way of Shur. It may be that both roads, the Way of the Land of the Philistines and the Way of Shur, passed as one along the Ballah–Timsah watershed (el-Gisr, “the Bridge”) in the central Suez Isthmus, diverging/converging on the eastern side of Lake Timsah.

Regarding the question of Mount Sinai’s identity, it may be noted from the outset that all candidates in the Arabian Peninsula do violence to the sequence of travel notices for the Goshen-to-Sinai journey. The Wilderness of Shur appears in the Exodus narrative after the Red Sea crossing (Exod 15:22). Biblical references describe Shur in the northern Sinai Peninsula between Egypt and southern Canaan (Gen 20:1; 25:18; 1 Sam 15:7; 27:8). The Egyptian border-town of Shur probably lay in the central Suez Isthmus near the northern shore of Lake Timsah, perhaps the ancient equivalent of the modern town of Ismailia, founded in the 1860s as an operational base for the Suez Canal project. Hence, the Wilderness of Shur cannot lie in the Arabian

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<sup>61</sup> Blakesley, “M. de Lesseps and the Suez Canal,” 410.

<sup>62</sup> Édouard H. Naville, *The Store-City of Pithom and the Route of the Exodus*, 4th ed., Memoir of the Egyptian Exploration Fund 1 (London: Egypt Exploration Fund, 1903), 23.

Peninsula beyond the Aqaba Gulf, and the other wildernesses of the Goshen-to-Sinai journey (Etham, Red Sea, and Sin) are necessarily confined to the Sinai Peninsula.<sup>63</sup>

## 5.7 WILDERNESS OF ETHAM

Etham אֶתָם is the name of both a station and a wilderness along the route of the Israelite exodus from Egypt. Israel arrives at the station of Etham “on the edge of the wilderness” before relocating to the Red Sea crossing site, Pi-hahiroth (Exod 13:20; Num 33:7). Thereafter, the word “wilderness” is thrice mentioned in both the Exodus narrative and Numbers itinerary in association with the section of journey between Etham and the Red Sea crossing (Exod 14:3, 11-12; Num 33:6-8). Upon their emergence from the Red Sea, the Israelites then journey three days into the Wilderness of Etham מִדְבַּר אֶתָם *midbar etham*, presumably the same oft-mentioned wilderness first entered from the station of Etham (Num 33:8; cf. Exod. 15:22). The overall impression is of a distinct wilderness region that surrounds the Red Sea crossing site and borders the Wilderness of Shur on the east side of the isthmus.

By a hydrological model in which the geographic regions of the Israelite journeys are identified with contiguous secondary water catchments between Egypt and Canaan via Kadesh,<sup>64</sup> the Wilderness of Etham is the next hydrological unit after the Land of Goshen.<sup>65</sup> The water catchment to the east of Goshen is the Mediterranean coastal catchment, firmly identified with the Wilderness of Shur.<sup>66</sup> The water catchment to the south of Goshen is the Bitter Lakes basin, another landlocked catchment in the central Suez Isthmus. Like the Lake Timsah catchment it straddles the isthmus, reaching into the desert on the east and west sides but centred around a lake (Fig. 4). The lake basins of the Suez Isthmus are divided by watersheds that form low ridges across the isthmus.

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<sup>63</sup> See 5.7 Wilderness of Etham; 5.9 Wilderness of the Red Sea; 5.11 Wilderness of Sin.

<sup>64</sup> See Chapter 3: Hydrological Model.

<sup>65</sup> See 5.5. Land of Goshen.

<sup>66</sup> See 5.6 Wilderness of Shur.

Bartlett's lengthy description of the Suez Canal from north to south is helpful to the current discussion regarding the water catchments of the Suez Isthmus and the watershed ridges dividing them:

The Isthmus of Suez at its narrowest part is seventy miles [113 km] wide [measured north–south between the Med and Red seas]. The canal, indeed, measures one hundred miles [164 km] from Port Said to Suez, but it does not cross the narrowest place nor follow a straight line. Following the line of the canal southward we pass for many miles through the broad Lake Menzaleh, and reach first a series of sandy downs, the highest point of which is Kantara [less than 2 m ASL], “the bridge” between the eastern and the western deserts. Here ran one of the greatest thoroughfares of the world, the highway between Egypt and the East. Passing next the shallow Lake Ballah, we reach El Guisr, the greatest elevation on the isthmus, about ten miles [16 km] in width, and at its highest point sixty-five feet [20 m] in height. Then comes Lake Timsah, the “crocodile” lake, midway between the two seas. South of it is the second elevation, the heights of Serapeum, about eight miles [13 km] broad, and at its highest point sixty-one feet [19 m] high. South of this lie the Bitter Lakes, a great depression, extending south-easterly some twenty-two miles [35 km] in length, and from two and a half to five miles [4-8 km] in breadth. Their greatest depth is about thirty-five feet [11 m] below the sea-level. Before the water was admitted in 1867 by the modern canal, this depression was, and had for ages been, dry. The bottom was covered with a layer or layers of salt of great extent (seven miles by five [11x8 km]) and of variable thickness, but reaching the depth of thirty-three feet [10 m]. Between the Bitter Lakes and the Red Sea lies the third and last barrier, the heights of Chalooof, about five miles broad [8 km] from north to south, and rising for a short distance twenty feet [6 m] or more above the sea-level. Then follows the sandy plain of Suez for a distance of about ten miles [16 km], rising but a few feet (about four [1 m] on the average) above the level of the sea.<sup>67</sup>

If ancient Egypt comprised all the land watered by the Nile, then Etham “on the edge of the wilderness” lay on the Timsah–Bitter-Lakes watershed also known as the Serapeum ridge (see Bartlett above). This ridge marked the hydrological border between the Egyptian territory of

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<sup>67</sup> Bartlett, *From Egypt to Palestine*, 157–58 Some of the elevation figures differ slightly from those of recent sources, but this does not matter to the hydrological case.

Goshen (naturally watered by the Nile) and the Wilderness of Etham (not naturally watered by the Nile).

Then as now, the watersheds between the lake basins of the Suez Isthmus carried the main roads across the isthmus<sup>68</sup> and offered better locations for towers, check-points, and public works as evidenced by the positions of Persian-era monuments in Wadi Tumilat and the Suez Isthmus:

Four stelae were erected by Darius I (521-486 B.C.) to commemorate the excavation of a canal [from the Nile Delta] to the Red Sea. These stelae were placed on high points in the terrain so that they could be seen by boats following the canal. The westernmost of the stelae was discovered at Tell al-Maskhuta; the next was found at the “Serapeum” of the French Expedition, located where the Wadi Tumilat merges with the Isthmus of Suez; a third lay in the region of Kabret in the Isthmus of Suez; and the last stela, now lost, seems to have been found 6 km [4 miles] north of Suez.<sup>69</sup>

Of these landmarks, Tell al-Maskhuta in Wadi Tumilat probably corresponds to the exodus site of Succoth.<sup>70</sup> Turning to the south in the central isthmus, the stela on the Serapeum ridge indicates the likely location of the next exodus station, Etham.<sup>71</sup> Further south, Kabret is on the small ridge between the Great and Little Bitter Lakes, and the final Persian stela was set on the Chalouf (Shallufa) ridge between the Bitter Lakes basin and Red Sea catchment. The latter two ridges are too far from Goshen to feature in the three-day exodus journey to the Red Sea crossing site; nonetheless, they confirm the locations and functions of the watersheds in the isthmus.

## 5.8 RED SEA CROSSING

The following proposal regarding the Red Sea crossing derives from a hydrological model of the relevant regions and the biblical descriptions of sites and events. From Etham on

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<sup>68</sup> See 5.6 Wilderness of Shur.

<sup>69</sup> Redmount, “Wadi Tumilat,” 127–28.

<sup>70</sup> Kitchen, “Exodus, The,” 703; Chris McKinny, “Maskhuta, Tell El-,” in *Encyclopedia of the Bible and Its Reception*, ed. Sebastian Fuhrmann, Gary S. Helft, and Anne-Kathrin Runte (Berlin / Boston: De Gruyter, 2016), 1263.

<sup>71</sup> “Etham... evidently somewhere near the Bitter Lakes.” Kitchen, “Exodus, The,” 703.

the Serapeum ridge, the Israelites should have stayed on the Way of the Wilderness of the Red Sea, crossing the Suez Isthmus via the Timsah–Bitter-Lakes watershed into the west-central Sinai Peninsula. Such would be the usual way to Arabia, travelling overall SSE through the eastern half of the Bitter Lakes catchment towards the Red Sea catchment (Fig. 4). Instead, from Etham they שׁוּב *shuv* “turned” to the SSW, travelling through the western half of the Bitter Lakes catchment to the northwest corner of the Great Bitter Lake (Exod 14:2; cf. 13:20) to encamp near Pi-hahiroth, a location given in relation to a watchtower, Migdol, and what may be a shrine, Baal-zephon (Exod 14:2, 9; Num 33:7).

The name Pi-hahiroth (“mouth of the diggings”)<sup>72</sup> would indicate the site where a pharaonic Nile-River–Red-Sea canal filled the Bitter Lakes through Wadi Tumilat, a scenario suggested also by an abbreviated use of the name in the Numbers itinerary, וַיֵּסְעוּ מִפְּנֵי הַחִירוֹת *va-yisu mi-peney ha-hirot* “and they journeyed from before Hahiroth”, lit. “from before the diggings” (Num 33:8 ASV). Here the Red Sea crossing was effected by a wind-setdown event to the north of the lake in which the strong southeast wind from the Arabian Peninsula (*hamsin*) drove waters out of the lake towards the Serapeum ridge (Timsah–Bitter-Lakes watershed) and held them northward in the isthmus all night.<sup>73</sup> Israel passed between the two water bodies (the lake and the floodwaters) along what was normally the north shore of the Great Bitter Lake (Red Sea), and the Egyptians followed (Exod 14:22-23).<sup>74</sup> When the *hamsin* wind ceased, the displaced floodwaters to the north of the Great Bitter Lake שׁוּב *shuv* “returned” and “tossed” נָעַר *naar* the Egyptian army into the lake where the maximum depth is 10 m (30 ft).<sup>75</sup> The men and

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<sup>72</sup> Grey Hubert Skipwith, “Pi-Hahiroth, ‘the Mouth of the Canals,’” *Palestine Exploration Quarterly* 45 (1913): 94; William F. Albright, “Exploring in the Sinai with the University of California African Expedition,” *Bulletin of the American Schools of Oriental Research* 109 (1948): 16.

<sup>73</sup> For discussion of this effect, albeit applied to the northern Aqaba Gulf shore (Humphreys) or the northern Suez Isthmus (Drews), see, Colin J. Humphreys, *The Miracles of the Exodus: A Scientist’s Discovery of the Extraordinary Natural Causes of the Biblical Stories* (London / New York, NY: Continuum, 2003), 244–60; Carl Drews and Weiqing Han, “Dynamics of Wind Setdown at Suez and the Eastern Nile Delta,” *PLOS ONE* 5, no. 8 (August 30, 2010): e12481, <https://doi.org/10.1371/journal.pone.0012481>.

<sup>74</sup> Israeli commandos crossed the Suez Canal on 16th Oct 1973, the 11th day of the Yom Kippur war. The crossing was effected north of the Great Bitter Lake, near the town of Deservoir, where, according to this investigation, the Hebrews first crossed the isthmus in the other direction to escape Egypt. Walser, “Battlefields and Roads,” 236.

<sup>75</sup> Har-El, *Sinai Journeys*, 312.

horses could not regain the shore while “the sea went back to its place” (Exod 14:27-28 NIV) in which time they drowned.<sup>76</sup>

From the site of Israel’s emergence at the northeast corner of the Great Bitter Lake, the people travelled SSE for three days in the Wilderness of Etham (Num 33:6), that is, through the eastern half of the Bitter Lakes catchment. The conflation of the Wilderness of Etham with the Wilderness of Shur (Exod 15:22) reflects the region’s unique geographical configuration. The eastern halves of the Timsah and Bitter Lakes catchments in the Suez Isthmus are one with the barren terrain of the Northern Sinai:

The other areas of the peninsula are the coastal strips—covered with sandstone, marl and shifting sand dunes. These border the Gulf of Suez on the west [of the Sinai], the Gulf of Eilat on the east and the Mediterranean Sea on the north.<sup>77</sup>

Of these three coastal strips, those of Suez and the Mediterranean are connected through the eastern Suez isthmus (approx. 100 km), but those of Elath and the Mediterranean are separated by the Western, Central, and Southern Negev (approx. 200 km).

The contiguity and similarity of the three coastal catchments in northwestern Sinai—the wildernesses of Shur, Etham, and the Red Sea—may explain the dual names for the wilderness through which Israel trekked to Marah.<sup>78</sup> The substitution of the toponym “Shur” in the Exodus narrative with “Etham” in the Numbers itinerary also indicates that Israel was heading south from Goshen. Etham is never associated with the road to the east (Way of Shur), while the road to the northeast (Way of the Land of the Philistines) is expressly negated (Exod 13:17), leaving only the road to the southeast (Way of the Wilderness of the Red Sea, v. 18). The sites of Shur and Etham, each on a watershed in the central Suez Isthmus, are separated by only about 20 linear km (12 miles) north-south. The region to the east of Egypt is called the “Wilderness of Shur”; the region to the southeast is called the “Wilderness of Etham”. Both wildernesses, therefore, are named for their point destinations, i.e. the two border towns or checkpoints on the main roads into Egypt.

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<sup>76</sup> See an elevation profile of the Suez Isthmus in Trumbull, *Kadesh-Barnea*, 341.

<sup>77</sup> Itzhaq Beit-Arieh, “Fifteen Years in Sinai: Israeli Archaeologists Discover a New World,” *Biblical Archaeology Review* 10, no. 4 (1984): 31.

<sup>78</sup> See 5.7 Wilderness of Etham.

## 5.9 WILDERNESS OF THE RED SEA

The Wilderness of the Red Sea appears only once as part of a road-name, “the Way of the Wilderness of the Red Sea” דֶּרֶךְ הַמִּדְבָּר יַם־סוּף *derekh ha-midbar yam suf* (Exod 13:18), the road presumably passing both to and through the Wilderness of the Red Sea.<sup>79</sup> A hydrological model would identify the Wilderness of the Red Sea with the Red Sea catchment.<sup>80</sup> The Way of the Wilderness of the Red Sea connects the eastern Nile Delta with the Red Sea coastal catchment through the Lake Timsah catchment (Goshen) and the Bitter Lakes catchment (Wilderness of Etham).<sup>81</sup> Thus, when Israel crosses the Bitter-Lakes–Suez-Gulf watershed (Chaluf ridge) in the southern Suez Isthmus, they leave the Wilderness of Etham and enter the Wilderness of the Red Sea (Fig. 4). Israel’s extended presence along the Suez coast is confirmed by notice of an unnamed Red Sea campsite before entering the Wilderness of Sin a month after exodus (Num 33:10-11; cf. Exod 16:1).<sup>82</sup>

The Red Sea primary catchment includes the southern Sinai Peninsula (Fig. 3), “a huge wedge-shaped block of mountains, intersected by numerous gorges and valleys, lying between the gulfs of Suez and Akaba”.<sup>83</sup> Like a frozen ocean of giant waves, the granite block of Southern Sinai is unlike any to its north; its pinnacles rising to 2630 m ASL (8630 ft) are snow-clad in winter. The criss-cross pattern of deep fractures attests to violent geological activity when the peninsula was extensively uplifted and deeply eroded, especially in the south where the oldest rocks became exposed.<sup>84</sup> Here the concept of river catchments breaks down because

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<sup>79</sup> “The Hebrew term יַם־סוּף (Yam Suf) is understood as an adverbial accusative ‘to, toward’ (NASB, NIV, ESV) or ‘by’ (ASV) the Red Sea. To translate as a genitive, ‘wilderness of the Red Sea’ (KJV, Young’s) requires emending מִדְבָּר (midbar, ‘wilderness’) to the construct form מִדְבַּר (midbar, ‘wilderness of’).” NET Bible, “Exodus 13,” bible.org, accessed December 4, 2020, <https://netbible.org/bible/Exodus+13>.

<sup>80</sup> See 3.2 Primary Catchments.

<sup>81</sup> See 5.5 Land of Goshen; 5.7 Wilderness of Etham.

<sup>82</sup> See 5.11 Wilderness of Sin.

<sup>83</sup> Samuel Rolles Driver, *The Book of Exodus*, Cambridge Bible for Schools and Colleges (Cambridge, 1911), 177.

<sup>84</sup> Zvi Garfunkel, “Geology: Dramatic Upheavals,” in *Sinai: Pharaohs, Miners, Pilgrims, and Soldiers*, ed. Beno Rothenberg, trans. Ewald Osers, 1st Eng. ed. (Berne: Kümmerly & Frey, 1979), 61.

narrow wadis drain to both sides of the Sinai apex and clear regions cannot be established.<sup>85</sup> Hence, the Southern Sinai should be counted as one with the whole Red Sea coastal catchment in both its gulfs, Suez and Aqaba.

A full discussion of the route and stations of the exodus journey is not required to develop a hydrological model of the biblical regions. A brief account, however, helps to establish the validity of the wilderness identities and boundaries.

*They set out from Pi-hahiroth, passed through the sea into the wilderness, went a three days' journey in the wilderness of Etham [Shur (Exod 15:22)], and camped at Marah. They set out from Marah and came to Elim; at Elim there were twelve springs of water and seventy palm trees, and they camped there. They set out from Elim and camped by the Red Sea. (Num 33:8-10)*

The three days without named stations imply there are no water sources in the Wilderness of Etham, a detail consistent with the eastern half of the Bitter Lakes catchment which is dry and gravelly.<sup>86</sup> By a hydrological model, Marah, Elim, and the last unnamed campsite on the Red Sea shore are in the next water catchment, the Wilderness of the Red Sea. Three daily-spaced water sources—Bir al-Murrah (“bitter”), Uyun Musa, and Wadi Sudr—lie in the Red Sea catchment along this southward route in the coastal plain. Thus far, the stations of the Goshen-to-Sinai journey appear in sets of three per geographic region:

1. Goshen: Rameses, Succoth, Etham (“on the edge of the wilderness”)
2. Wilderness of Etham (West): Pi-hahiroth, Migdol, Baal-Zephon (Red Sea crossing)
3. Wilderness of Etham (East): three ‘dry’ days
4. Wilderness of the Red Sea: Marah, Elim, Red Sea coast.

The Way of the Wilderness of the Red Sea is not the same road as the Way of the Red Sea which appears later in the wilderness narrative (Num 14:25; Deut 1:40). The former runs southward from Goshen to the Suez Gulf (the Red Sea), the latter runs southeast from Gaza on the Mediterranean coast via the Kadesh district to the Elath Gulf (also the Red Sea).<sup>87</sup> The

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<sup>85</sup> The Arabic plural for ‘wadi’ is ‘wadyun’, but is here Anglicised as ‘wadis’.

<sup>86</sup> Mamdouh Hamza, “Construction of the Suez Canal,” in *Momentous Projects* (15th International Conference on Soil Mechanics and Foundation Engineering, Istanbul: ISSMGE, 2001), 2320, [https://www.issmge.org/uploads/publications/1/30/2001\\_03\\_0140.pdf](https://www.issmge.org/uploads/publications/1/30/2001_03_0140.pdf).

<sup>87</sup> See 6.3 Paleo-Paran Basin; 6.14 Wanderings: Zin and Paran.

difference in the road-name is the word “wilderness”—its presence suggesting passage to and through the *Wilderness* of the Red Sea; its absence suggesting passage to the Red Sea only. In the hydrological context of the Sinai, therefore, the former road-name would indicate a road passing primarily through the Red Sea primary catchment, while the latter road-name would indicate a road passing to the Red Sea through one or more other catchments.<sup>88</sup> All factors considered, the Way of the Wilderness of the Red Sea is probably the long road southward from Goshen to the ore-mines of Sarabit al-Khadim in the Southern Sinai and thence east and northeast to the Elath Gulf.<sup>89</sup> This route is around 350 km (220 miles) from gulf to gulf rather than some 250 km (155 miles) directly across the peninsula. Its abundant Nabataean and Romano-Byzantine remains attest to mining and pilgrimage activity of Classical times.<sup>90</sup>

## 5.10 ROMAN ROAD ACROSS SINAI

The *Tabula Peutingeriana* is a road-map of the Roman Empire, possibly originating with Ptolemy’s list in the second century.<sup>91</sup> Initially compiled by cosmographer Castorius in the fourth century C.E., it was preserved by medieval copyists in the eleventh and twelfth centuries and rediscovered and named for its sixteenth-century owner Peutinger.<sup>92</sup> The parchment is 6.82 m long but only 34 cm wide (c. 22 ft by 14 in), comprising twelve sections (one missing) covering the known inhabited world from Spain in the west to India in the east. The map is not drawn to scale and has a “loose relationship with the cardinal points of the compass—the Nile

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<sup>88</sup> See 5.11 Wilderness of Sin.

<sup>89</sup> See 5.10 Roman Road Across Sinai.

<sup>90</sup> Beno Rothenberg, “Turquoise, Copper, and Pilgrims: Archaeology of Southern Sinai,” in *Sinai: Pharaohs, Miners, Pilgrims, and Soldiers*, ed. Beno Rothenberg, trans. Ewald Osers, 1st Eng. ed. (Berne: Kümmerly & Frey, 1979), 170.

<sup>91</sup> Yohanan Aharoni, “Tamar and the Roads to Elath,” *Israel Exploration Journal* 13, no. 1 (1963): 33–34.

<sup>92</sup> John R. Bartlett, “The Representation of the Gulfs of Suez and Aqaba on Maps from Peutinger to the Survey of Sinai 1868-69,” *Palestine Exploration Quarterly* 141, no. 1 (2009): 27; Israel Finkelstein, “The Holy Land in the Tabula Peutingeriana: A Historical-Geographical Approach,” *Palestine Exploration Quarterly* 111 (1979): 34 n. 49.

River, for example, flows from west to east, instead of from south to north.”<sup>93</sup> Only the most important roads and towns are represented. The distances between stations are given in Roman miles (in Roman numerals, of course), and some geographical elements (mountains, lakes, and rivers) appear as landmarks.<sup>94</sup>

The *Tabula* depicts Mons Syna (Mount Sinai) to the north of a single cross-Sinai road between Haila at the head of the Elath-Aqaba Gulf and Clysmā at the head of the Suez Gulf.<sup>95</sup> Between the termini, the *Tabula* road passes through only two intervening stations, “[Mede]ia”<sup>96</sup> and “Phara” (or Phiro). Above the label for Phara is a representation of Mount Sinai (Mons Syna) with the words *Hic Legem acceperunt i(n) monte syna* (“Here the Law was received on Mount Sinai”). Above this inscription, in bolder letters and covering a much larger space, are the words *Desertum u(bi) quadraginta annis erraver(un)t filii isr(ae)l ducente Moysē* (“The desert where for forty years the Sons of Israel wandered, guided by Moses”).<sup>97</sup>

Because the traditional candidate for Mount Sinai, Jebel Musa, lies to the south of all ancient cross-Sinai roads, scholars conclude that the *Tabula* must be in error,<sup>98</sup> with some supposing Mons Syna was a later addition to the original map:

At some point in the [*Tabula*’s] history, a Christian user has added Mount Sinai to the chart. There was however no space for the mountain icon in the narrow space directly above the Red Sea and below the route-line from Clisma (present-

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<sup>93</sup> Amanda Castelló, “On This Fourth-Century Map, All Roads Really Do Lead to Rome,” National Geographic | History & Culture, September 19, 2017, <https://www.nationalgeographic.com/history/magazine/2017/09-10/peutinger-table-map-fourth-century-rome/>.

<sup>94</sup> Finkelstein, “The Holy Land in the *Tabula Peutingeriana*,” 27.

<sup>95</sup> Richard J. A. Talbert, “Peutinger Map Seamless Whole, in Color, with Overlaid Layers,” Cambridge University Press, 2010, <http://peutinger.atlantides.org/map-a/>.

<sup>96</sup> “A tear in the parchment leaves just the end of the name; four letters are visible, but only the final two, ‘ia’, can be read. . . . Welser (1598) read[s] ‘Medeia’, but there is no knowing whether the name may have been legible then and the tear only occurred subsequently, or whether this reading is a conjecture.” Richard J. A. Talbert, “TP Place 449 | Name: [ - ? - ]++ia [Medeia],” Cambridge University Press, 2010, <https://www.cambridge.org/us/talbert/talbertdatabase/TPPlace449.html>.

<sup>97</sup> Philip Mayerson, “The Clysmā-Phara-Haila Road on the Peutinger Table,” in *Coins, Culture and History of the Ancient World: Numismatic and Other Studies in Honor of Bluma L. Trell* (Detroit, MI: Wayne State University, 1981), 167.

<sup>98</sup> Finkelstein, “The Holy Land in the *Tabula Peutingeriana*,” 30; Davies, *The Way of the Wilderness*, 48.

day Suez) to Aila (present-day Aqaba), so the hill drawing had to be placed above the route-line.<sup>99</sup>

If Mount Sinai lies in the Central Sinai or Negev, however, the *Tabula* is correct in depicting the holy mount to the north of the cross-Sinai road. Moreover, if the position of Mons Syna on the *Tabula* has any significance, the mount lies closer to the eastern end of the road thus indicating a location in the Negev (Fig. 6).

The distances for the Aila-Clysmia road are as follows: from Clysmia to Medeia 40+ (xl+),<sup>100</sup> from Medeia to Phara 80 (lxxx), and from Phara to Haila 50 (l). The total length of the road is 170 Roman miles or 250 km (155 miles), the approximate width of the Sinai Peninsula by a direct route between the heads of the two gulfs. The great distances between stations reflect conditions in a desert region with few water sources. Such a journey from Aila to Clysmia would have taken around 10 days at the daily rate of 15-20 Roman miles (20-30 km) for military traffic,<sup>101</sup> but with only two named stations, travellers would have to make many dry camps. Both the Darb al-Hajj and the Darb ash-Shawi correspond in length to the *Tabula* road across Sinai, but Rothenberg's survey discovered no remains along the Hajj road earlier than the Muslim era, and only a few Romano-Byzantine and early Arab pottery fragments along the Shawi.<sup>102</sup> Romano-Byzantine activity is much more evident along the deep south road through the Southern Sinai via Sarabit al-Khadim and Wadi Feiran.<sup>103</sup> However, the distances in whole or in part by the southern road do not correspond with those of the *Tabula*—the full route is at least 350 km (240 RM), and Aila to Feiran (often identified with Phara) is over 200 km (135 not 50 RM) by road.<sup>104</sup>

The Darb ash-Shawi is the only cross-Sinai road that matches the detail of just two intermediate stations between the gulfs, Medeia and Phara. The location of Phara on the *Tabula*

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<sup>99</sup> Jean-Baptiste Piggin, "Flaws in the *Tabula Peutingeriana*: 8,4:1 Sinai," blog, *Flaws in the Tabula Peutingeriana* (blog), 2018, <http://peutinger.blogspot.com/2018/08/841-sinai.html>.

<sup>100</sup> The units after "40" (xl) may also be missing. Talbert, "TP Place 449."

<sup>101</sup> Graham I. Davies, "The Significance of Deuteronomy 1.2 for the Location of Mount Horeb," *Palestine Exploration Quarterly* 111, no. 2 (1979): 94.

<sup>102</sup> Rothenberg, "Turquoise, Copper, and Pilgrims," 168.

<sup>103</sup> Rothenberg, 167, 170.

<sup>104</sup> See 5.12 Sinai in Paran and Seir.

corresponds to Bir Thamad, some 75 km (50 RM) by road to the west of Aila.<sup>105</sup> The station of Medeia on the *Tabula* indicates a water source in Wadi Sudr, possibly Ayn Sudr despite an excess of some 15 km over the distance from Clysma via Wadi Sudr, 75 km (50 RM) instead of 60+ km (40+ RM).<sup>106</sup> Bir Thamad and Ayn Sudr represent the eastern and western watersheds of the Wadi Arish catchment respectively. These water sources are approximately 120 km (80 RM) apart across the waterless upper Arish catchment, matching the *Tabula* distance between Phara and Medeia. Ayn Sudr and Bir Thamad are the only significant surface water sources along the road to this day. The station of Qalat an-Nakhl in the heart of the Central Sinai lies on the Darb al-Hajj, here some 20 km to the north of the Darb ash-Shawi.

Philip Mayerson observes that Wadi Sudr is about the correct distance from Clysma for the station of Medeia:

If the conventional route is taken from Clysma to Pharan, Medeia should perhaps be located at a point near Wadi Sudr where there is water and evidence of habitation.<sup>107</sup>

He does not imagine, however, that the route might turn inland through Wadi Sudr to cross the peninsula directly to Aila. Instead, he identifies Phara with Wadi Feiran in the Southern Sinai and thus extends the Clysma-Aila road southward along the Suez coast.<sup>108</sup> Aharoni and Edward Lipiński, however, both identify Phara with Bir Thamad consistent with its distance and direction from Aila and the testimony of the Classical geographers regarding the biblical Paran.<sup>109</sup> Overall, therefore, the Darb ash-Shawi across the Central Sinai is the best match for the details of the Aila-Clysma road of the *Tabula*, offering a close match between the distances and archaeological evidence that the road was used in Roman-Byzantine times, albeit only lightly. All these historical and geographical data support a location for Mount Sinai in the Negev to the

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<sup>105</sup> See 5.14 Wilderness of Paran.

<sup>106</sup> Peutinger's parchment shows faint evidence that the 40 RM were '40-something'. Talbert, "TP Place 449."

<sup>107</sup> Mayerson, "Clysma-Phara-Haila Road," 173.

<sup>108</sup> Mayerson, 170.

<sup>109</sup> Aharoni, *Land of the Bible*, 1979, 63 n. 31; Edward Lipiński, *The Aramaeans: Their Ancient History, Culture, Religion*, vol. 100, *Orientalia Lovaniensia Analecta* (Louvain: Peeters, 2000), 33.



No stations are listed for the journey through the Wilderness of Sin—both the Exodus narrative and Numbers itinerary simply state that Israel enters and then leaves it, the named stations resuming thereafter:

*From the wilderness of Sin the whole congregation of the Israelites journeyed by stages, as the LORD commanded. They camped at Rephidim, but there was no water for the people to drink. (Exod 17:1)*

*They set out from the wilderness of Sin and camped at Dophkah. (Num 33:11-12)*

The story of the first appearance of quail and manna indicates that Israel spent at least a week within the Wilderness of Sin (Exod 16:1-5, 13, 21, 30). This detail and the lack of named stations indicates a large region with no surface water sources and hence no named sites.

According to the hydrological model, the biblical wildernesses of the Israelite journeys correspond to water catchments across the Sinai and Negev.<sup>111</sup> The catchment bordering the Red Sea (Suez Gulf) coastal catchment is the inland catchment of Wadi Arish whose tributaries dominate and define Central Sinai, and whose stem divides Northern Sinai into eastern and western parts:

The most prominent natural geographic feature south of the populated areas of Palestine is the great Wadi el-'Arish that empties into the sea about 30 miles south of Raphia. This stream drains the northern part of the Sinai Desert (about 10,000 square miles), and during the rare rainy days its bed fills up with a mighty stream of water. It is the only geographical obstacle in this area besides the desert itself and, for this reason, the Wadi was considered the natural border between Palestine and Egypt. Thus it was called 'The Brook of Egypt'.<sup>112</sup>

Satellite photos illustrate Beno Rothenberg's conception of the Arish river system as a tree with its trunk in the Mediterranean Sea (Image 2: Sinai Peninsula):

Viewed from the north towards the south, the Wadi el 'Arish represents a greatly ramified tree, whose far-reaching and increasingly thin branches and branchlets originate high up at the southern end of the Tih plateau, the Badiet el Tih, and

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<sup>111</sup> See 3.1 Hydrology of Biblical Lands.

<sup>112</sup> Aharoni, *Land of the Bible*, 1979, 64.

reach out far towards the west and east, while the mighty stream runs into the Mediterranean at El 'Arish.<sup>113</sup>

The Badiyat at-Tih (“Desert of the Wandering”) is the Arabic name for the Central Sinai plateau, sometimes described as “the limestone shield”.<sup>114</sup>

Most water flows inward from the elevated rims, to collect in Wadi el-'Arish.... Over a third of the total area of Sinai, and within it most of the a-Tih plateau, lies within this drainage.<sup>115</sup>

The oldest road in the Sinai (according to Rothenberg) is the Darb ash-Shawi which runs through the great Tih Plateau, linking the two arms of the Red Sea across the central Sinai Peninsula.<sup>116</sup> This ancient road was in common use until the Darb al-Hajj was built more directly between the Eastern Delta and the Aqaba Gulf via Qalat an-Nakhl, a water source on Wadi Abu Turayfiyah, a major tributary of Wadi Arish:<sup>117</sup>

Our survey showed that the Darb el-Hajj was purely a Moslem highway, built for the Moslem pilgrims travelling from Egypt to the Red Sea and thence to Mecca.<sup>118</sup>

The Darb al-Hajj road runs about 25 km (15 miles) north of the Darb ash-Shawi at its western end, the two roads converging at their eastern ends on the southeastern edge of the Tih Plateau. At the western end of the Darb ash-Shawi on both sides of the road stand ancient fortresses built to bar the way of the Crusader armies attempting to reach Egypt from the east:<sup>119</sup>

It should be noted that east of Suez, at the upper edge of the Suder Valley [Wadi Sudr], there is a large, strongly fortified fortress [Qalat al-Jundi], the largest in the whole of northern Sinai, built by Saladdin in the 12th century C.E. In our opinion, this fortress, which lies some 20 km. [12 miles south] from the Darb el-Hajj... implies that a major branch of the Pilgrim's Route might have passed

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<sup>113</sup> Rothenberg, “Turquoise, Copper, and Pilgrims,” 109.

<sup>114</sup> Kitchen, “Exodus, The,” 704.

<sup>115</sup> Orni and Efrat, *Geography*, 125.

<sup>116</sup> Rothenberg, “Turquoise, Copper, and Pilgrims,” 167.

<sup>117</sup> See 5.10 Roman Road Across Sinai.

<sup>118</sup> Beno Rothenberg, “An Archaeological Survey of South Sinai: First Season 1967/1968, Preliminary Report,” *Palestine Exploration Quarterly* 102, no. 1 (June 1970): 11, 13.

<sup>119</sup> Har-El, *Sinai Journeys*, 359.

along the length of the Suder valley as it is easily passable and has a more adequate amount of water-resources and pasture than the northern route.<sup>120</sup>

The corresponding fortress at the eastern end of the Darb ash-Shawi is Jazirat Faraoun (“Coral Island”), lying just off-shore in the Elath Gulf approximately 15 km (9 miles) to the south of Elath.<sup>121</sup> This site features in the wilderness itinerary as a possible location for Ezion-geber (Num 33:35-36).<sup>122</sup>

The itinerary scenario most consistent with all the data is as follows: Israel’s final unnamed campsite on the Red Sea coast (Num 33:12) is in the vicinity of Ras Sudr, a current Egyptian town where Wadi Sudr meets the Suez coast. For the rest of their first month of freedom (Exod 12:18; cp. 16:1), the Israelites probably loitered along the Suez coast and in the “well watered region of the Wadi Sudr”. Then they left the Way of the Wilderness of the Red Sea, which continues south along the coast towards the mining district of the Southern Sinai, and instead took the Darb ash-Shawi into the Sinai interior, the Wilderness of Sin. This ancient road enters the Central Sinai through Wadi Sudr, a broad flat-bottomed gravelly rift running SW-NE through the er-Rahah mountain range dividing the Suez coastal plain from the Tih Plateau (Arish catchment) of the Central Sinai. From Ayn Sudr at the head of the pass, the road turns ESE and crosses the Tih Plateau directly to the head of the Gulf of Elath.<sup>123</sup>

In the biblical narratives of the Goshen-to-Sinai journey, the road across the Sinai Peninsula is unnamed. Although not preserved in the biblical account, the ancient name of the Darb ash-Shawi may have been “Way of the Wilderness of Sin” or “Way to Midian” (cf. Exod 2:15), consistent with the pattern of biblical road names. There are no surface water sources along the length of this road through the central Arish catchment, hence no named stations.<sup>124</sup> Edward H. Palmer notes that “the country [Tih] is nearly waterless, with the exception of a few springs situated in the larger wadies”, explaining that it is possible to dig for

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<sup>120</sup> Har-El is referring here to cisterns and potholes (thamila), not springs or wells. Har-El, 67–68, 75.

<sup>121</sup> Har-El, 362–64.

<sup>122</sup> John R. Bartlett, “The Wadi Arabah in the Hebrew Scriptures,” in *Crossing the Rift: Resources, Routes, Settlement Patterns, and Interactions in the Wadi Arabah*, ed. Piotr Bienkowski and Katharina Galor, Levant Supplementary Series 3 (Oxford: Oxbow, 2006), 151.

<sup>123</sup> See 5.10 Roman Road Across Sinai.

<sup>124</sup> Har-El, *Sinai Journeys*, 67–68.

ground water in the wadi-beds<sup>125</sup> where the water table is seldom more than 1 m below the surface.<sup>126</sup> The Darb ash-Shawi is one of the few ancient roads that cut across wadis bee-line style and do not follow a wadi-bed along their length. This cross-country movement is possible because the tributaries of the upper Arish catchment are shallow, the ground hard, and the stones small (gravel).

The largest of the secondary catchments in the biblical arena, the Arish river system, shares its watershed with all the other secondary catchments of the Sinai and Negev (Fig. 4). In other words, the Wilderness of Sin is surrounded by all the wildernesses of the exodus and wanderings, here named in anticlockwise order from the north: Shur (Mediterranean coastal catchment), Etham (Bitter Lakes catchment), the Red Sea (Suez coastal catchment), Paran, Neqaroth, Zin, and the geozone of the Negev (Besor catchment). Hence, the biblical author makes the geographical observation that the Wilderness of Sin lies between the stations of Elim and Sinai (Exod 16:1). For travellers between Egypt and Arabia, the Tih Plateau functions as a formidable transitional zone between the western regions draining to the Suez Isthmus and Red Sea (represented by Elim) and the eastern regions draining to the Arabah and Dead Sea (represented by Sinai). Separating these zones, the great Wilderness of Sin drains northward into the Mediterranean Sea (Fig. 5).

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<sup>125</sup> *The Desert of the Exodus [Vol 2]: Journeys on Foot in the Wilderness of the Forty Years' Wanderings: Undertaken in Connexion with the Ordnance Survey of Sinai, and the Palestine Exploration Fund*, vol. Part II (Cambridge: Deighton, Bell, and Co., 1871), 287, 293–94.

<sup>126</sup> Nelson Glueck, "Further Explorations in the Negev," *Bulletin of the American Schools of Oriental Research* 179 (October 1965): 13; Kenneth A. Kitchen, "Wilderness," in *Illustrated Bible Dictionary* (Leicester, UK: InterVarsity, 1980), 1645.



*Figure 7 THE SINAI PENINSULA photographed from the International Space Station, March 20, 2013 (Wikimedia Commons)*

## **5.12 SINAI IN PARAN AND SEIR**

Now within three stations of the interim destination of the Israelite migration from Egypt to Canaan (Num 33:12-15), it is necessary to orient towards Mount Sinai. The sequence of biblical wildernesses of the Goshen-to-Sinai journey (each identified with a secondary water

catchment) has already bypassed the mountains of Southern Sinai within the Red Sea catchment. The Hebrew Bible associates Mount Sinai with the wildernesses of Sinai and Paran (Exod 19:1-2; Lev 7:38; Num 10:12, 33) but never with the Wilderness of the Red Sea. This is a problem for Mount Sinai candidates in northwestern Saudi Arabia—Jebel al-Lawz and Hala al-Badr—which both lie within the Red Sea primary catchment. Thus, these candidates, along with Jebel Musa and other peaks in the Southern Sinai, are ineligible for Mount Sinai according to a hydrological model that identifies the wildernesses of the Israelite journeys with water catchments between the Eastern Delta and the Arabah.<sup>127</sup>

The great Arish catchment adjoins on its eastern side the large river catchments of the Negev (Fig. 4). The axis between them is the Med–Dead watershed, running more or less north-south, separating the Arish secondary catchment within the Mediterranean Sea primary catchment from the Paran, Neqaroth, and Zin secondary catchments within the Dead Sea primary catchment. Biblical texts associating Mount Sinai with the geozones of Seir (Deut 33:2; Judg 5:4-5) and the Hill Country of the Amorites (Deut 1:7, 19) indicate that the Israelites are heading for regions within the Dead Sea primary catchment.<sup>128</sup> The ancient gulf-to-gulf road, the Darb ash-Shawi (travelling east), leaves the Arish catchment a few kilometres west of Bir Thamad to begin its descent to the western shore of the Elath Gulf. From the edge of the Tih Plateau near Thamad, there is an impressive view over the Paran basin to the northeast, the acacia-studded tributaries of Nahal Paran converging towards the northern Arabah. Here where the road passes over the Arish–Paran watershed, Israel leaves the Arish catchment (Wilderness of Sin) to enter the Paran catchment (unnamed). The named stations resume again with Dophkah (Num 33:12). Both the western and eastern edges of the Wilderness of Sin are topographically remarkable; hence, entry and exit are both recorded in the biblical narratives (Exod 16:1; 17:1; Num 33:10-12).<sup>129</sup>

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<sup>127</sup> See Chapter 3: Hydrological Model.

<sup>128</sup> See 2.4 Geozones: Sinai-Negev and Transjordan.

<sup>129</sup> See 5.11 Wilderness of Sin.

## 5.13 THE WILDERNESS BETWEEN

The Numbers itinerary lists three stations between the Wilderness of Sin and the Wilderness of Sinai: Dophkah, Alush, and Rephidim:

*They set out from the wilderness of Sin and camped at Dophkah. They set out from Dophkah and camped at Alush. They set out from Alush and camped at Rephidim, where there was no water for the people to drink. They set out from Rephidim and camped in the wilderness of Sinai. (Num 33:12-15)*

Of the three, only Rephidim is mentioned in the Exodus narrative, probably because of important events occurring there (Exod 17:1; 19:1-2). In a hydrological model of biblical regions, there is no unallocated land across the biblical arena; in other words, every station of the Israelite journeys lies in some water catchment or other. These three consecutive stations, therefore, lie in an unnamed wilderness between the wildernesses of Sin and Sinai. That wilderness is probably Paran, as indicated from the detail that Israel, just over a year later, enters the Wilderness of Paran *midbar paran* מִדְבַּר פָּאָרָן immediately upon leaving the Wilderness of Sinai:

*In the second year, in the second month, on the twentieth day of the month, the cloud lifted from over the tabernacle of the covenant. Then the Israelites set out by stages from the wilderness of Sinai, and the cloud settled down in the wilderness of Paran. (Num 10:11-12)*

Few commentators have noted that the Wilderness of Paran is missing from the Numbers itinerary.<sup>130</sup> Aharoni's explanation is to propose that Paran is the greater region (the entire Sinai Peninsula) of which the other wildernesses are subregions:

The wilderness of Paran does not appear in the list under discussion, in which the other portions of the wilderness are listed, apparently because there was no place for a general name in a detailed list.<sup>131</sup>

Paran, and not Sinai, was the original name by which the whole of the Sinai peninsula was known in Biblical times.<sup>132</sup>

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<sup>130</sup> George W. Coats, "The Wilderness Itinerary," *The Catholic Biblical Quarterly* 34, no. 2 (April 1972): 139–40 Coats simply equates the wildernesses of Paran and Zin.

<sup>131</sup> Aharoni, *Land of the Bible*, 1979, 199.

<sup>132</sup> Yohanan Aharoni, "Kadesh-Barnea and Mount Sinai," in *God's Wilderness: Discoveries in Sinai*, by Beno Rothenberg (London: Thames & Hudson, 1961), 167.

Other wildernesses named in the biblical narratives but omitted from the Numbers 33 itinerary are those of the Red Sea (Exod 3:18), Shur (Exod 15:22), Moab (Deut 2:8), and Kedemoth (Deut 2:26). None of the omissions seem to be significant in light of other similar omissions: no roads are listed in the itinerary (Wilderness of the Red Sea); the Wilderness Etham substitutes for that of Shur (Num 33:8); the entire section of the journey around Moab is omitted (Num 33:44-45); and so is the campaign against Sihon (Wilderness of Kedemoth). In the case of the Wilderness of Paran, however, there is an obvious hiatus of three daily stages between the wildernesses of Sin and Sinai (Num 33:12-15; cf. Exod 17:1) representing a region at least 60 km (37 miles) in length.

Upon leaving the Tih Plateau (Wilderness of Sin),<sup>133</sup> travellers to Arabia on the ancient Darb ash-Shawi would continue along the Paran–Red-Sea watershed to the western shore of the Elath Gulf (Fig. 10). For those travellers wishing to travel to the Arabah instead, another road descends northeastward into the Paran catchment along the length of Nahal Paran. If Israel were heading for Mount Sinai in the Negev, the three named stations between the wildernesses of Sin and Sinai should lie at daily intervals in the wadi-bed of Nahal Paran. This, of course, anticipates the conclusion that the Israelites are now heading for one of the candidates for Mount Sinai, Har Karkom in the Central Negev Highlands.<sup>134</sup> Nahal Paran has its sources in the Elath Mountain Reserve שמורת הרי אילת *shemorat harey elath* and the southeastern edge of the Tih Plateau (upper and middle Arish catchment). The run-off from these highlands consolidates in Nahal Paran on its flow NNE towards the Nahal Arabah and thence to the Dead Sea.

The Wilderness of Paran may be intended or implicated in several other texts where the term “the wilderness” הַמִּדְבָּר *ha-midbar* is usually understood as generic “wilderness”:

*In the fourteenth year Chedorlaomer... came and subdued... the Horites in the hill country of Seir as far as El-paran on the edge of **the wilderness**; then they turned back and came to En-mishpat (that is, Kadesh)... (Gen 14:5-7)*

*Moses was keeping the flock of his father-in-law Jethro... he led his flock beyond **the wilderness**, and came to Horeb, the mountain of God. (Exod 3:1)*

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<sup>133</sup> See 5.11 Wilderness of Sin.

<sup>134</sup> See 5.17 Har Karkom–Mount Sinai.

*Jethro... came into **the wilderness** where Moses was encamped at the mountain of God... (Exod 18:5)<sup>135</sup>*

*Now... turn tomorrow and set out for **the wilderness** by the way to the Red Sea. (Num 14:25; cf. Deut 1:40)*

*Then we turned, and took our journey into **the wilderness** by the way to the Red Sea, as the LORD spoke unto me; and we compassed mount Seir many days. (Deut 2:1 JPS) [emphasis added to all]*

In each of these instances, according to geographical context, the intended wilderness is probably Paran. If Mount Sinai-Horeb in the Wilderness of Sinai lies אַחַר הַמִּדְבָּר *ahar ha-midbar* “beyond [behind, west of] the wilderness” (Exod 3:1) and that unnamed wilderness is Paran, then this scenario is consistent with the geography of the Nahal Paran catchment where Har Karkom lies on its western side.

## 5.14 WILDERNESS OF PARAN

The first biblical mention of Paran relates to the time of Abram and Chedorlaomer’s military campaign in the Transjordan and Negev (Genesis 14):

In the fourteenth year Chedorlaomer and the kings who were with him came and subdued the Rephaim in Ashteroth-karnaim, the Zuzim in Ham, the Emim in Shaveh-kiriathaim, and the Horites in the hill country of Seir as far as El-paran on the edge of the wilderness; then they turned back and came to En-mishpat (that is, Kadesh), and subdued all the country of the Amalekites, and also the Amorites who lived in Hazazon-tamar. (Gen 14:5-7)

The invaders swept from north to south subduing the indigenous nations of the Transjordan including “the Horites in the hill country of Seir as far as El-paran on the edge of the wilderness” (v. 6).<sup>136</sup> From there the invaders “turned back” יָשָׁב *yashav* and came to “En-mishpat (that is Kadesh)” (v. 7) and Hazazon-tamar in the Arabah before engaging the five kings of the cities in the Valley of Siddim (now the Dead Sea). This biblical account describes a circuit north of the

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<sup>135</sup> The narrative is unclear whether Jethro visited Moses at Rephidim (in the Wilderness of Paran) or at Mount Sinai in the Wilderness of Sinai (cf. Exod 19:1).

<sup>136</sup> See 8.14 Indigenous Transjordan.

Gulf of Elath, passing from the east to the west of the Aravah, proceeding NNW along the Darb al-Ghazza<sup>137</sup> to Kadesh thence to the Valley of Siddim in the Rift Valley (Gen 14:8). El-Paran, by this account, can be no further south than Elath; hence, “the wilderness” (unnamed) must be west of the Aravah towards Kadesh-barnea.<sup>138</sup>

Another mention of Paran refers to the time of King Solomon, when Hadad the Edomite fled to Egypt to escape Joab’s massacre of Edomite males. Hadad’s party “set out from Midian and came to Paran; they took people with them from Paran and came to Egypt” (1 King 11:18). This account indicates Paran’s location on a route between Edom, Midian, and Egypt, most likely across the central Sinai Peninsula. Har-El notes that the Classical geographers—Pliny (first century CE, *Historia Naturalis*), Ptolemy (second century CE, *Geographia III. 5.17*), Eusebius (fourth century CE, *Onomasticon*, “Pharan”),<sup>139</sup> and the Roman map *Tabula Peutingeriana* (also fourth century CE)—locate Paran within three days (or 50 Roman miles) west of Aila (Elath).<sup>140</sup> To these geographers, as to the authors of the books of Genesis and Kings, Paran is a site.<sup>141</sup> It is reasonable to suppose that Paran lies in the Wilderness of Paran, just as Shur lies in the Wilderness of Shur, Etham in the Wilderness of Etham, and Rameses in the Land of Rameses.

The Negev to the south of the Great (Ramon) Crater comprises the secondary catchments of Nahal Neqaroth, Nahal Paran, and Nahal Hayun (Fig. 4).<sup>142</sup> As the largest of the Negev river systems, the Nahal Paran catchment almost certainly locates the heart of the Wilderness of Paran.<sup>143</sup> The upper Paran catchment in the far south, markedly different from the Elath Mountains to the southeast and the Tih Plateau to the southwest, is a broad basin of large eroded tributaries that consolidate into Nahal Paran over a distance of some 50 km (30 miles). From its

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<sup>137</sup> See 6.3 Paleo-Paran Basin.

<sup>138</sup> Bartlett, *Edom and the Edomites*, 43. Other passages which indicate that Seir extends west of the Aravah are Josh 11:17; 12:7, and 1 Chron 4:42.

<sup>139</sup> Eusebius of Caesaria, *The Onomasticon of Eusebius of Caesarea: Palestine in the Fourth Century A.D.*, trans. G. S. P. Freeman-Grenville, 1st Eng. ed. (Jerusalem: Carta, 2003), 92 sec. 166.3.

<sup>140</sup> Har-El, *Sinai Journeys*, 2. See Sinai in Paran and Seir.

<sup>141</sup> See 5.10 Roman Road Across Sinai.

<sup>142</sup> See 3.3 Secondary Catchments.

<sup>143</sup> See 6.3 Paleo-Paran Basin.

junction with Nahal Saggi, the Paran stem flows for another 20 km (12 miles) NNE past the eastern edge of the Karkom plateau. From its junction with Nahal Karkom, the Paran stem flows east for another 20 km (12 miles), joining Nahal Arabah only a few kilometres north of the Red–Dead watershed that divides the Arabah into northern and southern parts (Fig. 10: Sinai-Negev Borders).<sup>144</sup>

Davies claims that identifying the Wilderness of Paran with Nahal Paran “reflects modern Israeli nomenclature, [but] is without foundation in biblical and other texts.”<sup>145</sup> Oblath, however, in his systematic study of the biblical geographical data of the wilderness era, concludes that Paran is a name associated with the Negev:

Paran and its wilderness are also consistently located within the area touching on Edom and the Negeb.... Within the context of Hadad’s rebellion against Solomon, this description locates Paran between Midian and Egypt. Midian is not often geographically fixed within the Hebrew Bible... it appears to be east of the Negeb.... Thus for Paran to be between Midian and Egypt, it would have to be located somewhere near the Negeb...<sup>146</sup>

Rothenberg, trying to reconcile biblical data locating Paran in the Negev with his expectation that Paran must lie near the traditional Mount Sinai (Jebel Musa) in the Southern Sinai, proposes that “Paran, not Sinai, was the original name by which the *whole* of the Sinai peninsula was known in Biblical times.”<sup>147</sup> This is an awkward solution, however, incompatible with vectors for Paran both biblical and extra-biblical. If Sinai is identified with a mountain in the Negev, the Wilderness of Paran’s location to the west and northwest of Elath at the head of the Elath Gulf comports with the simplest understanding of the biblical data.

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<sup>144</sup> See 7.7 The Arabah: Geozone; 7.8 Southern Arabah; 7.10 Northern Arabah.

<sup>145</sup> Davies, “Wilderness Itineraries,” 170.

<sup>146</sup> Michael D. Oblath, *The Exodus Itinerary Sites: Their Locations from the Perspective of the Biblical Studies*, Studies in Biblical Literature 55 (New York, NY: Peter Lang, 2004), 142.

<sup>147</sup> Beno Rothenberg, *God’s Wilderness: Discoveries in Sinai* (London: Thames & Hudson, 1961), 167.

## 5.15 WILDERNESS OF SINAI

When the Israelites arrive in the Wilderness of Sinai מִדְּבַר סִינַי *midbar sinay* in the third month of the first year, it seems they camp at the mountain the same day:

*They had journeyed from Rephidim, entered the wilderness of Sinai, and camped in the wilderness; Israel camped there in front of the mountain. (Exod 19:2; cf. Num 33:15)*

When the Israelites leave Sinai in the second month of the second year, they directly and immediately enter the Wilderness of Paran:

*Then the Israelites set out by stages from the wilderness of Sinai, and the cloud settled down in the wilderness of Paran. (Num 10:12)*

These details suggest that the wildernesses of Paran and Sinai are adjoining regions and that Mount Sinai lies close to the boundary of both wildernesses. This scenario is supported by poetic and prophetic texts associating Sinai with Mount Paran:

*He said: The LORD came from Sinai, and dawned from Seir upon us; he shone forth from Mount Paran. (Deut 33:2)*

*God came from Teman, the Holy One from Mount Paran. (Hab 3:3)*

Aharoni makes an important observation regarding the instances of biblical reference to the wildernesses of Sinai and Paran:

*Sinai, wilderness of Sinai, occur in the Bible only in connexion with the revelation at Mount Sinai and in the accounts of the Israelites' wanderings in the desert. Unlike Paran, Sinai is never once mentioned incidentally, in a context not related to the Revelation [the Law] or to the Exodus. Nor is any place, apart from Mount Sinai itself, ever mentioned as lying within the wilderness of Sinai.<sup>148</sup>*

To accommodate all the data both present and absent from text and terrain, he concludes that the Wilderness of Sinai was the remote southern part of the Wilderness of Paran which he identifies with the entire Sinai Peninsula.<sup>149</sup> Rainey follows Aharoni in identifying the Wilderness of Paran

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<sup>148</sup> Aharoni, "Kadesh-Barnea and Mount Sinai," 168.

<sup>149</sup> Aharoni, 168.

as the entire Sinai Peninsula and the Wilderness of Sinai as the mountainous Southern Sinai within the greater Wilderness of Paran:

The steppe land (wilderness) of Paran (מִדְבַּר פָּאֲרָן; e.g. Num 10:12, 12:16, 13:3) seems to be the generic name for the main Sinai expanses of which there are various subdivisions.<sup>150</sup>

The scholars' understanding that the wildernesses of Sinai and Paran, like the wildernesses of Paran and Zin, are adjoining regions is well-founded both biblically and logically.<sup>151</sup> Their identifying of the Wilderness of Paran with the entire Sinai Peninsula, however, is driven by the Jebel Musa candidate for Mount Sinai, an identity that would extend the Wilderness of Paran more than 250 km to the SSW of the Kadesh district across multiple geographic regions to include the Southern Sinai. As noted regarding vague regional labels in Bible atlases, such a conception of ancient geography is unrealistic.<sup>152</sup> Critiquing this view, Har-El makes three pertinent observations:

Paran cannot be a generalised term for the wildernesses of the peninsula for the following reasons:

- a) The areas between the wildernesses, and occasionally fairly well-defined boundaries, are mentioned in the route of the Israelites, and the wilderness of Paran lies close to Kadesh-barnea;
- b) According to all the biblical passages, the wilderness of Paran lies in northern Sinai, and there is no hint of it being in the south;
- c) Those deserts containing settlements of semi-nomads are never very large and generally have separate names.... Therefore the wilderness of Paran could not extend from Jebel Musa to Ein Qudeirat and Kadis [Qadeis].<sup>153</sup>

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<sup>150</sup> Rainey and Notley, *The Sacred Bridge*, 120.

<sup>151</sup> See 6.2 Kadesh District; 6.6 Kadesh in Paran and Zin.

<sup>152</sup> See 3.1 Hydrology of Biblical Lands.

<sup>153</sup> Har-El, *Sinai Journeys*, 172.

## 5.16 MOUNT SINAI-HOREB

All attempts to identify the biblical wildernesses between Goshen and Sinai presuppose an identity for Mount Sinai as the destination of the Israelite journey because the location of the destination necessarily limits the possible directions of travel. With the exception of the Wilderness of Shur whose location and extent can be established from other biblical references,<sup>154</sup> the identities of the wildernesses of the exodus journey—Etham, Red Sea, Sin, and Sinai—depend on the identity of Mount Sinai (Exod 13:18; 15:22; 16:1; 19:1-2; Num 33:8, 11-12). Moreover, the itinerary of the Israelites' ongoing journey from Sinai to Kadesh reveals that the Wilderness of Sinai is adjacent to the Wilderness of Paran which is adjacent to the Wilderness of Zin (Sinai, Num 10:12, 33; Zin, Num 13:3, 21, 26; 20:1; 33:36). In other words, the biblical regions of the exodus journey are consecutive and contiguous, the arguments for their locations are interdependent, and the identity of Mount Sinai is essential to defining them all.

Across the biblical records, the toponyms Sinai and Horeb seem to refer to the same mountain (Horeb, Exod 3:1, 12; cf. Sinai, Exod 19:2, 18). James K. Hoffmeier following Andrew D. H. Mayes seeks to distinguish Sinai the mountain from Horeb the region,<sup>155</sup> but the usage is not clear. Mount Sinai lies within the Wilderness of Sinai, not of Horeb (Exod 19:1-2, 11; Lev 7:38; Num 10:12, 33), and the toponym Horeb never appears with a regional designation. Some scholars today consider that the dual names for the holy mountain derive from different etymologies—cultic and secular—where the Akkadian word *סיני* *sinay* Sinai refers to the name of the Mesopotamian moon-god Sin,<sup>156</sup> and the Hebrew word *הֹרֵב* *horev* Horeb means

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<sup>154</sup> See 5.6 Wilderness of Shur.

<sup>155</sup> Hoffmeier, *Ancient Israel in Sinai*, 114–15; “Sinai in Egyptian, Levantine and Hebrew (Biblical) Perspectives,” in *The History of the Peoples of the Eastern Desert*, ed. Hans Barnard and Kim Duistermaat, Cotsen Institute of Archaeology Monograph 73 (Los Angeles, CA: UCLA, 2012), 110; Andrew D. H. Mayes, *Deuteronomy*, New Century Bible Commentary (London: Marshall, Morgan and Scott, 1979), 115.

<sup>156</sup> Ludwig Koehler and Walter Baumgartner, *Lexicon in Veteris Testamenti Libros* (Leiden: Brill, 1985), sec. 751; Or “Syrian”, Paul Maiberger, “Sinai,” in *Theological Dictionary of the Old Testament TDOT*, ed. G. Johannes Botterweck, Helmer Ringgren, and Heinz-Josef Fabry, trans. Douglas W. Stott (Grand Rapids, MI: Eerdmans, 1999), 218–19.

“dry, desolate”.<sup>157</sup> A single mountain with dual names is a satisfactory premise for the present investigation which is concerned more with the mount’s location than its configuration.

There have been many proposals for the location of Mount Sinai-Horeb (Exod 3:1; 19:11; Deut 1:6) (Fig. 23).<sup>158</sup> Mainstream scholars generally prefer the traditional Christian pilgrimage site, Jebel Musa in the southern Sinai Peninsula.<sup>159</sup> A popular candidate with the public is Jebel al-Lawz, one of several peaks in northwest Saudi Arabia proposed and promoted by explorers and enthusiasts in the twentieth century.<sup>160</sup> Beitzel notes the irony that multiple Sinai candidates attract similar claims for topographical and archaeological features consistent with biblical descriptions: a cleft rock, an altar with twelve standing stones, a cave, evidence of burning, and an open area suitable for a campground.<sup>161</sup> An effective argument for the identity of Mount Sinai should, therefore, rely on other evidence, chiefly how well the location functions within the wilderness itineraries. To date, no candidate has met all the geographical requirements of the narratives, nor has any theory for Mount Sinai identified plausible locations for more than a few related wilderness toponyms.<sup>162</sup> Driver draws a conclusion that has not changed in the century since he wrote:

It is not possible for us now to locate Sinai with any confidence, because the data in the OT on which we must depend are in conflict. We cannot make all the data fit one location.<sup>163</sup>

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<sup>157</sup> Koehler and Baumgartner, *Lexicon*, sec. 350; See discussion in Hoffmeier, *Ancient Israel in Sinai*, 37–40.

<sup>158</sup> See Appendix A: Mount Sinai Candidates.

<sup>159</sup> Graham I. Davies, “Sinai, Mount (Place),” in *Anchor Bible Dictionary* (New York, NY: Doubleday, 1992), 48; Hoffmeier, *Ancient Israel in Sinai*, 140–48 Hoffmeier allows for several Southern Sinai candidates. Israel Finkelstein and Aviram Perevolotsky, “The Southern Sinai Exodus Route in Ecological Perspective,” *Biblical Archaeology Review* 11, no. 4 (August 1985): 26–35, 38–41.

<sup>160</sup> Robert Cornuke and David Halbrook, *In Search of the Mountain of God: The Discovery of the Real Mount Sinai* (Nashville, TN: Broadman & Holman, 2000); Allen Kerkeslager, “Mt. Sinai—in Arabia?,” *Biblical Review* 16, no. 2 (April 2000): 32–39, 52; Joel Richardson, *Mount Sinai in Arabia: The True Location Revealed* (WinePress Media, 2018).

<sup>161</sup> Beitzel, *New Moody Bible Atlas*, 282 n. 142.

<sup>162</sup> As reviewed in Har-El, *Sinai Journeys*, 175–233 for Southern Sinai locations, and 242–75 for Saudi Arabian locations.

<sup>163</sup> Driver, *Book of Exodus*, 203.

Perhaps a new analysis of Bible lands, such as this investigation which applies a hydrological model to the geopolitical regions (of which the Wilderness of Sinai is one), helps to eliminate some candidates and may even support one.

## 5.17 HAR KARKOM—MOUNT SINAI

Since the 1980s, paleoethnologist Emmanuel Anati has advocated for Har Karkom in the Central Negev Highlands as Mount Sinai.<sup>164</sup> Anati argues his case from the abundance of cultic and dwelling remains on and around the mountain dating to the Bronze Age Complex (BAC), and his interpretation of its location as consistent with biblical indications.<sup>165</sup> The current investigation does not aim to defend Anati's archaeological case for the Karkom-Sinai identity<sup>166</sup> or support his itinerary proposals<sup>167</sup> but rather bring another body of evidence to bear upon the question of the geographic regions of the Israelite itinerary. The hydrological model of the biblical wildernesses associates regional toponyms with water catchments across the Sinai-Negev and Transjordan.<sup>168</sup> The model is supported by the observation that travel notices of entries *into*, and exits *from*, biblical regions correspond to the positions of watersheds of the major water catchments. So far in the narrative of the Goshen-to-Sinai journey, the sequence of major water catchments across the Central Sinai and Southern Negev has led to the Central Negev Highlands and to Har Karkom at the northwestern side of the Paran catchment.

Anati describes Har Karkom's centrality and prominence in the southern regions:

Har Karkom is visible from a great distance, from the south as well as from the east, and dominates the surrounding land known in Hebrew as the *Midbar Paran* (that is, the Paran desert). Its sharp, virtually rectangular outline, which juts above the horizon, can be seen from as far away as the Edom mountains, which

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<sup>164</sup> Emmanuel Anati, *Har Karkom: Montagna Sacra Nel Deserto Dell'Esodo* (Milan: Jaca Book, 1984); "Has Mt. Sinai Been Found?," *Biblical Archaeology Review* 11, no. 4 (August 1985): 42–57.

<sup>165</sup> The BAC spans the Chalcolithic, Early Bronze Age, and Intermediate Bronze Age. Emmanuel Anati, *The Riddle of Mount Sinai: Archaeological Discoveries at Har Karkom*, 2nd Eng. ed., Studi Camuni 21 (Capo di Ponte: Atelier, 2017).

<sup>166</sup> Emmanuel Anati, *Har Karkom: The Mountain of God* (New York, NY: Rizzoli, 1986), 105–11.

<sup>167</sup> Anati, 181–95, 249–54.

<sup>168</sup> See Chapter 3: Hydrological Model.

are over seventy kilometers away. It remains an obvious reference point for wayfarers today, just as it must have been thousands of years ago for the frequent travelers crossing the desert.

The view from the mountain itself sweeps across a vast territory. To the southeast and east for about sixty kilometers one may scan the Nahal Paran (which the Bedouins call the Wadi Jirafi) as well as the surrounding desolate area towards the Arabah Valley. The mountains of Jordan appear even further beyond on the horizon. To the west the panorama includes the slopes and highlands of the central Sinai, traversed for thousands of years by caravans travelling between Arabia and the Mediterranean Sea along the Darb el-Aza [Gaza] spice route.... The view to the north encompasses the mountains and valleys leading to the central Negev and to the Makhtesh Ramon watershed, a strange, wide gorge thirty-five kilometers long, known to the Bedouins as the Wadi Ruman [Ramon].<sup>169</sup>

The Karkom plateau is the southern-most promontory of the long mountain range that forms the backbone of the land of Israel, sometimes called the Central Hill Country.<sup>170</sup> The Med–Dead watershed along the top of this range was the natural line for the great north-south road through the Central Hill Country of Canaan that would later become the heartland of Israelite settlement.<sup>171</sup> The road joined together the high ridges of the Central Negev Highlands through Hebron, Jerusalem, Samaria, the Galilee, and Mount Hermon. It is a novel thought that if Har Karkom is Mount Sinai, all three holy mountains of the biblical story are within the one range: from north to south, Mount Hermon, Mount Zion (Jerusalem), and Mount Sinai (Exod 19:23; Psa 48:1-2; 68:8, 15-16; 133:3). Har Hermon is the southernmost peak of the Antilebanon range, but forms the northernmost point of the entire Dead Sea primary catchment.<sup>172</sup> The total distance along the ridge connecting these mountains is about 400 km (250 miles), with the three famous summits about equally spaced (Fig. 9).

From above, the Karkom plateau appears as a finger pointing southward into the Paran flood-plain (Fig. 23). From the east, the plateau's long profile with its pyramid- or horn-shaped

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<sup>169</sup> Anati, *Har Karkom*, 34.

<sup>170</sup> e.g. Israel Finkelstein, "The Central Hill Country in the Intermediate Bronze Age," *Israel Exploration Journal* 41, no. 1/3 (1991): 19–45.

<sup>171</sup> Jeffrey H. Tigay, *Deuteronomy: The Traditional Hebrew Text with the New JPS Translation*, JPS Torah Commentary (Philadelphia, PA / Jerusalem: Jewish Publication Society, 1996), 8.

<sup>172</sup> See 3.2 Primary Catchments; 8.8 The Argob: Geozone.

proW is the highest point for 30 km (20 miles) around.<sup>173</sup> Towards the southern end of the plateau, two low peaks (847 m [2778 ft] and 842 m [2762 ft] ASL) rise to about 70 m (230 ft) above the surrounding plateau.<sup>174</sup> Two tertiary catchments drain the Karkom plateau into Nahal Paran on its east side. Nahal Saggi drains the southern edge of the plateau southwards to join Nahal Paran some 40 km (25 miles) from Paran’s mouth in the Arabah. Nahal Karkom drains the bulk of the plateau northwards to join Nahal Paran some 20 km (12 miles) west of Paran’s mouth in the Arabah.<sup>175</sup> With Har Karkom dominating the view from the Paran floodplain below, and with Nahal Karkom draining the majority of the highlands portion of the Paran catchment, it seems likely that the Karkom tertiary catchment may have defined the Wilderness of Sinai. In the Sinai-Negev, therefore, the first tertiary catchment significant to the Israelite journeys is that of Nahal Karkom, a highlands tributary of the Paran river system (Fig. 9).

## 5.18 SUMMARY: EGYPT-SINAI REGIONS

According to the above discussion of the biblical regions to the west of the Rift Valley, the secondary water catchments of the Sinai Peninsula and Southern Negev correspond to the wildernesses encountered by the Israelites on their journey from Goshen to Mount Sinai. The watersheds of the border lakes of Egypt suggest natural boundaries for the Land of Goshen and the Wilderness of Etham. The large Red Sea primary catchment remains undivided by river systems or lake basins, explaining why the biblical name יַם־סוּף *yam suf* “sea of Suph” applies to both the Suez and Elath-Aqaba Gulfs without apparent distinction other than context (e.g. Suez: Exod 10:19; Elath-Aqaba: Exod 23:31). So far, therefore, a hydrological model offers a simple intuitive way to identify and delineate the national territories of Egypt and the wildernesses of the Sinai Peninsula at the time of the exodus. The principles for locating and defining the geozones of the biblical arena become relevant in the second half of the discussion (Ch. 6) where three of a total of ten geozones make an appearance as the Israelites near Canaan.

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<sup>173</sup> Anati, *Har Karkom*, 15 map 6, 34.

<sup>174</sup> Anati, 35.

<sup>175</sup> See 5.14 Wilderness of Paran.

In summary, the geopolitical regions (wildernesses and national territories) of Egypt, the Sinai, and the Negev are defined by river catchments and lake basins, sometimes one catchment per region, sometimes half a catchment, and sometimes two adjoining catchments. The regions of the first stage of the Israelite migration—Goshen-to-Sinai—may be briefly described hydrologically as follows:

- **Land of Egypt** is all the land watered by the Nile River from Sudan in the south to the Mediterranean Sea, and including the northern and central Suez Isthmus.
- **Land of Goshen** is the western half of the Lake Timsah catchment in the central Suez Isthmus, specifically the Wadi Tumilat, a lateral distributary of the Nile.
- **Wilderness of Shur** is the Mediterranean coastal catchment.
- **Wilderness of Etham** is the Bitter Lakes catchment of the central Suez Isthmus.
- **Wilderness of the Red Sea** is the Red Sea coastal catchment, specifically the Suez Gulf catchment in the context of the road southward from Goshen. A biblical regional name for the mountainous Southern Sinai region has not been preserved unless it was recognised as part of the Wilderness of the Red Sea. The Wilderness of the Red Sea may also have included the Gulf of Elath-Aqaba coastal catchment, as both gulfs are known to the biblical authors as the Red Sea.
- **Wilderness of Sin** is the Wadi Arish catchment of the Central Sinai Peninsula.
- **Wilderness of Sinai** is the Nahal Karkom catchment of the Central Negev Highlands, a tributary of Nahal Paran.

Discussion and analysis for each of the biblical regions to the west of the Rift Valley continues in Chapter 6 with the second stage of the Israelite migration, the Sinai-to-Kadesh journey.

## CHAPTER 6: REGIONS WEST OF THE RIFT VALLEY (WILDERNESS OF SINAI TO THE ARABAH)

### 6.1 INTRODUCTION: SINAI-NEGEV REGIONS

The wildernesses of the second stage of the Israelite migration—Sinai-to-Kadesh—also function within the biblical narratives as distinct regions, named in sequence with stations as places of arrival and departure. The Numbers narrative describes how, after about a year’s encampment at the mount, the Israelites follow the pillar of cloud out of the Wilderness of Sinai and travel three days into the Wilderness of Paran (Num 10:11-12, 33). They pass through three named stations (Num 11:3, 34, 35) and enter the Wilderness of Paran, apparently for the second time (Num 12:16). From here, twelve Israelite princes make a spying expedition throughout the length of the Land of Canaan, returning to Moses and the people at Kadesh in the Wilderness of Paran (Num 13:3, 26). Their mainly pessimistic report leads to Israel’s failed invasion of Canaan from the south (Num 14:39-45; Deut 1:41-45).

Both ventures northward are side-trips from Kadesh in the Hill Country of the Amorites (geozone, Deut 1:19-20). The spies pass from the Wilderness of Paran through the Wilderness of Zin, cross the Negeb (geozone),<sup>1</sup> traverse the full length of the northern Hill Country (geozone),<sup>2</sup> and return to the Wilderness of Paran (Num 13:17, 21-22, 26; Deut 1:24). When ten of the twelve spies advise that the conquest of Canaan may fail, the Israelites despair and plan to return to Egypt (14:1-4; Deut 1:26-27). For this rebellion God sentences them to forty years’ wilderness wanderings (Num 14:33-34). Rebelling further, the Israelite men attempt to enter Canaan through the southern Hill Country (geozone, Num 14:40, 44-45; Deut 1:41, 43) but a Canaanite alliance pursues and defeats them in Seir (geozone, v. 44-45). The Mount Seir geozone appears again in the first half of the third and final stage of the Israelite journey, Kadesh-to-Jordan (Deut 2:1).<sup>3</sup>

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<sup>1</sup> See 6.10 The Negeb: Geozone.

<sup>2</sup> See 6.9 The Hill Country: Geozone.

<sup>3</sup> See 6.12 Mount Seir (West): Geozone.

## 6.2 KADESH DISTRICT

Kadesh-barnea קַדְשׁ בַּרְנֵעַ is the most prevalent site associated with the Israelite sojourn in the southern wildernesses. Unlike many other toponyms of the wilderness narratives, Kadesh appears also in the patriarchal narratives (Gen 14:7; 16:14; 20:1) and in the book of Joshua (10:41). Until the nineteenth century, opinions regarding the location of Kadesh were based solely on literary study.<sup>4</sup> Eusebius followed the Targums in identifying Kadesh and Mount Hor near Petra (“Rekem”),<sup>5</sup> undoubtedly responding to biblical data that locates these sites “on the border of Edom” (Num 20:16, 22-23; 21:4; 33:37), a territory assumed to extend no further west than the Arabah.<sup>6</sup> Accordingly, von Raumer (1831) located Kadesh at Ain Hasb (Ein Hazeva),<sup>7</sup> and Robinson (1874) preferred Ein el-Weibeh,<sup>8</sup> both oases in the northwestern Arabah to accommodate the notice that the King of Edom came out against the Israelites at Kadesh (Num 20:20). Rowlands (1845) put forward a location for Kadesh-Barnea at Ayn Qadays (Qadeis) in modern northeastern Sinai,<sup>9</sup> supported by Palmer (1871)<sup>10</sup> and Trumbull (1881, 1884).<sup>11</sup> Schmidt (1910) recognised that a more suitable candidate was the neighbouring Wadi al-Ayn with its abundant water source, Ayn al-Qudayrat (Ein el-Qudeirat).<sup>12</sup>

In the course of exploration and debate, scholarly opinion regarding the likely location of Kadesh consolidated in favour of the northeastern Sinai as most consistent with biblical descriptions of the southern border of Judah (Num 34:3-4; Josh 15:1-4). In 1914, an

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<sup>4</sup> Nathaniel Schmidt, “Kadesh Barnea,” *Journal of Biblical Literature* 29, no. 1 (1910): 67.

<sup>5</sup> Eusebius of Caesaria, *Onomasticon*, 33, 64, 149 secs. 46.9; 112:3; 172.2. Davies, *The Way of the Wilderness*, 16–17.

<sup>6</sup> See 6.12 Mount Seir (West): Geozone.

<sup>7</sup> Karl Georg Von Raumer, *Palästina: mit einem Plan von Jerusalem zur Zeit der Zerstörung durch Titus* (Leipzig: F. U. Brodhaus, 1931), 480.

<sup>8</sup> Edward Robinson, *Biblical Researches in Palestine, and in the Adjacent Regions: A Journal of Travels in the Year 1838*, 11th ed. (1st ed. 1856), vol. II (Boston, MA: Crocker & Brewster, 1874), 176, 193.

<sup>9</sup> John Rowlands, “Letter,” in *The Holy City*, by G. Williams (London: John W. Parker, 1845), 463–68.

<sup>10</sup> Palmer, *Desert of the Exodus*, Part II:290; “The Desert of the Tih and the Country of Moab: Vol III,” *Palestine Exploration Quarterly* 3, no. 1 (1871): 20–22.

<sup>11</sup> H. Clay Trumbull, “A Visit to ’Ain Qadis: The Supposed Site of Kadesh-Barnea,” *Palestine Exploration Quarterly* 13, no. 3 (July 1881): 208–12; *Kadesh-Barnea*.

<sup>12</sup> Schmidt, “Kadesh Barnea,” 73.

archaeological survey by Woolley and Lawrence firmly identified Kadesh with the district of Ayun [springs] Qadays, Qudayrat, Qusayma, and Muwaylah.<sup>13</sup> A series of small Iron Age forts and watchtowers on ridges above Ayun Qusaymah, Qudayrat, and Qadays, and especially the main fortress in the valley of Wadi al-Ayn near the Qudayrat spring, underline the strategic importance of Kadesh as “the most important desert juncture in the region”.<sup>14</sup>

The earliest fortress at Kadesh-Barnea belonged to an extensive fortress network which ran across the Central Negev, extending south from present-day Dimona [25 km SSE of Arad], past Yeruham and Sde Boker, to the edge of the erosion crater of Makhtesh Ramon, and then turning west toward the site of Kadesh-Barnea.<sup>15</sup>

Numbering around fifty, these forts once lined the main Negev highways and served to defend the southern border of Israel (Fig. 10: Sinai-Negev Borders).<sup>16</sup>

The Arabic names for three of the four springs in the Kadesh district seem to preserve the biblical names: Qadays as קַדֶּשׁ Kadesh, Qudayrat as אַדָּר Addar, and Qusayma as אֶצְמוֹן Azmon. The fourth spring, Muwaylah, may possibly be קַרְקַע Karka. These springs are all in the Wadi Jayifah catchment but on different tributaries. Ayn Qadays is the southeasternmost spring in the district and the only one on the southeastern tributary of the Jayifah catchment. The spring’s small size and desolate environs do not match the prominence of biblical Kadesh, but there is an Iron Age fort nearby to oversee the approach from the Ramon highlands region.<sup>17</sup> Ayn Qudayrat in Wadi al-Ayn is by far the most abundant spring with a flow of 40-50 cubic metres per hour.<sup>18</sup> Wadi al-Ayn drains WSW into the northern tributary of Wadi Jayifah which changes names several times as it winds northward around a floodplain within which lies Ayn Qusaymah. The

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<sup>13</sup> C. Leonard Woolley and T. E. Lawrence, *The Wilderness Of Zin (Archaeological Report)*, vol. 1914–1915, Annual (London: Palestine Exploration Fund, 1914), 70–88.

<sup>14</sup> Rudolph Cohen, “The Iron Age Fortresses in the Central Negev,” *Bulletin of the American Schools of Oriental Research*, no. 236 (1979): 72.

<sup>15</sup> Rudolph Cohen, “Did I Excavate Kadesh-Barnea?,” *Biblical Archaeology Review* 7, no. 3 (1981): 33.

<sup>16</sup> Ze’ev Meshel, “The ‘Aharoni Fortress’ Near Quseima and the ‘Israelite Fortresses’ in the Negev,” *Bulletin of the American Schools of Oriental Research* 294 (May 1994): 39; Yohanan Aharoni, “Forerunners of the Limes: Iron Age Fortresses in the Negev,” *Israel Exploration Journal* 17, no. 1 (1967): 2.

<sup>17</sup> Aharoni, “Forerunners of the Limes,” 8.

<sup>18</sup> Har-El, *Sinai Journeys*, 66.

semi-circuit of the wadi past Ayn Muwaylah may explain how the southern border of Judah between Addar and Azmon “makes a turn to Karka”, קַרְקַע meaning “floor” (Josh 15:3-4). Aharoni suggests that the entire region was known as Kadesh-barnea:

In all probability Kadesh-barnea is ‘Ain el-Qudeirat’, the richest and most centrally located of a group of springs on the southern edge of the Negeb, in spite of the fact that the ancient name was preserved at ‘Ain Qedeis, a small well five miles farther south. One may surmise that the whole region was called Kadesh-barnea, with the name being preserved only at the southernmost well.<sup>19</sup>

Not least among the deciding factors in the debate over the location of Kadesh was the centrality of the Qusayma-Qudayrat district relative to the roads through the Northern Sinai and Central Negev (Ayn Qusayma is at the junction of the main roads; Ayn Qudayrat is a 9 km side-trip to the southeast of Qusayma).<sup>20</sup> Woolley and Lawrence list the major routes that converge at Qusayma [Kossaima]:

Strategically the Kossaima district agrees well with what we know of Kadesh-Barnea. The Darb el Shur, the road of their forefathers, stretching westwards before the eyes of the mutinous Israelites, suggested an easy return to Egypt (Numbers xiv, 4); the same road runs northwards to Hebron, whither the spies went up to view the Land of Promise.... From the south runs up the main road from Elath.... Westwards [sic, he means eastwards] there is a choice of roads; one can go either through Bir Hafir and the Abda [Avdat] district by what is now called the Darb el Sultan, the King’s Highway, into the Araba, or by way of Wady Lussan, a little to the south, to Bir Mayein, and thence by the Jerafi [Paran] wady system to sundry roads leading into the Araba directly in front of Jebel Harun, the traditional Mount Hor.<sup>21</sup>

The intersection of four major biblical roads linked to Kadesh—Way of Shur (Gen 16:7; cf. 20:1), Way of the Red Sea (Num 14:25; Deut 1:40), Way of Mount Seir (Deut 1:2), and Way of the Hill Country of the Amorites (Deut 1:19)—made the Kadesh district the hub of ancient travel between Egypt, Arabia, Canaan, and the Transjordan.

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<sup>19</sup> Aharoni, *Land of the Bible*, 1979, 70.

<sup>20</sup> Har-El, *Sinai Journeys*, 328.

<sup>21</sup> Woolley and Lawrence, *Wilderness of Zin*, 1914–1915:88.

## 6.3 PALEO-PARAN BASIN

In the year 2000, Yoav Avni and co-authors published a geomorphology of the Paran drainage basin in the Southern Negev. They confirmed the Paran basin's young geological history, expanding on the findings of several studies since 1947 describing a *paleo-Paran* basin that covered a much greater area than the present catchment of Nahal Paran (Wadi Jirafi):

The Paran drainage basin, the largest on the western margin of the Arava Rift, drains an area of ca. 3800 km<sup>2</sup> [1470 sq. miles] in eastern Sinai and the southern Negev toward the Dead Sea to the north.<sup>22</sup>

The authors also identify the timing and process of the geological event that created the Paran basin as it now exists:

The present Paran basin was formed during the Early Pleistocene, as a result of a major tectonic phase. Faulting and tilting is recorded along a 60–80-km [40–50 miles] wide belt located on the western flank of the DSR [Dead Sea Rift]. As a result, the paleo-Paran basin was uplifted and tilted to the east, while the Arava Valley subsided.<sup>23</sup>

The paleo-Paran basin—the original Wilderness of Paran—comprised the entire area now drained by the Paran, Jurayyah (Geraia, Quraiya), Neqaroth, and Hayun rivers:

It was found that large parts of the former paleo-Paran basin were separated from the present-day Paran basin.<sup>24</sup>

An area of about 300[0] km<sup>2</sup> in the northwestern part of the upper paleo-Paran basin is now drained to the Mediterranean Sea by Wadi Quraiya [Jurayyah], a tributary of Wadi el 'Arish.<sup>25</sup> Along the present water divide a wide strip of badlands was formed, which is still being dissected.... The Hiyyon [Hayun] stream that also reaches the Arava Valley now drains more than 1000 km<sup>2</sup> [390 sq. miles] of the original paleo-Paran basin.... An area more than 1000 km<sup>2</sup>

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<sup>22</sup> Yoav Avni et al., "Evolution of the Paran Drainage Basin and Its Relation to the Plio-Pleistocene History of the Arava Rift Western Margin, Israel," *Israel Journal of Earth Science* 49 (2000): 236.

<sup>23</sup> Avni et al., 215.

<sup>24</sup> Avni et al., 236.

<sup>25</sup> The '300' figure seems to be in error. Wadi Quraiya has a large catchment, about 3000 sq. km (1160 sq. miles).

in size was separated from the paleo-Paran drainage basin to form the independent Nahal Neqarot basin.<sup>26</sup>

The watershed (“water divide”) between Wadi Jurayyah now draining northwest and Nahal Paran draining northeast is marked along much of its length by a cliff-edge up to 150 m (500 ft) high, evidence of the sudden eastward tilting of the eastern Negev. Through gaps in this cliff run several tracks between the Southern Negev and the Mediterranean coast, the ancient Darb al-Ghazza chief among them (Fig. 8).

The disruption and division of the paleo-Paran basin into smaller river catchments happened long before the exodus era. Nonetheless, it seems the ancients recognised these catchments as one greater wilderness, probably for reasons of vegetation, elevation, and contiguous trade routes. The Darb al-Ghazza runs NNW-SSE through the Jurayyah and Paran basins, bypassing the central and southern Negev highlands on their western side. Its biblical name is דֶּרֶךְ יַם סוּף *derekh yam suf*, “Way of the Red Sea” (Num 14:25; Deut 1:40).<sup>27</sup> By this road, according to both narrative and review, the people left Kadesh in the fortieth year on the final stage of their migration to Canaan (Num 20:22; cf. 33:38; Deut 2:1).<sup>28</sup> In the Sinai-Negev, therefore, the second named tertiary catchment is Wadi Jurayyah, the easternmost tributary of the Arish river system (Fig. 9). If the biblical Wilderness of Paran originally included these neighbouring river catchments, its proximity to the Wilderness of Zin is improved.

The Wadi Jurayyah basin in northeast Sinai may be considered to include the smaller Lussan (400 km<sup>2</sup> [155 sq. miles]) and Jayifah river catchments (950 km<sup>2</sup> [366 sq. miles]) which also drain the Central Negev Highlands westward and debouche into Wadi Arish. Both wadis originate among the highest peaks of the Central Negev Highlands around the southwestern tip of the Ramon Crater. Wadi Jayifah (or Gaifi), the northernmost of the three main wadis in the Jurayyah basin, unites all four springs in the Kadesh district: Qadays, Qudayrat, Qusaymah, and Muwaylah. The southern border of Judah probably follows the line of this wadi through the Kadesh district to its junction with Wadi Arish, joining together the biblical sites of Kadesh,

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<sup>26</sup> Avni et al., “Evolution of the Paran Drainage Basin,” 226–27.

<sup>27</sup> NB: not the Way of the Wilderness of the Red Sea (Exod 13:18)

<sup>28</sup> Davies, *The Way of the Wilderness*, 77.

Addar, Karka (“floor”), and Azmon (Num 34:3-5; cp. Josh 15:2-4).<sup>29</sup> One psalm refers to the region around Kadesh-Barnea as the “wilderness of Kadesh” (Psa 29:8), confirming the discovery that Kadesh is in its own catchment, in this case a quaternary (fourth-level) tributary, Wadi Jayifah, that drains and defines the Kadesh district from its origins in the Central Negev Highlands to its mouth in Wadi Arish.

The other two secondary catchments that were once part of the paleo-Paran basin but are now standalone secondary catchments are the Nahal Neqaroth and Nahal Hayun river systems. The Hayun catchment lies on the east side of the Southern Negev, between Nahal Paran and the southern Arabah, like Nahal Paran also flowing in an overall NNE direction.<sup>30</sup> The Israel National Parks Authority has designated most of the Hayun catchment as שמורת נחלים גדולים *shemorat nehalim gedolim* “Big Rivers Reserve”,<sup>31</sup> a name that excludes the Nahal Paran catchment even though it is the biggest river of the Negev. Some maps label the Hayun river system as מישור חיון *mishor hayun* “Hayun Plain”, thereby recognising an ancient pastoral facility, albeit now desertified.<sup>32</sup> Local archaeologists call the Hayun system the “Upper Valleys” (ca. 450 m ASL) relative to the southern Aravah Valley (ca. 70 m ASL). Nahal Hayun and its tributaries are separated from the Paran catchment to the west by a ridge of upended strata, Telem Znifim, which runs SSW-NNE for 40 km towards the northern Arabah where both rivers enter the Rift Valley and join Nahal Arabah on its path northward to the Dead Sea.

Nahal Neqaroth drains the rough highland territory south of the Ramon Crater in an overall ENE direction, receiving the flow from Nahal Ramon where it exits the crater through its southern wall, and continuing on to join Nahal Arabah near Ein Yahav in the northern Arabah. Some Early and Intermediate Bronze Age structures lie on the ridges in the Neqaroth catchment but this region shows little evidence of other human activity until the Classical era.<sup>33</sup> In the Hellenistic-Roman period, part of the Nabataean Incense Road ran through the Neqaroth wadi and along the ridge above the wadi. Towards the end of the first century BCE, in response to

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<sup>29</sup> See 6.7 Borders: Sinai-Negev.

<sup>30</sup> See 5.14 Wilderness of Paran.

<sup>31</sup> Uri Dvir, מישור פארן ונחלים גדולים (Map 19) [*the Region of Paran and the Big Rivers Reserve (South of the Negev Heights and North of the Eilat Mountains)*], 1:50,000, מפות טיולים סימון שבילים [Map of Tours and Trails] (Tel Aviv: Israel Trail Committee, 1998).

<sup>32</sup> *Israel: Road Atlas (Hbw)* (Azor, Israel: Mapa, 2018), map 60, 1 (vav) 36.

<sup>33</sup> Personal communication, Dr. Tali Erickson-Gini, 24 Sept. 2017.

Roman pressure on international trade, the Nabataeans established a direct link between Petra and Gaza across the Central Negev Highlands through the Neqaroth catchment, entering the Ramon Crater via the Nahal Ramon exit in the south wall of the crater (Shaar [“gate” of Ramon]), crossing the crater from south to north, and cutting a pass along the eastern end of the northern wall of the crater, known today as the Mahmal Pass.<sup>34</sup>

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<sup>34</sup> Tali Erickson-Gini and Yigal Israel, “Excavating the Nabataean Incense Road,” *Journal of Eastern Mediterranean Archaeology & Heritage Studies* 1, no. 1 (2013): 26 Fig. 1, 28.

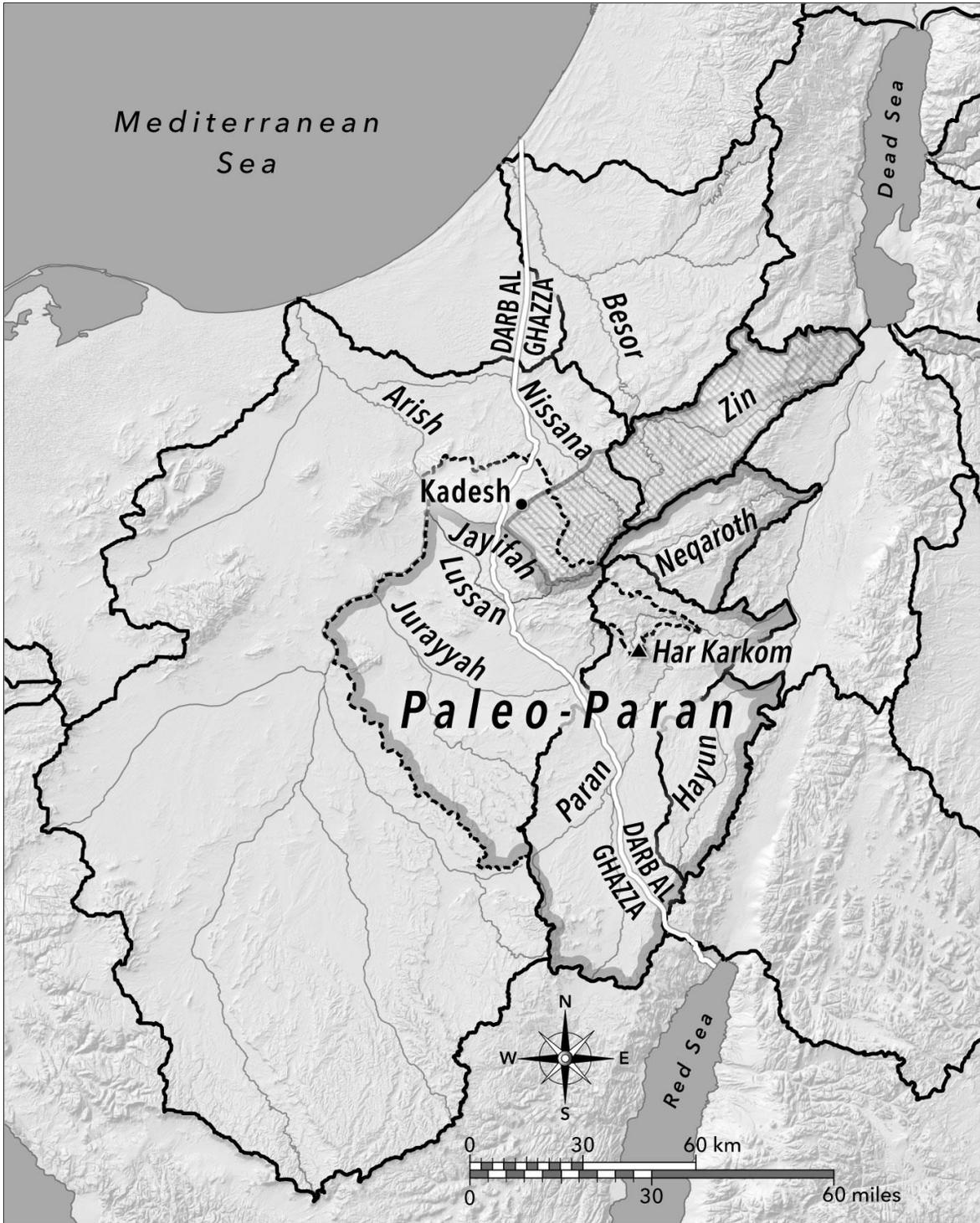


Figure 8 *ZIN AND PARAN WILDERNESSES*  
*The white line is the Darb al-Ghazza, equivalent to the biblical “Way of the Red Sea”.*

## 6.4 TERTIARY CATCHMENTS: SINAI-NEGEV

Tertiary catchments are the first-level tributaries of secondary catchments which are in turn the first-level tributaries of the primary catchments of the region—Med, Red, and Dead.<sup>35</sup> According to the hydrological model of biblical regions, six tertiary catchments are significant to wilderness-era geography, three in the Sinai-Negev and three in the Transjordan.<sup>36</sup> These six tertiary catchments attract biblical names in their own right as regions associated with the Israelite migration from Egypt to Canaan (Fig. 9). The named tertiary catchments in the Sinai and Negev are:

1. Nahal Karkom in the Paran catchment: Wilderness of Sinai,<sup>37</sup>
2. Wadi Jurayyah (Geraia, Quraiya) in the Arish catchment: Wilderness of Paran (appended to Nahal Paran),<sup>38</sup> and
3. Nahal Nitsana also in the Arish catchment: Wilderness of Zin (appended to Nahal Zin).<sup>39</sup>

The first of the named tertiary catchments in the Sinai-Negev, Nahal Karkom, drains the Karkom plateau and part of the mountainous Central Negev south of the Ramon Crater into the greater Paran catchment. Relative to the lowland catchment of Nahal Paran, Nahal Karkom is a highland catchment. Topographically, therefore, the Paran and Karkom catchments warrant separate wilderness names. In terms of modern geographical designations, the Karkom plateau is considered part of the Central Negev; the Paran basin is part of the Southern Negev.

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<sup>35</sup> See 3.4 Tertiary Catchments.

<sup>36</sup> See 7.15 Tertiary Catchments: Transjordan.

<sup>37</sup> See 5.15 Wilderness of Sinai.

<sup>38</sup> See 6.3 Paleo-Paran Basin.

<sup>39</sup> See 6.13 Wilderness of Zin.

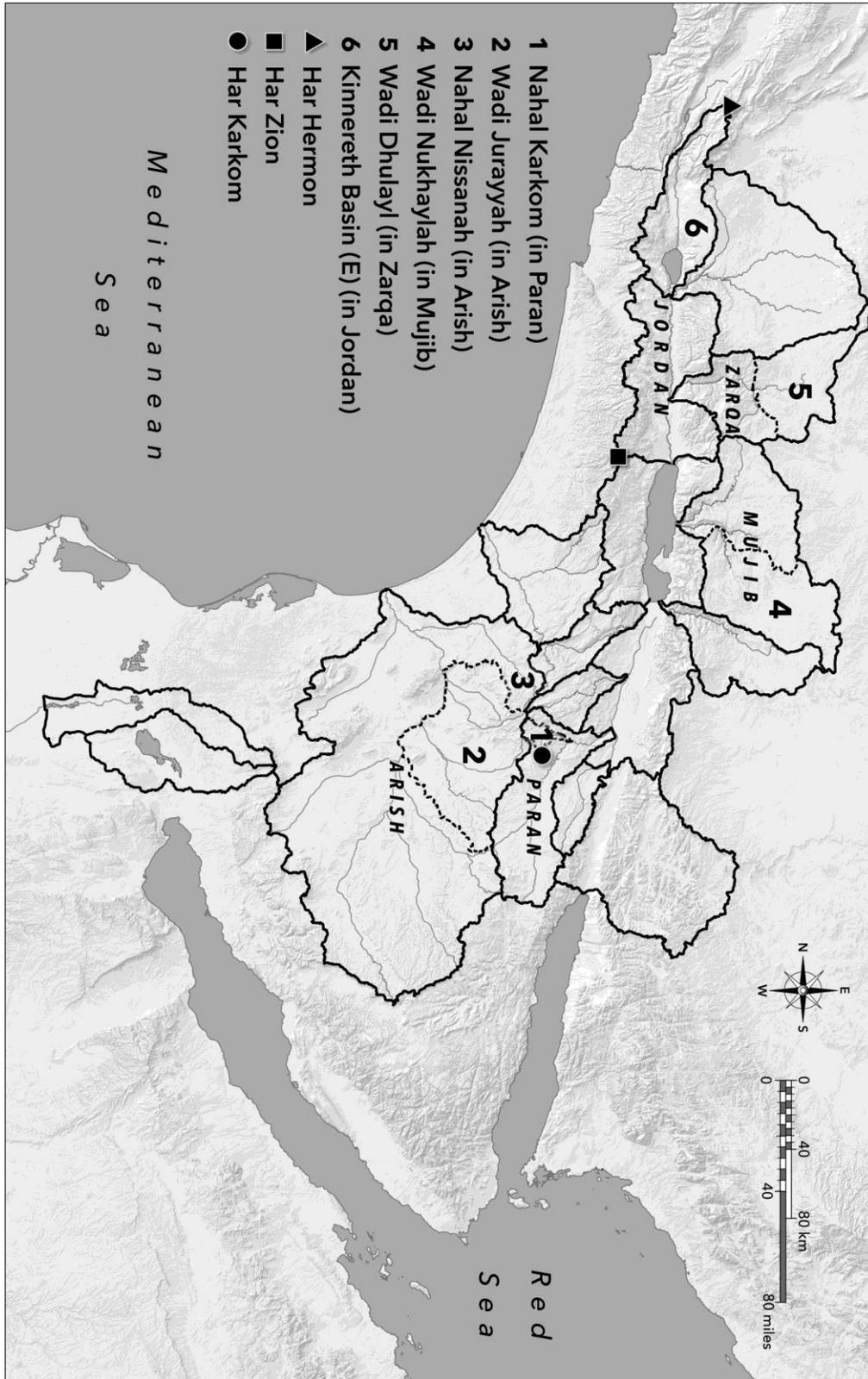


Figure 9 SIGNIFICANT TERTIARY CATCHMENTS

## 6.5 “ELEVEN DAYS FROM HOREB”

According to the chronological markers in the narratives, the Israelites were encamped at Mount Sinai about a year in all—from the first day of the third month of the first year after exodus to the twentieth day of the second month of the second year (Exod 19:1; Num 10:11). The itinerary data for the second stage of the wilderness itinerary—Sinai-to-Kadesh—are obscure and contradictory.

1. The **Numbers narrative** describes a six-day journey from Mount Sinai to Kadesh: three days in the Wilderness of Paran (Num 10:33) followed by three named stations—Taberah, Kibroth-hattaavah, and Hazeroth (11:1-3, 34, 35)—and another arrival in the Wilderness of Paran, later associated with Kadesh (Num 12:16; cf. 13:26).
2. The **Numbers itinerary** of this same journey lists neither Kadesh nor the Wilderness of Paran after Hazeroth, continuing with a further eighteen stations before an arrival at Kadesh, now associated with the Wilderness of Zin (Num 33:18-36). This makes a total of twenty-one stations between Mount Sinai and Kadesh, hence at least twenty-two days’ travel.
3. The **Deuteronomy review** adds to the confusion by apparently specifying an eleven-day distance between Horeb and Kadesh and providing a name for the road between them: “By the way of Mount Seir it takes eleven days to reach Kadesh-barnea from Horeb.” (Deut 1:2)

These three conflicting distances between Horeb and Kadesh—six, eleven, or twenty-two days—have not been reconciled, mainly due to lack of additional information regarding the correct location for Mount Sinai-Horeb. The distance between Har Karkom and Kadesh is just 50 linear km (31 miles) or about 120 km (75 miles) by ancient trails around or through the western edge of the Central Negev Highlands, that is, four to six days’ journey. Anati proposes an eleven-day route from Har Karkom to Ayn Qudayrat (Kadesh) via minor water sources as

little as 7 km apart.<sup>40</sup> His critics consider this attempt to satisfy a biblical criterion for Mount Sinai-Horeb to be both unlikely and inadequate:

Moreover, a location of Sinai at Har Karkom cannot be reconciled with the data of Deut. i 2, which places Horeb at a distance of eleven days' journey from Kadesh-barnea.... Since Har Karkom is less than 100 km. from Kadesh-barnea, whichever of the alternative sites for the latter is preferred, it cannot be the site of Horeb.<sup>41</sup>

Because of the reference to the eleven-day journey from Mt. Sinai to Kadesh-Barnea (Ain Qudeirat) Anati realises he has a problem, since the distance between his Mt. Sinai and Ain Qudeirat is less than 50 km (32 miles). Hence he posits that a circuitous route through eleven stations was taken by the Israelites but this measures only 124 km (77.5 miles). As we have shown, this distance should be around 265-350 km (165-220 miles). Because of this, and all the problems for the Har Karkom theory noted by Finkelstein, this possible Mt. Sinai seems doubtful.<sup>42</sup>

Some translations of the Deuteronomy text suggest that the eleven days' distance applies between Horeb and the place where "Moses spoke to all the Israelites", that is, the east side of the Jordan River. Alter's recent translation recognises the flow of the two verses and represents them as one sentence:

*These are the words that Moses spoke to all the Israelites across the Jordan in the wilderness in the Arabah opposite Suph between Paran and Tophel and Laban and Hazeroth and Di-Zahab, eleven days from Horeb by way of Mount Seir to Kadesh-Barnea. (Deut 1:1-2)<sup>43</sup>*

After "Moses spoke", there are no more verbs in the two verses. In ANE literature, a verbless list of toponyms and prepositions is a prescriptive or forward-looking itinerary, that is, a route-map. A descriptive or backward-looking itinerary has verbs and describes an actual journey; for example, the Numbers itinerary of the Israelite journeys uses the verbs נָסַע *nasa* "set out", הָיָה

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<sup>40</sup> Emmanuel Anati, *Is Har Karkom the Biblical Mount Sinai?* (Capo di Ponte: Atelier, 2013), 55 Fig. 25.

<sup>41</sup> Davies, "Wilderness Itineraries," 170.

<sup>42</sup> Hoffmeier, *Ancient Israel in Sinai*, 126; citing Israel Finkelstein, "Raider of the Lost Mountain—An Israeli Archaeologist Looks at the Most Recent Attempt to Locate Mt. Sinai," *Biblical Archaeology Review* 14, no. 4 (August 1988): 46–50.

<sup>43</sup> Robert Alter, *The Five Books of Moses: A Translation with Commentary* (New York, NY: W. W. Norton & Co, 2004), 879 Alter's translation is supported by the MKJV and YLT.

*hana* “camped”, and *bo* “came” (33:5-9).<sup>44</sup> By Alter’s suggested reading of the text of Deuteronomy, the Way of Mount Seir is the definitive road of a prescriptive eleven-day route-map between Horeb and the Jordan River, the other toponyms representing sites along the way. This theory removes the conflict between the eleven days of Deuteronomy and the six days of the Numbers narrative and restores Har Karkom to its candidacy for Mount Sinai.<sup>45</sup>

Har Karkom in the Central Negev Highlands is about 330 km (205 miles) from the east bank of the Jordan River by road. This distance requires a journey on foot of eleven days, not just because 30 km/day was the average rate of travel in the ANE for military and commercial travellers<sup>46</sup> but in order to connect ten established water sources at daily intervals between Har Karkom and the Jordan River along three major ancient roads. In the second year after the exodus, Israel set out on, but did not complete, this optimal route from Horeb to the Jordan (Num 10:11; 11:35; 12:16; 33:16-20) because of crises at each of the three named stations (Num 11:1-3, 34, 35). After Aaron’s and Miriam’s insurrection at Hazeroth, a station also attested in the Deuteronomy itinerary (1:1), the invasion of Canaan was abandoned at Kadesh. Thus, Israel never completed the eleven-day route in full; instead, in the fortieth year after the exodus, they took a long detour from Kadesh around Edom and Western Seir by the Way of the Red Sea (Num 20:22; 21:4; cf. 33:38; Deut 2:1).<sup>47</sup>

In summary, Har Karkom acts on all three itinerary-lengths involving Mount Sinai and Kadesh. These three different measures of distance can be reconciled thus:

- The eleven days of Deut 1:2 do not apply to the distance between Horeb and Kadesh. They apply instead to the distance between Horeb and the east bank of the Jordan River where “Moses spoke to all Israel” (Deut 1:1). Thus, the text is a prescriptive itinerary that the Israelites never followed in full.

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<sup>44</sup> Davies, “Wilderness Itineraries: A Comparative Study,” 53–70 (backward-looking itineraries); 70–77 (forward-looking itineraries).

<sup>45</sup> These two routes—Horeb-to-Kadesh, Horeb-to-Jordan—were the subject of my Honours thesis.

<sup>46</sup> “The normal speed of camel and donkey caravans has not changed significantly with time, and almost all the estimates for normal travel lie between 16 and 23 miles [25-37 km] per day.” Davies, “Significance of Deut 1.2,” 93.

<sup>47</sup> See 6.14 Wanderings: Zin and Paran.

- The six-day itinerary from Mount Sinai to Kadesh (Num 10-12) is a complete account of the Israelite journey to Kadesh after leaving Mount Sinai: three days in the Wilderness of Paran and three named stations thereafter. The people did not expect to be waylaid on their march to Canaan. However, disaster struck during the first five days (three days to Taberah, then Kibroth Hattaavah, then Hazeroth), and the invasion was ultimately abandoned at Kadesh.
- The twenty-one toponyms between Sinai and Kadesh (twenty stations listed in Num 33:16-36 plus Taberah from Num 11:1-3) comprise the complete itinerary of the second stage of the full wilderness itinerary between Egypt and Canaan. During this journey, Israel arrives at Kadesh twice, but only the second arrival is recorded (Num 33:36).

## 6.6 KADESH IN PARAN AND ZIN

The idea that biblical wildernesses are associated with river catchments may have come from the names of the southern rivers, Nahal Zin and Nahal Paran. In 1949, David Ben-Gurion, the first Prime Minister of the newly-established modern state of Israel, nominated a Governmental Names Commission *הממשלתית השמות ועדת* *ha-memshaltit ha-shemot ve-edat* “to determine Hebrew names to all the places, mountains, valleys, springs, roads and the like in the area of the Negev”.<sup>48</sup> Wherever possible, names were established from the geographical data of the biblical texts, historical references, and archaeological records. Thus, in accord with biblical references to the southern wildernesses, Wadi Murra in the Central Negev became Nahal Zin,<sup>49</sup> and Wadi Jirafi in the Southern Negev became Nahal Paran. These authoritative decisions suggest that the two major river catchments of the Negev are the basis for the biblical wildernesses of the same names.

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<sup>48</sup> Azaryahu and Golan, “(Re)Naming the Landscape,” 185 citing Report on the accomplishments of the Governmental Names Commission for the beginning of the year 5719 (1958–1959), September 1958, 1, Israel State Archive C/5551/3787.

<sup>49</sup> The Bedouin used different names for the upper, middle, and lower parts of this highlands wadi: Ramliya, Murra, and Figra.

The problem with this hypothesis is the inadequacy of the extent of both river catchments relative to Kadesh-barnea. The biblical accounts locate Kadesh-barnea in both wildernesses Paran (Num 13:3, 26) and Zin (Num 20:1; 27:14; 33:36; Deut 32:51). Aharoni logically concludes that Kadesh-barnea must lie on the border of the two wildernesses:

The fact that elsewhere the Bible describes Kadesh-barnea as being in the wilderness of Zin (Num 20:1; 27:14), is accounted for by its location on the border of both deserts and hence its possible inclusion in the territory of either.<sup>50</sup>

His solution is to identify the Wilderness of Paran with the entire Sinai Peninsula and include the Wilderness of Zin within it.

The wilderness of Zin in which Kadesh-barnea is located (Num. 20. 1; 27.14) is part of the great expanse known as the wilderness of Paran...<sup>51</sup>

This proposal creates a kind of unfalsifiable proposal where the Wilderness of Paran could represent any of the seven wildernesses of the Sinai and Negev, whereas it only features by name in the journey between Mount Sinai and Kadesh (Num 10:12; 12:16).<sup>52</sup>

The Zin and Paran river catchments should indeed adjoin in the Kadesh district so that Kadesh can be said to lie in both wildernesses, but the two catchments do not border each other at all. The Zin catchment lies to the north of the Ramon Crater, the Paran catchment to the south. The crater itself is drained by Nahal Ramon, a tributary of the Nahal Neqaroth system, which separates the Zin and Paran catchments by some 5 km (3 miles) at the southwestern end of the crater to some 25 km (15 miles) at the northeastern end (Fig. 8).<sup>53</sup> Thus the Zin and Paran catchments are well separated. However, the hydrological model of biblical regions is not limited to a rule of one-catchment-one-wilderness. Over the whole arena, some biblical regions comprise

- half-catchments, i.e. the area between a central riverbed and its outer watershed on one side (e.g. Goshen, the Argob),

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<sup>50</sup> Aharoni, "Kadesh-Barnea and Mount Sinai," 166.

<sup>51</sup> Aharoni, *Land of the Bible*, 1979, 199.

<sup>52</sup> See 5.15 Wilderness of Sinai.

<sup>53</sup> See 6.3 Paleo-Paran Basin.

- coastal catchments, i.e. the area along the coast of a primary catchment (e.g. Shur and Red Sea wildernesses),
- two or more catchments, i.e. adjoining catchments with similar topographical features (e.g. Edom, Moab, Ammon), and
- tertiary catchments, i.e. the area drained by tributaries of major rivers (e.g. Ar, Wilderness of Moab).

Thus, if biblical wildernesses may comprise two or more river catchments, Nahal Zin and Nahal Paran—both secondary catchments—may annex the neighbouring tertiary catchments westward to the Kadesh district, as explained in later sections.<sup>54</sup> Topographically, the Kadesh District lies at the western interface of the Central Negev Highlands and the Northern Sinai lowlands.

## **6.7 BORDERS: SINAI-NEGEV**

Three borders—political, biblical, and geographical—apply to the separation between the Sinai and Negev regions (Fig. 10).

### **6.7.1 POLITICAL BORDER**

The present-day Egypt–Israel border from Rapha to Taba (about 10 km south of Elath) cuts through the western edge of the Central Negev Highlands (Fig. 10). This modern border has come to define the division between Sinai (within Egypt) and the Negev (within Israel). However, it merely connects the Mediterranean Sea with the Red Sea along the line most economical in terms of length, elevation, maintenance, and surveillance:

The term Sinai at present covers the entire peninsula up to the political boundary with the Negev. This boundary was demarcated as the border between the Turkish Empire and Egypt in 1906, following an agreement between Britain and Turkey. The location of this boundary does not follow landmarks or physical geographic attributes and is, therefore, of no significance in an archaeological-

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<sup>54</sup> See 6.3 Paleo-Paran basin; 6.13 Wilderness of Zin.

historical sense. The same boundary line is used at present as the international border between Egypt and Israel.<sup>55</sup>

The present political border also excludes Kadesh-barnea from Israel even though Ayn Qudayrat lies within a western promontory of the Central Negev Highlands—Shluhat Kadesh-barnea—and lies inside the biblical border of ancient Israel (Num 34:4; Josh 15:3; 10:41; Ezek 47:19; 48:28).

## 6.7.2 BIBLICAL BORDER

The southern border of pre-monarchic Israel passed from the southwestern extremity of the Dead Sea through the Wilderness of Zin westward, linking all the water sources in the Kadesh district, and turning northward along the Arish stem (Wadi of Egypt) to the Mediterranean Sea (Fig. 10):

*Your south sector shall extend from the wilderness of Zin along the side of Edom. Your southern boundary shall begin from the end of the Dead Sea on the east; your boundary shall turn south of the ascent of Akrabbim, and cross to Zin, and its outer limit shall be south of Kadesh-barnea; then it shall go on to Hazar-addar, and cross to Azmon; the boundary shall turn from Azmon to the Wadi of Egypt, and its termination shall be at the Sea. (Num 34:3-5; cf. Josh 15:1-4; cf. Ezek 47:19; 48:28)*

Several small differences between the Numbers and Joshua border descriptions, along with an unknown location for Zin (the site not the river or wilderness), render the line somewhat uncertain. It is unclear, for example, whether the border follows the Zin riverbed or its southern watershed shared with the Neqaroth catchment. Rothenberg draws the border as far south as the northern rim of the Ramon Crater (the Zin–Neqaroth watershed), thereby including the entire upper Zin and upper Nitsana catchments within Israel.<sup>56</sup> If so, the pre-monarchic biblical border may reflect the division between the Wilderness of Zin to the north of the Ramon Crater and the Wilderness of Paran to the south.<sup>57</sup>

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<sup>55</sup> Bruins and van der Plicht, “Radiocarbon Dating the ‘Wilderness of Zin,’” 483.

<sup>56</sup> Beno Rothenberg, “Badiet El Tih, the Desert of the Wandering: Archaeology of Central Sinai,” in *Sinai: Pharaohs, Miners, Pilgrims, and Soldiers*, ed. Beno Rothenberg, trans. Ewald Osers, 1st Eng. ed. (Berne: Kümmerly & Frey, 1979), 122.

<sup>57</sup> See 6.13 Wilderness of Zin; 5.14 Wilderness of Paran.

### 6.7.3 GEOGRAPHICAL (HYDROLOGICAL) BORDER

For a few months after the 1956 Sinai Campaign, Israeli archaeologists conducted emergency surveys of the Sinai Peninsula. Driving south along Wadi Arish, Rothenberg observed the change in terrain and vegetation and confirmed that Wadi Arish was “the true frontier of Sinai.”<sup>58</sup> Over successive excursions, his initial impressions were strengthened:

But the more I continued, on subsequent visits, to study the region of Kadesh-barnea, extending to El Muweilah and westward of it, the more I became convinced that there is not only no natural boundary, but no historical boundary between the two territories either. The natural and the historical boundary between the Negev of Israel and Sinai is Wadi el Arish.<sup>59</sup>

Hence, the geographical boundary between the Sinai and Negev runs along the stem of Wadi Arish, consistent with biblical descriptions of Israel’s southern border (Num 34:5; Josh 15:4). The line may be extrapolated southward to its junction with Wadi Jurayyah and thence around the Jurayyah and Paran basins to the Gulf of Elath, thus enclosing the entire ancient Wilderness of Paran within Israeli territory.<sup>60</sup> Compared to the present international border, the hydrological border represents a more natural boundary between the Sinai and the Negev (Fig. 10).

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<sup>58</sup> Rothenberg, *God’s Wilderness*, 57.

<sup>59</sup> Rothenberg, 21 See also pp. 15, 32.

<sup>60</sup> See 6.3 Paleo-Paran Basin.

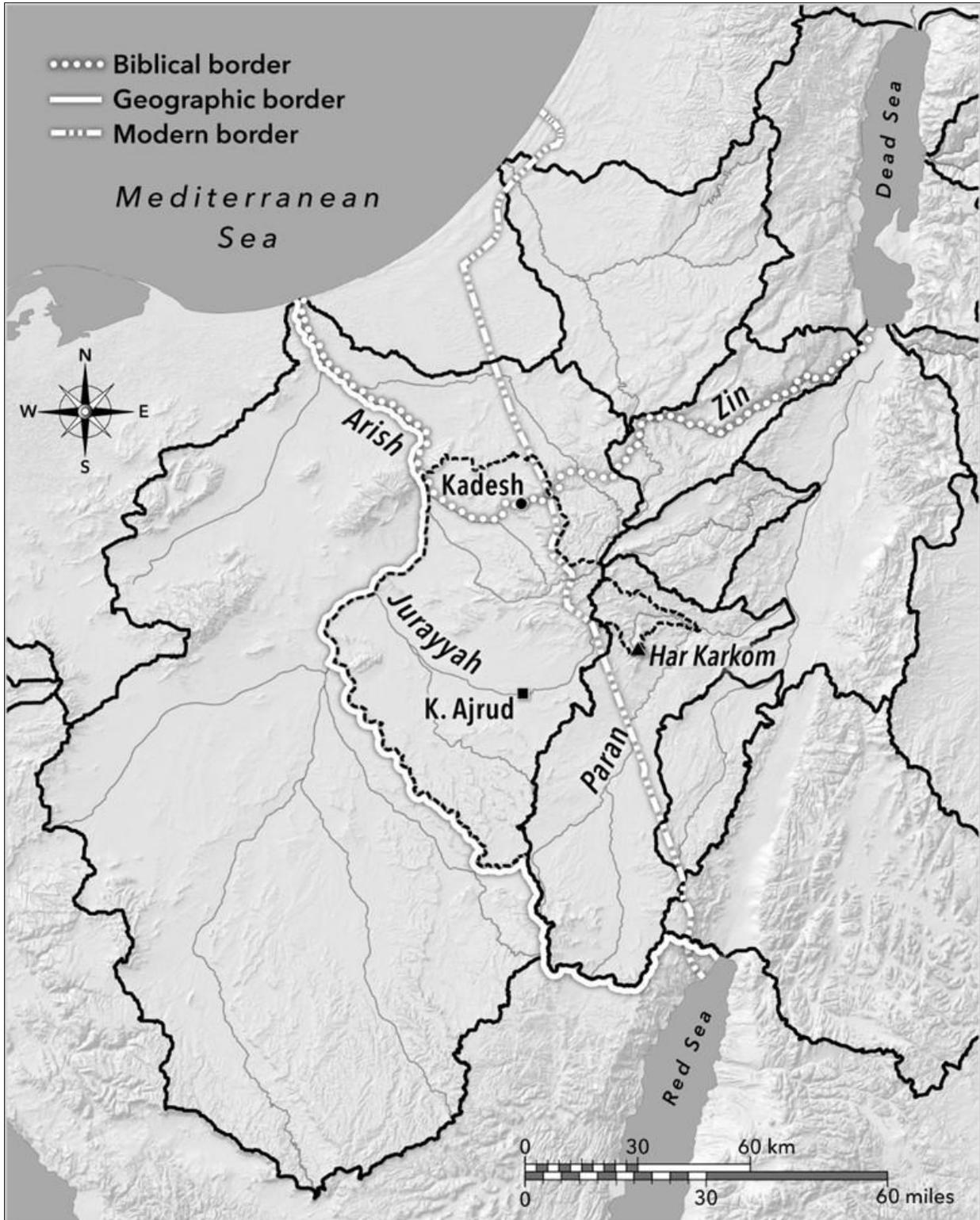


Figure 10 SINAI-NEGEV BORDERS

## 6.8 KUNTILLET AJRUD

This section outlines the evidence that a well-known Iron Age ruin in northeastern Sinai points to Har Karkom as the biblical Mount Sinai-Horeb. The Israelite nature of the remains and inscriptions found in the ruin supports the likelihood that the biblical border of Israel lay at least as far west as the Darb al-Ghazza, thus including Kadesh within the borders of the land (Num 34:5; Josh 15:4).<sup>61</sup> The location of the ruin also affirms the important role of the Darb al-Ghazza as the biblical Way of the Red Sea throughout biblical times.<sup>62</sup> The road was used by the Israelites during the Sinai-to-Kadesh journey (Num 33:36) and the Kadesh-to-Jordan journey (Num 14:25; Deut 1:40; 2:1) and, some centuries later, by Elijah on his pilgrimage to Mount Horeb-Sinai (1 King 19:1-8).

In Wadi Jurayyah (also spelled Quraiya or Geraia) on a western branch of the Darb al-Ghazza about 50 km (30 miles) south of Kadesh lies the mysterious Kuntillet Ajrud, an Iron Age II ruin yielding inscriptions mentioning Yahweh (the God of Israel), Teman, and Shomron (Samaria).<sup>63</sup> Some of the archaeological finds in the ruin reflect a strong northern influence originating in the Kingdom of Israel rather than of Judah.<sup>64</sup> As its Arabic name implies, the location of Kuntillet Ajrud (“solitary hill of wells”) was determined according to nearby water sources. The ruin is also known as Kuntillet Quraiya (various spellings) after the wadi in which it lies,<sup>65</sup> but in Arabic, Quraiya means “small building”, so the ruin probably gave its name to the great wadi (Fig. 10).<sup>66</sup> In Hebrew, the site is known as Horvat Teman for its southern location and famous inscription. Teman in the Hebrew Bible is associated with Mount Paran, another name for Mount Sinai (Hab 3:3; cf. Deut 33:2).<sup>67</sup>

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<sup>61</sup> See 6.7 Borders: Sinai-Negev.

<sup>62</sup> See 6.3 Paleo-Paran Basin.

<sup>63</sup> Ze’ev Meshel, “Kuntillet ‘Ajrud,” in *Oxford Encyclopedia of Archaeology in the Near East*, ed. Eric M. Meyers (Oxford: Oxford University, 1997).

<sup>64</sup> Ze’ev Meshel et al., *Kuntillet ‘Ajrud [Horvat Teman]: An Iron Age II Religious Site on the Judah-Sinai Border* (Jerusalem: Israel Exploration Society, 2012) Abstract.

<sup>65</sup> Anati, *Har Karkom*, 37.

<sup>66</sup> Ze’ev Meshel, *Kuntillet ‘Ajrud: A Religious Centre from the Time of the Judaean Monarchy on the Border of Sinai* (Jerusalem: The Israel Museum, 1978) n. p.

<sup>67</sup> See 5.15 Wilderness of Sinai.

Some scholars suggest that the building functioned as an Iron Age road house for pilgrims to Mount Sinai:

Perhaps a group of priests from the northern kingdom of Israel lived here to provide a way station or stopover for pilgrims going to and coming from the sacred mountains of Sinai. Phrases in the inscriptions like ‘blessed of Yahweh’ and ‘blessed be his day’ seem to echo a religious ritual. Certain architectural elements of the building, like a small narrow room with benches at the building’s entrance where many dedicatory offerings were found, are also evidence that the building had a religious function in addition to serving as an ancient version of a hotel and roadside fort.<sup>68</sup>

At this site, which was extremely isolated indeed, but nevertheless not far from the mountain of the god—wherever it may have been situated—a YHWH worshipper who normally participated in the (apparently ‘syncretistic’) Samaritan cult once passed by. Of course we can know nothing as to the purposes of his journey, but the fact that a vessel was decorated with the name of God prompts certain suspicions. It is entirely possible, although, of course, not susceptible of proof, that we here have evidence of a North Israelite worshipper of YHWH who was following the same route as Elijah on the way to encounter his God.<sup>69</sup>

Kuntillet Ajrud is strategically located near a busy cross-section of several ancient roads that traversed the southern desert: “the Darb el-Ghazza from Gaza and the southern Mediterranean coast southwards to Eilat; the east–west route following Wadi Quraiya; and a branch route south to Themed and southern Sinai.”<sup>70</sup> The Darb al-Ghazza, which circumvents the mountainous region of the Central Negev with the Ramon Crater at its heart, would have been a natural choice for pilgrims from the north (Fig. 8).<sup>71</sup> According to the biblical account,

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<sup>68</sup> Beit-Arieh, “Fifteen Years in Sinai,” 53–54.

<sup>69</sup> Lars Eric Axelsson, *The Lord Rose up from Seir: Studies in the History and Traditions of the Negev and Southern Judah*, trans. Frederick H. Cryer, Coniectanea Biblica: Old Testament Series 25 (Stockholm: Almqvist & Wiksell International, 1987), 63–64.

<sup>70</sup> Judith M. Hadley, *The Cult of Asherah in Ancient Israel and Judah: Evidence for a Hebrew Goddess* (New York, NY: Cambridge University, 2000), 106.

<sup>71</sup> Tali Erickson-Gini, “Mt. Karkom the Mountain of God? – Challenging the Southern Mount Sinai Hypothesis and the Identification and Dating of the Remains of the Israelite Sojourn,” in *Lexham Geographic Commentary on the Pentateuch*, ed. Barry J. Beitzel (Bellingham, WA: Lexham, (prepub)) (pre-publication).

Elijah passed through Beersheba, a station on the ancient Way of Shur which intersects with the Darb al-Ghazza in the Kadesh district.<sup>72</sup>

Har Karkom lies one (long) day's journey (33 linear km, 20 miles) ENE of Kuntillet Ajrud, the path between them terminating in the western valley beside the mountain where Anati has surveyed many dwelling and cultic remains.<sup>73</sup> By contrast, Jebel Musa in the Southern Sinai Peninsula lies some 190 linear km (118 miles) distant from Kuntillet Ajrud. Anati appears not to have noticed the significance of Kuntillet Ajrud's proximity to Har Karkom although he documents the existence of an ancient trail between them through Wadi Jurayyah.<sup>74</sup>

The path from Kuntillet Ajrud to Har Karkom lies almost entirely in Wadi Jurrayah except for the last 6 km (4 miles) across the upper reaches of Nahal Saggi by an ancient trail, now a jeep track (Fig. 11). Ground water is available in the Jurayyah wadi-bed, which is now terraced for agriculture throughout its length. Seasonal surface-water is available at Thamilat Quraiya, about 5 km (3.5 miles) east of Kuntillet Ajrud.<sup>75</sup> The Iron Age priests in residence at Kuntillet Ajrud could have directed the Samaritan pilgrims thus: "Stay in the white wadi [Quraya] and follow it east-northeast to the far side of the great chalk valley. Take the path eastward across the next wadi [Saggi] to the campground at the foot of Mount Sinai [the Karkom plateau]. The mountain has a sphinx-face. You can't miss it!"

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<sup>72</sup> Woolley and Lawrence, *Wilderness of Zin*, 1914–1915:58.

<sup>73</sup> "Har Karkom: Archaeological Discoveries in a Holy Mountain in the Desert of Exodus," in *Israel's Exodus in Transdisciplinary Perspective: Text, Archaeology, Culture, and Geoscience*, ed. Thomas E. Levy, Thomas Schneider, and William H. C. Propp, Quantitative Methods in the Humanities and Social Sciences (Cham: Springer International, 2015), 450.

<sup>74</sup> Anati calls the site "Kuntillat Quraya". *Har Karkom*, 1986, 37.

<sup>75</sup> Anati, *Har Karkom*, 37.

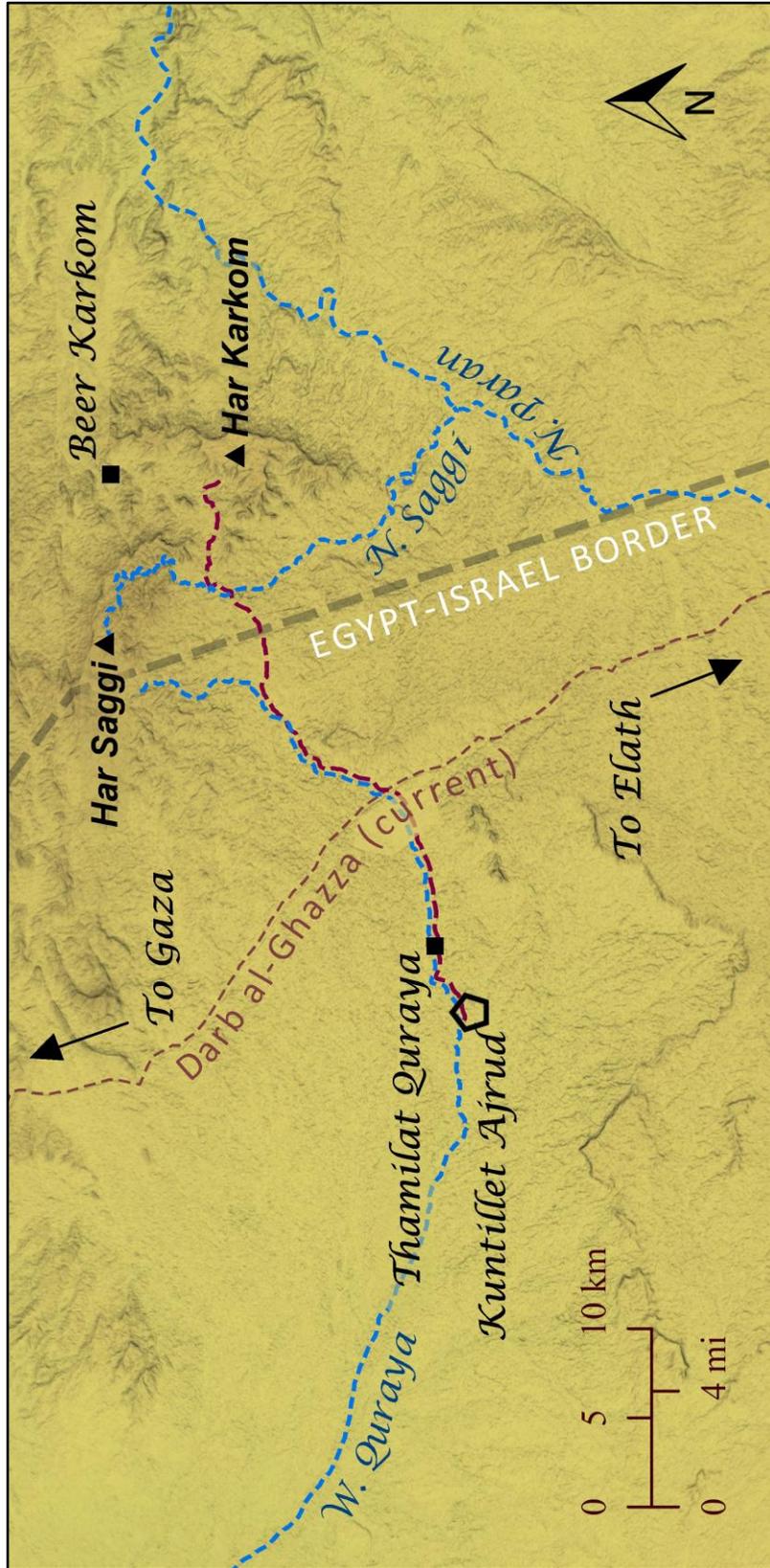


Figure 11 KUNTILLET AJRUD TO HAR KARKOM

## 6.9 THE HILL COUNTRY: GEOZONE

The first geozones mentioned in the wilderness narrative are the Negeb and the Hill Country of the Amorites (Num 13:17, 29), the latter also mentioned in association with Israel's departure from Mount Sinai and arrival at Kadesh-barnea (Deut 1:7, 19-20).<sup>76</sup> The Hill Country of the Amorites הַר הַאֲמֹרִית *har ha-emori*, often simply called “the mountain” הַר הָהָר *ha-har* (e.g. Num 14:45; Deut 1:24), is the premier geozone of the Southern Levant (Fig. 2). This 400 km- (250 miles-)long mountain-range defines the Promised Land from Har Hermon in the north to Har Karkom in the south.<sup>77</sup>

This range of hard limestone hills constitutes the central ‘backbone’ of Israel. Its elevation varies: the highest points are 3963 ft (1208 m) at Meron in Galilee, 3333 ft (1016 m) at Baal-Hazor in Samaria, 3369 ft (1027 m) at Hebron in Judah, and 3379 ft (1030 m) at Rosh Ramon in the Negeb. The rainfall at such heights is plentiful, and the water-holding capacity of the hard limestone hills provides many useful springs.<sup>78</sup>

It was upwarping which produced the most important topographic feature—the great central backbone of highlands extending from north to south of the country—but the shape of these has been controlled by faulting.<sup>79</sup>

The Hill Country geozone is divided into its northern and southern parts by the intervening geozone of the Negeb comprising the Beersheba and Arad basins, both drained westward by Nahal Beersheba as the main tributary of Nahal Besor which enters the Mediterranean Sea near Gaza. Accordingly, the southern part of the Cisjordan range features as a region in the narrative of the wanderings (Num 13:29; Deut 1:44) and the northern part in the narrative of the conquest (Josh 10:6; 11:3). The exploration of the spies is likely to have followed the watershed of the northern part of the range from Hebron in the south to the northernmost extent of the Lebanon (Num 13:21-22). In contrast with the Transjordan mountain range which is cleft by the great rivers (listed from south to north) Zered, Arnon, Jabbok, and

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<sup>76</sup> See 2.4 Geozones: Sinai-Negev and Transjordan.

<sup>77</sup> Menashe Har-El, *Understanding the Geography of the Bible: An Introductory Atlas*, ed. Paul H. Wright (Jerusalem: Carta, 2015), 19.

<sup>78</sup> Har-El, 22.

<sup>79</sup> Baly, *Geography*, 1974, 34.

Yarmuk, the Cisjordan mountain range stretches between the Negeb and the Galilee (from the Beersheba Valley to the Jezreel Valley) without major interruptions (Fig. 12).

The northern part of the Cisjordan range, later renamed *הַר יִשְׂרָאֵל har yisrael* the Hill Country of Israel (Josh 11:16, 21; Ezek 6:2) is subdivided into three sections according to the names of its tribal inhabitants (Josh 20:7), from north to south:

1. Hill country of Naphtali *הַר נַפְתָּלִי har naftali*, also known as the Galilee (Josh 20:7; 2 King 1:29; Isa 9:1-2),
2. Hill country of Ephraim *הַר אֶפְרַיִם har efrayim*, (Josh 20:7; 2 Chron 19:4; Jer 31:6; 50:19; Josh 21:21), later also called *הַרֵי שֹׁמְרוֹן harey shomron* “the mountains of Samaria” (Jer 31:5; Amos 3:9;<sup>80</sup> 4:1; 6:1), and
3. Hill country of Judah *הַר יְהוּדָה har yehudah* (Josh 20:7; 21:11; 2 Chron 21:11).<sup>81</sup>

The southern part of the Cisjordan range, the Negev highlands,<sup>82</sup> may be subdivided into northern and southern halves by the Ramon Crater as the primary east-west watershed. The Wilderness of Zin lies to the north of the crater, the Wilderness of Paran to the south, and both extend to the Kadesh district in the west.<sup>83</sup>

With the Numbers narrative taking up the story, after nearly a year’s encampment at Mount Sinai-Horeb (Exod 19:1; Num 10:11), Israel headed north to invade Canaan by the Way of the Hill Country of the Amorites (Deut 1:19). The consistent use in the wilderness narratives of *דֶּרֶךְ derekh* followed by a regional name identifies *הַר הָאֱמֹרִי derekh har ha-emori* as a road-name not a prepositional phrase.<sup>84</sup> Upon arrival at the intervening destination of Kadesh-barnea, Moses announced that they had reached the Hill Country of the Amorites:

*Then, just as the LORD our God had ordered us, we set out from Horeb and went through all that great and terrible wilderness that you saw, on the way to*

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<sup>80</sup> These are the only plural incidences for Samaria, *הַרִים harim*, indicating the peaks rather than the massif.

<sup>81</sup> This also is the only plural incidence for Judah.

<sup>82</sup> Yohanan Aharoni, *The Land of the Bible: A Historical Geography*, trans. Anson F. Rainey (London: Burns & Oates, 1967), 27, 31.

<sup>83</sup> See 6.6 Kadesh in Paran and Zin; 6.13 Wilderness of Zin; 5.14 Wilderness of Paran.

<sup>84</sup> See 2.3 Ancient Roads.

*the hill country of the Amorites, until we reached Kadesh-barnea. I said to you, 'You have reached the hill country of the Amorites, which the LORD our God is giving us.'* (Deut 1:19-20)

This detail confirms that the Central Negev Highlands were also known as the Hill Country of the Amorites even though no Amorites lived so far south and west:

*The border of the Amorites ran from the ascent of Akrabbim, from Sela and upward.* (Judg 1:36)

Kadesh lies at the western foot of the Central Negev Highlands within a spur called Sheluhath Kadesh Barnea שלוחת קדש ברנע (Fig. 8).

The stories of the spies' expedition and Israel's failed invasion of Canaan are rich with regional information. From Kadesh at the interface of the Wilderness of Paran (in the Kadesh District) with the Hill Country of the Amorites, Moses sent twelve spies across the Wilderness of Zin (upper Nitsana and upper Zin catchments)<sup>85</sup> and the Negeb (upper Besor catchment) in a NNE direction to reach the northern part of the Hill Country of the Amorites (Num 13:17, 21-22; cf. Deut 1:22-25). The spies had already travelled with Israel through the southern Hill Country from Mount Sinai-Horeb to Kadesh (Deut 1:6-7, 19-20). Now they travelled the length of the northern Hill Country from Hebron in the south to Lebo-hamath in the far north at the head of the Orontes River that flows northward from between the Lebanon and Antilebanon ranges (Num 13:21-22; cf. Josh 11:21). At this stage the Lebanon seems to be included in the potential extent of Israelite conquest (cf. Deut 1:7).

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<sup>85</sup> See 6.13 Wilderness of Zin.

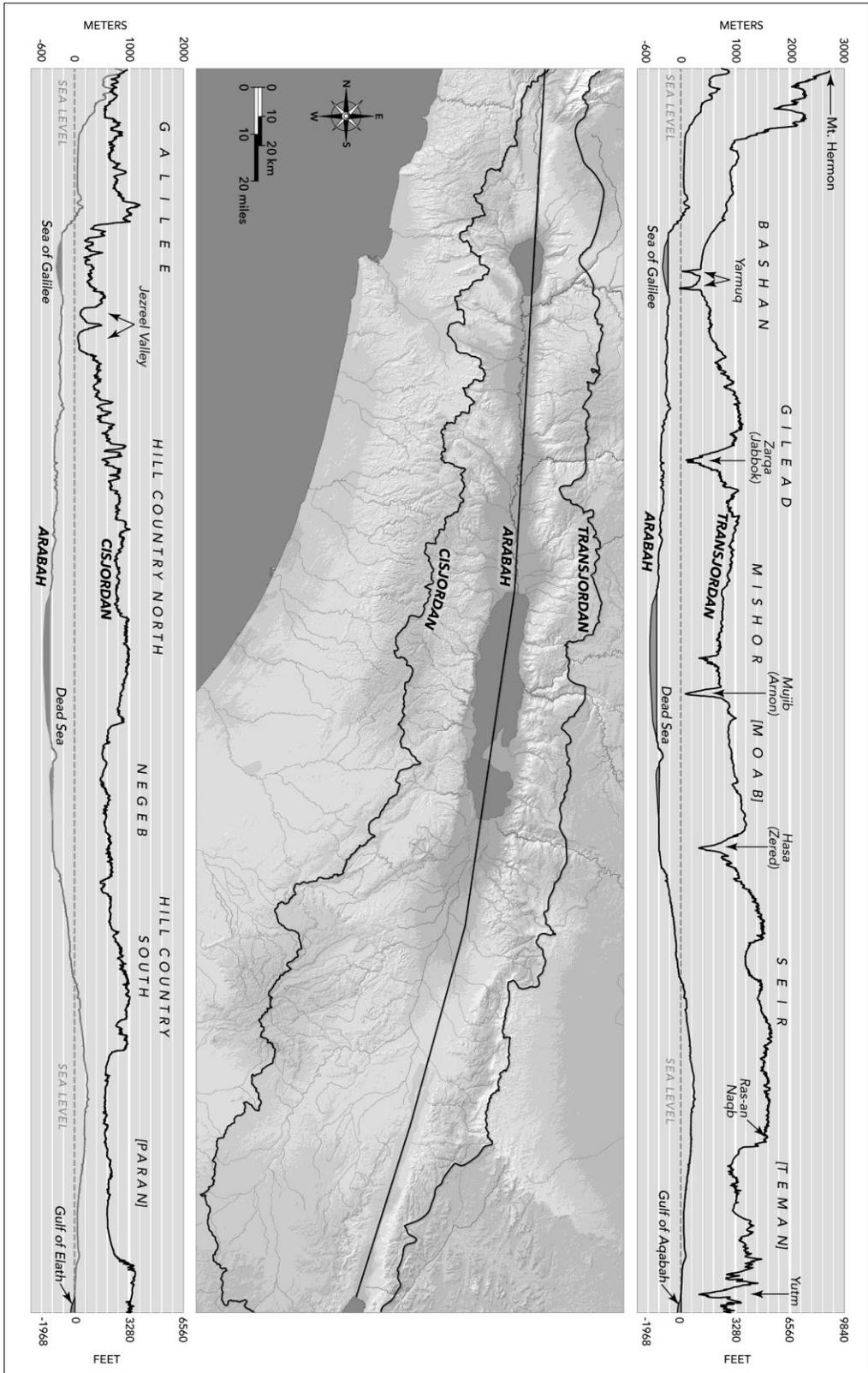


Figure 12 PROFILES: CISJORDAN, ARABAH, TRANSJORDAN

## 6.10 THE NEGEB: GEOZONE

The Negeb נֶגֶב *ha-negev* lies to the north of the Wilderness of Zin between Kadesh and Canaan (Fig. 2). The Israelite spies crossed the Negeb in the second year to survey Canaan (Num 13:17, 21-22), and the Israelite army entered the Negeb in the fortieth year to destroy Arad and its villages (Num 21:1-3). Both Cohen and Hopkins denote the Negeb with the phrase “the Beersheba and Arad basins”<sup>86</sup> which depressions lie side by side in Southern Canaan, all but severing the Hill Country into its northern and southern parts.<sup>87</sup>

The northern border of the Northern Negev Hills is formed by the intermontane basins of Beersheba and Arad which are separated by the Ira spur that ranges northward into the eastern fold of the Hebron mountains.<sup>88</sup>

The Arad and Beersheba basins are quite distinct albeit neighbouring areas. The Arad basin is related to the Hill Country both north and south and to the Arabah in the east, whereas the Beersheba basin is related to the Shephelah to the north and the coastal plain of Philistia in the west. Thus, Judah’s conquest of Hebron and Debir (Judg 1:10-11), the Kenites’ settlement of the district of Arad (v. 16), and Judah’s and Simeon’s joint conquest of Zephath near Philistia (vv. 17-18; cf. Josh 19:4) may be differentiated by their locations “in the hill country, in the Negeb, and in the lowland” respectively (v. 9).

The biblical Negeb is a marginal, transitional zone between the watered Hill Country to the north and the semi-arid Hill Country to the south. The Beersheba basin, coinciding today with the 200 mm (8 in) isohyet (rainfall line), marks the southernmost viability of dry farming subsistence.<sup>89</sup> The geographical term “Negeb” is applied today to a much broader area than in ancient times:

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<sup>86</sup> Rudolph Cohen, “Negev,” in *Oxford Encyclopedia of Archaeology in the Near East*, ed. Eric M. Meyers (Oxford: Oxford University, 1997), 120.

<sup>87</sup> See 6.9 The Hill Country: Geozone.

<sup>88</sup> David C. Hopkins, *The Highlands of Canaan*, The Social World of Biblical Antiquity Series 3 (Decatur, GA: Almond, 1985), 56–57.

<sup>89</sup> Steve A. Rosen, “The Desert and the Pastoralist: An Archaeological Perspective on Human-Landscape Interaction in the Negev over the Millennia,” *Annals of Arid Zone* 50, no. 3 & 4 (2011): 4.

The term [Negeb] is now applied to the entire triangle from Beer-sheba down to Elath. But in biblical times it was not so. Numbers 13 and 14 make it clear that the Israelites and their spies at Kadesh-barnea went up to the Negeb. Kadesh-barnea was *not* in the Negeb, it was in the Wilderness of Zin (or of Paran).<sup>90</sup>

The term Negeb applied only to the Beer-sheba Valley and the drainage basin of the Besor stream.<sup>91</sup>

Finkelstein helpfully suggests using the term “Negeb” for the biblical region, and “Negev” for the entire southern region of modern Israel.<sup>92</sup> The modern Negev in its three parts broadly corresponds to the biblical regions and river catchments thus:

1. Northern Negev: biblical Negeb (Besor)
2. Central Negev: Wilderness of Zin (Zin and upper Nitsana)
3. Southern Negev: Wilderness of Paran (Neqaroth, Paran, Hayun, Jurayyah)

The simplest way to comprehend the biblical Negeb is in depiction as the entire drainage system of Nahal Besor (Fig. 5). Thus, the Negeb geozone is reckoned both morphologically and hydrologically.<sup>93</sup> Despite its status as a hydrological unit, however, it does not form a separate national territory, initially part of Canaan and then the allocation of the Israelite tribe of Judah.

After the return of the spies with their report regarding Canaan’s defences (Num 13:31-33; Deut 1:26-28), Israel rebelled against Moses’ leadership and proposed returning to Egypt (Num 14:1-4). Moses delivered God’s judgement, sentencing the people to forty years in the wilderness until the adult generation had died out (vv. 20-23, 28-35). The Israelite men then decided to invade Canaan without Moses’ approval (vv. 49, 44), and were defeated by an alliance of Canaanites, Amorites, and Amalekites (vv. 44, 45, cf. Deut 1:44).

*They... went up to the heights of the hill country, saying, “Here we are. We will go up to the place that the LORD has promised.... But they presumed to go up to the heights of the hill country.... Then the Amalekites and the Canaanites who*

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<sup>90</sup> Rainey and Notley, *The Sacred Bridge*, 10.

<sup>91</sup> Rainey and Notley, 10.

<sup>92</sup> Israel Finkelstein, *Living on the Fringe: The Archaeology and History of the Negev, Sinai and Neighbouring Regions in the Bronze and Iron Ages*, vol. 6, Monographs in Mediterranean Archaeology (Sheffield, UK: Sheffield Academic, 1995), xii n. 3.

<sup>93</sup> See 9.3 Hydrology and Topography: Conclusions.

*lived in that hill country came down and defeated them, pursuing them as far as Hormah. (Num 14:40-45)*

*So all of you... thought it easy to go up into the hill country.... [You] presumptuously went up into the hill country. The Amorites who lived in that hill country then came out against you and chased you as bees do. They beat you down in Seir as far as Hormah. (Deut 1:42-44)*

The above accounts of their ill-fated military campaign mention two geozones, Seir and the Hill Country, the latter appearing six times. Two iterations of the unusual term אֶל־רֹאשׁ הַהָרָה *el-rosh ha-har* “to the heights of the hill country” (cf. Exod 19:20) and the omission of any mention of the Negeb suggest that Israel’s campaign route into Southern Canaan lay through the highlands alone. Unlike the spies, the rebel army did not cross the Beersheba and Arad basins to the north but rather attempted to bypass the Negeb on the east side by the narrow strip of mountains (less than 10 km wide) that connects the northern and southern parts of the Hill Country.<sup>94</sup> The details of their defeat confirm the location of Western Seir in the highlands of the eastern Negev near the Arabah.<sup>95</sup>

## 6.11 LAND OF CANAAN

The Land of Canaan אֶרֶץ כְּנָעַן *erets kenaan* was the ultimate destination of Israel’s exodus from Egypt (e.g. Exod 6:4; Lev 25:38). Except for the twelve spies who traversed the length of the Central Hill Country from Hebron to the Lebanon in the second year after the exodus (Num 13:2, 17-21),<sup>96</sup> and the army which briefly entered the Negeb to defeat the king of Arad in the fortieth year (Num 21:1-3; cf. 33:40),<sup>97</sup> the Israelite nation did not pass through any part of Canaan until the forty years were past (Exod 16:35; Num 14:30; 20:24; Deut 32:52). Some may challenge this conclusion on the basis that Kadesh lay within the Hill Country of the Amorites (Deut 1:19-20), and on the assumption that the southern border of Canaan and of Israel followed the same geographic line. The southern border of Judah (the southernmost tribal

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<sup>94</sup> See 6.9 The Hill Country: Geozone.

<sup>95</sup> See 6.12 Mount Seir (West): Geozone.

<sup>96</sup> See 6.9 The Hill Country: Geozone.

<sup>97</sup> See 6.10 The Negeb: Geozone.

allocation of Israel) ran to the south of Kadesh-barnea, thereby incorporating the Kadesh district into Israelite territory (Num 34:4; Josh 15:3). As the Israelites were based at Kadesh for most of their forty years in the wilderness, so the argument goes, they were within Canaan's borders during the wanderings era.

The borders of Israel, however, are not necessarily identical to the borders of Canaan. Although the Canaanite nations between them occupied much the same land area as Israel later incorporated into its kingdom, they were not organised on the same territorial principle. According to the biblical accounts, the Land of Canaan differed from other national territories of the biblical narratives, in that it was a region occupied by many ethnic groups ("nations"):

*When the LORD your God brings you into the land that you are about to enter and occupy, and he clears away many nations before you—the Hittites, the Girgashites, the Amorites, the Canaanites, the Perizzites, the Hivites, and the Jebusites, seven nations mightier and more numerous than you... (Deut 7:1).*

Thus, unlike the nations of Edom, Moab, and Ammon in the Transjordan, Canaan was not a single nation-state and did not operate as such in the matter of national borders.

Each major fortified town *עיר* *ir* of Joshua's conquest was a city-state with a king (Josh 12:9-24), surrounded by agricultural villages (*בַּת* *bat* "daughter" e.g. Josh 17:11) or, in the south, pastoral camps (*חֲצֵר* *hatser* "corral" e.g. Josh 15:32, 36).<sup>98</sup> From the account of the conquest, it seems there was no centralised Canaanite authority; kings operated alone (e.g. Num 21:1) or in military alliances with other kings (e.g. Josh 9:1-2; 10:3-5; 11:1-5). In Southern Canaan, the Canaanites and Amorites (agriculturalists) of the Hill Country and the plains were in alliance with the Amalekites (pastoralists) of the Negeb and southern wildernesses (Num 13:29; 14:39-45; cp. Deut 1:44). Thus, Amalekites not Amorites were the historical occupiers of Kadesh-barnea (Gen 14:7), and patrolled the Central Sinai and Negev when the Israelites arrived in the region (Exod 17:8; Deut 25:17-18).

Regarding the borders of Canaan, there is another distinction to be made between geopolitical regions (wildernesses and national territories) and geomorphic regions (geozones).<sup>99</sup> According to the hydrological model of this investigation, wildernesses and national territories

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<sup>98</sup> Aharoni, *Land of the Bible*, 1979, 105.

<sup>99</sup> See Chapter 2: Toponymy of the Biblical Regions.

are based on water catchments and delineated by riverbeds and watersheds; geozones, however, are more loosely identified by location and relative elevation.<sup>100</sup> The Land of Canaan, as a conglomerate of national territories, is not contained within a single secondary water catchment. It spans several geozones between the Mediterranean Sea and the Rift Valley (Fig. 2), chief among them the Hill Country of the Amorites, later to be known as the Mountains of Israel.<sup>101</sup> Nonetheless, it seems likely that Canaan's ethnic regions (and Israel's later tribal allocations) in the Cisjordan had some hydrological basis and were thus related to river catchments, albeit at tertiary or quaternary levels, but this hypothesis awaits testing and development at a later time.<sup>102</sup>

## 6.12 MOUNT SEIR (WEST): GEOZONE

In the wilderness narratives, *הַר שֵׁעִיר* *har seir* Mount Seir is one of three geozones mentioned in relation to expeditions out of Kadesh (Deut 1:2, 44; 2:1),<sup>103</sup> the others being the Negeb (Num 13:22) and the Hill Country (Num 14:44).<sup>104</sup> After the debacle of the spying expedition in the second year after the exodus, the Israelite men attempted an unauthorised invasion of Southern Canaan from their base at Kadesh (Num 14:39-43). The Amorites and Canaanites of the Hill Country along with the Amalekites of the Negeb came out against the would-be invaders “like bees”, pursuing and striking them “in Seir as far as Hormah” (Deut 1:44; Num 14:44-45). Hormah appears again in the fortieth year as the site of Israel's victory over the Canaanite king of Arad who came out to attack Israel after Aaron's death at Mount Hor “on the edge of Edom” (Num 21:1-3; 33:37-40). These data together indicate that Seir lies in the highlands south of the biblical Negeb, an area sometimes associated with Edom (Num 20:16):<sup>105</sup>

Edom is best known as the southernmost of the Transjordanian kingdoms, but its territory also extended west of the Aravah into the highlands of the eastern Negev, south of the promised land. Seir usually refers to this part of Edom,

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<sup>100</sup> See 2.4 Geozones: Sinai-Negev and Transjordan.

<sup>101</sup> See 6.9 The Hill Country: Geozone.

<sup>102</sup> See 9.6 Recommendations.

<sup>103</sup> See 2.4 Geozones: Sinai-Negev and Transjordan.

<sup>104</sup> See 6.9 The Hill Country: Geozone; 6.10 The Negeb: Geozone.

<sup>105</sup> See 7.11 Land of Edom.

which extended northward from just east of Kadesh-barnea to Hormah, near Arad (Num 20:16; Deut 1:44).<sup>106</sup>

Other biblical indications of Seir's location are as follows:

- The eleven-day route-sketch in the introduction to Deuteronomy associates Kadesh with the Way of Mount Seir (Deut 1:1-2).<sup>107</sup>
- In the third stage of the wilderness itinerary (Kadesh-to-Jordan),<sup>108</sup> both Mount Sinai and Mount Hor are associated with the regions of Seir and Edom (Deut 33:2; Num 20:22-23; Judg 5:4-5).
- The southern extent of Joshua's conquest of Canaan is marked by "Mount Halak, which rises toward Seir" (Josh 11:17; 12:7), with the official border running "along the side of Edom" (Num 34:3) or "southward to the boundary of Edom, to the wilderness of Zin at the farthest south" (Josh 15:1).
- During King Hezekiah's reign, some Simeonites went to Mount Seir, destroyed the remnant of the Amalekites who had escaped David's vengeance, and settled there (1 Chr 4:42-43; cf. 1 Sam 30:17).

These data together confirm a region called Seir to the south of the Negeb despite many texts that locate Seir in the Southern Transjordan (e.g. Gen 14:5-7; Deut 2:12). The conclusion must be that Seir comprises the mountainous regions on both sides of the Aravah—the Edomite highlands to the east and the Negev highlands to the west (Fig. 2).<sup>109</sup>

Some biblical stories name Edom and Seir in parallel (Jacob, Gen 32:3, 33:14; Balaam, Num 24:18; Deborah, Judg 5:4), thus creating confusion regarding their geographical relationship. Bartlett suggests a shift in name over time:

Such parallelism does not necessarily indicate identity.... That Seir was felt to be distinct from Edom, but came to be more or less identified with Edom, is

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<sup>106</sup> Tigay, *Deuteronomy*, 421.

<sup>107</sup> See 6.5 "Eleven days from Horeb".

<sup>108</sup> See 4.1.3 Regions: Kadesh to Jordan.

<sup>109</sup> MacDonald, *East of the Jordan*, 185.

suggested by the way the two names are related in a number of passages.... Thus Seir was not originally identical with Edom.<sup>110</sup>

A better explanation arises from a careful investigation of the different types of biblical regions. According to their toponymical categories, (Mount) Seir is a geomorphic region whereas Edom is a geopolitical region. By this understanding, Seir's extent is fixed while Edom's extent may vary throughout the historical period. Bartlett observes: "The history of Edom shows a steady tendency to infiltrate into the land west of the Arabah."<sup>111</sup> Edelman notes that the Negev may well have been "essentially unincorporated territory open to any group interested in it."<sup>112</sup> Bienkowski insists that the Arabah Valley was not a barrier, either physical or political, to Edomite movement.<sup>113</sup>

In the accounts of the early wanderings period, Western Seir is not associated with Edom. During the Sinai-to-Kadesh journey of the second year after exodus, Israel passed through stations in the Arabah without mention of Edomite presence (Num 33:33-35). For the rest of the wanderings period, Israel was based at Kadesh in the Wilderness of Zin, apparently without concern for Edomite priority in the region (Num 33:36; cf. 20:1; Deut 1:46). In the fortieth year, however, Moses petitioned the king of Edom for passage through the Central Negev to the King's Highway in the Transjordan, describing Kadesh as "a town on the edge of your territory" (Num 20:16). When the king denied access and the Edomite army came out to bar their way, the Israelites "turned away from them" (Num 20:20-21), took the Way of the Red Sea (Num 14:25; 21:4; Deut 1:40), and "skirted mount Seir for many days" (Deut 2:1-3; or "went around the land of Edom", Judg 11:18). This time, upon arriving in the Arabah (Deut 10:7), Moses had to caution the Israelites against provoking the "descendants of Esau" (Deut 2:2-8; "Esau is Edom.")

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<sup>110</sup> John R. Bartlett, "The Land of Seir and the Brotherhood of Edom," *Journal of Theological Studies* 20, no. 1 (1969): 42-43.

<sup>111</sup> Bartlett, 15.

<sup>112</sup> Diana V. Edelman, "Edom, a Historical Geography," in *You Shall Not Abhor an Edomite for He Is Your Brother: Edom and Seir in History and Tradition*, ed. D. V. Edelman (Atlanta, GA: Scholars, 1995), 6.

<sup>113</sup> Piotr Bienkowski, "The Wadi Arabah: Meanings in a Contested Landscape," in *Crossing the Rift: Resources, Routes, Settlement Patterns, and Interactions in the Wadi Arabah*, ed. Piotr Bienkowski and Katharina Galor, Levant Supplementary Series 3 (Oxford: Oxbow, 2006), 22.

Gen 36:8). By the end of the wanderings era, therefore, it seems Edomite hegemony had expanded across the Arabah into the Negev highlands (Western Seir).

### 6.13 WILDERNESS OF ZIN

The Wilderness of Zin מִדְבַּר צֵן *midbar tsin* involves the catchment of Nahal Zin, a region that later forms part of the southernmost territory of the kingdom of Israel (Num 34:3-5; Josh 15:2-4).<sup>114</sup> The biblical narratives commonly locate Kadesh in the Wilderness of Zin (Num 20:1; 27:14; Deut 32:51) and geographers identify Kadesh at Ayn Qudayrat in the Arish catchment.<sup>115</sup> Thus, there is a shortfall in the extent of the Zin catchment relative to Kadesh, as Monson also observes:

Since the term ‘Wilderness of Zin’ appears in the Bible, one may wonder why Nahal Zin appears on our modern maps. We have seen that watersheds (divisions between drainage systems) take on great importance in defining geographical areas. The Bible indicates that the area called Nahal Zin on our map and its greater catchment area lies beyond [south of] the Scorpions’/Aqrabbim Ascent and Mt. Halak, the southernmost limit of the territory of the tribe of Judah, on the edge of Edom. Geographical indicators of the ‘Wilderness of Zin’ in the Bible, however, state that it extended westward to Kadesh. To understand what the Bible meant by the ‘Wilderness of Zin’ we must therefore add the upper catchment areas of the Besor and Nessana systems to our greater Nahal Zin.<sup>116</sup>

Monson’s deduction that the Wilderness of Zin includes other highland river systems westward to the Kadesh district is logical. It is not necessary, however, to incorporate the upper Besor catchment into the Wilderness of Zin because it does not lie between the Zin catchment and Wadi Arish. The upper Nitsana catchment, however, lies directly between the Zin catchment and Wadi Arish and must be included in the Wilderness of Zin (Fig. 8).

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<sup>114</sup> See 6.7 Borders: Sinai-Negev.

<sup>115</sup> See 6.2 Kadesh District.

<sup>116</sup> James M. Monson and Steven P. Lancaster, *Geobasics Study Guide: Map Studies in the Geography of the Land of the Bible: Part Three—Southern Arena*, Version 4.3, Geobasics Study Guide: Map Studies in the Geography of the Land of the Bible (Rockford, IL: Biblical Backgrounds, Inc., 2011), 174.

For the Wilderness of Zin to extend westward to the Arish stem, it must include the catchments of Nahal Zin and Nahal Nitsana. Thus, the third named tertiary catchment in the Sinai-Negev is that of Nahal Nitsana, a northeastern tributary of the Arish river system (Fig. 9).<sup>117</sup> As Rothenberg, Aharoni, and other emergency surveyors found when they first visited the Sinai in 1956-57, the upper Nitsana catchment is rich with archaeological remains:

The whole of this area is geographically and geologically and, particularly, archaeologically homogenous: everywhere are the same early settlements [Bronze Age], the same fortifications [Iron Age]... the same water-holes and ancient terraces designed to retain the soil and drain off the rainwater [Nabataean, Roman, Byzantine]. Moreover, even before the dawn of history man had dwelt here. On many of the hill-tops in the region Palaeolithic.... [and] fine late-Neolithic... flint implements have been discovered.... The discovery of these remains in the arid region of the Negev wadis had come as a major surprise to all of us, as did the subsequent filling-in on the map, in the course of a few years' surveying, of numerous historic settlements whose existence had never previously been suspected.<sup>118</sup>

Cohen and Dever describe the elevation and climate of the Nahal Nitsana system thus:

The western portion [of the Central Negev] is a western extension of the "Wilderness of Zin" east of Sde Boqer. While the peaks [around the Ramon Crater] attain heights of over 1,000 m, the gentler northwest flanks, sloping down to Nahal Lavan and Nahal Nissana, average only 400-700 m.... Although there are no perennial water sources, this area receives some 100 mm of rainfall per year, mostly in occasional winter storms, as well as relatively heavy summer dew from the Mediterranean.<sup>119</sup>

The upper Nitsana catchment is sometimes called the Central Negev Lowlands,<sup>120</sup> but relative to the Kadesh district (300-400 m) and the Jurrayah basin (200-300 m) it is still an elevated region.

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<sup>117</sup> See 6.4 Tertiary Catchments: Sinai-Negev; 5.15 Wilderness of Sinai; 6.3 Paleo-Paran Basin.

<sup>118</sup> Rothenberg, *God's Wilderness*, 19.

<sup>119</sup> Rudolph Cohen and William G. Dever, "Preliminary Report of the Pilot Season of the 'Central Negev Highlands Project,'" *Bulletin of the American Schools of Oriental Research* 232 (Autumn 1978): 31-32.

<sup>120</sup> Mordechai Haiman, "Early Bronze Age IV Settlement Pattern of the Negev and Sinai Deserts: View from Small Marginal Temporary Sites," *Bulletin of the American Schools of Oriental Research* 303 (August 1996): 10.

The Zin catchment is relatively poor in agricultural land in comparison with the Nitsana catchment on the western flank of the Central Negev Highlands,<sup>121</sup> but it is suitable for pastoral activity and the Zin riverbed is vital for travel. Woolley and Lawrence report that all ancient cultivation (“dry-farming”) ceases south of the plain of Ayn Qadays in the Kadash district.<sup>122</sup> In other words, the Wilderness of Zin to the east/northeast of Kadash is marginally cultivable, the Wilderness of Paran to the south/southeast of Kadash is not. Magness describes a division along the same latitude between settled remains and nomadic remains to the north and south of the crater:

The Ramon Crater marks the transition from the Central Negev highlands to the southern Negev, and the boundary between the steppe and the true desert.... The fact that all of the [Roman, Byzantine, and early Islamic] farmsteads, cisterns, and threshing floors are in the north of the map area, and most of the camps are in its south suggests that the crater was a geographical-climatic border between the fertile lands and the arid desert.<sup>123</sup>

The Nitsana and Zin river systems both originate along the northern rim of the Ramon Crater—the Nitsana stem and its main tributaries (Nahal Eloth and Nahal Aqrav) near the southwest tip of the crater, and the Zin’s main tributary (Nahal Avdat) some 13 km along the rim eastward.<sup>124</sup> The two catchments lie adjacent, Nitsana draining overall northwest to join the Arish system on its way to the Mediterranean Sea, and Zin draining overall northeast to join Wadi Arabah just before it enters the south basin of the Dead Sea. Nahal Lavan, the other major tributary of Nahal Nitsana, lies more to the north, draining the region west of Avdat northwestward to join Nahal Nitsana close to its mouth into Wadi Arish.

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<sup>121</sup> Har-El, *Sinai Journeys*, 325.

<sup>122</sup> Woolley and Lawrence, *Wilderness of Zin*, 1914–1915:10, 17.

<sup>123</sup> Jodi Magness, *The Archaeology of the Early Islamic Settlement in Palestine, Volume 1* (Winona Lake, IN: Eisenbrauns, 2003), 161–62.

<sup>124</sup> Mordechai Haiman, “The ‘K-Line’ at Har Romem in Light of the Survey of the Map of Har Ramon (203),” *’Atiqot* 39 (2000): 23 fig. 1. The watershed between the wadis flowing north and south from the crater is marked by a 4.6 km stone wall of the Early Bronze Age, perhaps to mark the division between the wildernesses of Zin and Paran.

## 6.14 WANDERINGS: ZIN AND PARAN

In the biblical narratives, Kadesh is usually associated with the Wilderness of Zin (Num 20:1; 27:14; 33:36; Deut 32:51) and only once with the Wilderness of Paran (Num 13:26; cf. Deut 1:1-2). These differing associations may indicate where the Israelites camped relative to the Kadesh oasis on each occasion of their arrival. The first time, arriving from Hazeroth and waiting for the spies to return from Canaan (Num 12:16; Deut 1:6-8), the people grazed their flocks in the Wilderness of Paran to the south/southwest of Kadesh, that is, the Jurayyah-Lussan basin, a lowland region suitable for seasonal pastoral use (Fig. 8).<sup>125</sup> The second time, arriving from Ezion-geber to spend the rest of the forty years based at Kadesh waiting to enter Canaan (Deut 1:46), they occupied the Wilderness of Zin, that is, the upper Nitsana and Zin catchments to the east/northeast of Kadesh, a highland region suitable for long-term semi-nomadic occupation.<sup>126</sup> The Numbers itinerary passes over Israel's first arrival at Kadesh, not only because no station is mentioned twice in the list, but also in order to unify the Sinai-to-Kadesh journey as the second stage of the wilderness itinerary (Num 33:16-36). Hence the itinerary notices skip Kadesh between Hazeroth and Rithmah (33:18; cp. 12:16; 13:3, 26), and continue through eighteen stations (including Rithmah) before finally listing Kadesh on the second arrival (vv. 19-36).<sup>127</sup>

The Israelites' southern dispersion during their first visit to Kadesh is consistent with the pastoral conditions at the time of year. They arrived in the Kadesh district in the third month of the second year after exodus, that is, the third month of spring, a season that starts with the first month of the Hebrew calendar, Abib (Exod 13:4).<sup>128</sup> They had left Mount Sinai on the twentieth day of the second month (Num 10:11) and the journey took six days of actual travelling time (Num 10:33; 11:3; 11:35) with a seven-day halt at Hazeroth (Num 12:15-16).<sup>129</sup> Semi-nomadic

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<sup>125</sup> See 6.3 Paleo-Paran Basin.

<sup>126</sup> See 6.13 Wilderness of Zin.

<sup>127</sup> See 6.5 "Eleven days from Horeb".

<sup>128</sup> Rochel Chein, "When Is the Jewish Month of Aviv?," Chabad, accessed February 17, 2021, [https://www.chabad.org/holidays/passover/pesach\\_cdo/aid/1808461/jewish/When-is-the-Jewish-Month-of-Aviv.htm](https://www.chabad.org/holidays/passover/pesach_cdo/aid/1808461/jewish/When-is-the-Jewish-Month-of-Aviv.htm).

<sup>129</sup> See 6.5 "Eleven days from Horeb".

pastoralists make seasonal migrations from lowlands where vegetation is better in the winter-spring to highlands where vegetation is better in the summer-autumn. Hence, spring was the best time for the flocks and herds to exploit the Jurayyah-Lussan basin to the south of Kadesh. Aharoni explains that the Kadesh valley (Wadi al-Ayn) had inadequate space for all the people to camp:

Even if their number had not exceeded a few thousand, equivalent to the present Beduin population of the Sinai desert, there was not a single spot which could have supported them more than a few days, not even Ain el-Qudeirat, the richest of the oases in northern Sinai.<sup>130</sup>

Moreover, the biblical narrative does not at first locate the people at Kadesh but rather in the Wilderness of Paran which the text *later* connects with Kadesh (Num 12:16; cf. 13:3, 26). Accordingly, the people pastured their flocks among the floodplains of the Jurayyah-Lussan-Jayifah basin to the south and west, digging for water in the wadi-beds, or transporting it from the springs of the Kadesh district in waterskins (Fig. 8).

The forty days of the spying expedition brought the calendar into mid-Summer, consistent with the spies' return with "first ripe grapes" from the Eshcol area (Num 13:20-24, 26).<sup>131</sup> Their majority pessimistic report and the people's rebellion resulted in Israel being condemned to remain in the wilderness for forty years in all (Num 14:32-34). God directed Moses to leave Kadesh immediately by the Way of the Red Sea, but some thirty-seven years would elapse before Israel obeyed this direction:

*Now, since the Amalekites and the Canaanites live in the valleys [the Negeb, Num 13:29], turn tomorrow and set out for the wilderness by the way to the Red Sea. (Num 14:25; cf. Deut 1:40)*

Instead, the people prolonged their stay at Kadesh with their unauthorised attempt to invade Southern Canaan (Deut 1:46-2:1; cf. Num 14:39-45). The journey through the Hill Country, the battle with the Amorite alliance, and the return journey would take about two weeks.<sup>132</sup> When the defeated army returned to Moses at Kadesh, it was now late summer and a journey through

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<sup>130</sup> Aharoni, "Kadesh-Barnea and Mount Sinai," 169.

<sup>131</sup> Oded Borowski, "What Was Life Like in Biblical Times?," The Torah, November 6, 2019, <https://www.thetorah.com/article/what-was-life-like-in-biblical-times>.

<sup>132</sup> See 6.10 The Negeb: Geozone.

the southern deserts was out of the question. Instead, the Israelites appear to have made an extended tour of the resources of the Central and Southern Negev as evidenced by the list of eighteen mostly unidentified stations in the Numbers itinerary after Hazeroth. They returned at last from Ezion-geber to Kadesh in the Wilderness of Zin (Num 33:16-36), almost certainly by the Way of the Red Sea, the Darb al-Ghazza. Thus, the eighteen stations probably lie in sequence along roads through the wildernesses of Zin (north of the Ramon Crater), the Wilderness of Paran (south of the crater), and the Arabah geozone.

Israel's second arrival at Kadesh signals the end of the second stage of the wilderness itinerary—the Sinai-to-Kadesh journey—which started out as a march to invade Canaan but collapsed in the first week (Numbers 10-12).<sup>133</sup> Upon arrival in the Kadesh district for the second time, probably in the third year after exodus, the people disperse in the Nitsana and Zin catchments as may be deduced by the association of Kadesh with the Wilderness of Zin (Num 33:36). There are no more journeys as a nation until the fortieth year, and no events or details from the intervening thirty-six years on record. During this time, the Tabernacle was probably set up near the main spring at Kadesh as the administrative and cultic base for the Israelites in dispersion. In the first month, presumably of the fortieth year, the people reassemble at Kadesh where Miriam dies (Num 20:1, 22; cf. 33:38). Moses and Aaron transgress in striking the rock for water and are barred from entering the Promised Land (vv. 2-13)—both would die before the year is out (Aaron, vv. 22-29; 33:38-39; Moses, Deut 34:1-7). From Kadesh, Moses unsuccessfully petitions the king of Edom for passage through the Land of Edom by the King's Highway (Num 20:14-21).<sup>134</sup>

The third and final stage of the wilderness itinerary, the Kadesh-to-Jordan journey, begins with a departure from Kadesh by the Way of the Red Sea to circumnavigate the geozone of Mount Seir (West), also referred to as the Land of Edom (Deut 2:1-5; cf. Num 20:22-23; 21:4).<sup>135</sup> The people must traverse either the Wilderness of Zin or the Wilderness of Paran in order to reach the Arabah, but no wildernesses are named in association with the Negev half of the journey. Notwithstanding, the itinerary passes through four stations previously visited during

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<sup>133</sup> See 6.5 “Eleven days from Horeb”.

<sup>134</sup> See 7.11 Land of Edom.

<sup>135</sup> See 6.12 Mount Seir (West): Geozone.

the Sinai-to-Kadesh journey, the fourth being Jotbathah (now Yotvata) in the southern Arabah (Num 20:22; 33:8; Deut 10:6-7; cf. Num 33:33-35).<sup>136</sup> All these data together suggest that the route from Kadesh to the Arabah lay through the Wilderness of Paran, that is, the Jurayyah and Paran catchments, and not through the Wilderness of Zin, that is, the Nitsana and Zin catchments.<sup>137</sup> The apparent contradiction between a journey from Kadesh southeast to the southern Arabah and a military campaign to Arad which lies ENE of Kadesh (Num 21:1-3; 33:40) requires a detailed itinerary discussion which lies outside the scope of this dissertation. The puzzle can be resolved without recourse to historical or textual criticism (i.e. theories of multiple journeys or accounts) and without ignoring or distorting any of the geographical data, but will have to await separate publication.

## 6.15 AUTHENTICITY AND INTEGRITY

The hydrological model of the Egypt-Sinai-Negev regions releases abundant new information concerning the ecological and geopolitical significance of each biblical region. Most revelations are primary and direct, involving the identities and extents of the national territories and wildernesses. Other revelations are secondary and subtle, bringing to light the reasons, conditions, and specific problems for the Israelite journeys on the west side of the Rift Valley. Some insights arising from the hydrological model reveal that the biblical author(s) assumed the readers' familiarity with the geography of the southern regions, as illustrated by the following examples in three categories:

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<sup>136</sup> See 4.1.2 Regions: Sinai to Kadesh.

<sup>137</sup> See 6.16 Summary: Sinai-Negev Regions.

1. **Hydrological significance:** The clause locating the Wilderness of Sin “between Elim and Sinai” (Exod 16:1) is redundant information seeing as the people were indeed travelling from Elim (Exod 15:27; Num 33:9-10) to Sinai (Exod 19:1-2; cf. Num 33:11-15). Hydrologically, however, Elim lies in the Red Sea primary catchment, Mount Sinai lies in the Dead Sea primary catchment, and between them lies the Wilderness of Sin in the Med Sea primary catchment (Fig. 5). Accordingly, the biblical author seems to observe the hydrological significance of crossing from Egypt-related regions in the west to Canaan-related regions in the east via the great Arish catchment of the Central Sinai.<sup>138</sup>
2. **Authorial familiarity:** Several references to an unnamed wilderness seem to point to the Wilderness of Paran (paleo-Paran basin) within which lie both Mount Sinai and Kadesh, and where most of the recorded events of the wanderings era take place. The Wilderness of Paran is so central to the biblical story that the author does not often bother to identify it.<sup>139</sup>
3. **High-context geography:** With a hydrological outlook on biblical wildernesses, the dual wilderness associations for Kadesh (Paran and Zin) indicate Israel’s dispersion relative to Kadesh upon each of their arrivals during the Sinai-to-Negev journey. The first time, the people camp in the Wilderness of Paran for seasonal pasture in the Jurayyah basin southwest of Kadesh; the second time they disperse in the Wilderness of Zin for semi-nomadic habitation in the Nitsana catchment northeast of Kadesh (Fig. 8).<sup>140</sup>

The investigation now moves on to see how the hydrological model performs in the task of defining and delineating the biblical regions of the Transjordan.

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<sup>138</sup> See 5.11 Wilderness of Sin.

<sup>139</sup> See 5.13 The Wilderness Between.

<sup>140</sup> See 6.6 Kadesh in Paran and Zin; 6.14 Wanderings: Zin and Paran.

## 6.16 SUMMARY: SINAI-NEGEV REGIONS

The geographic regions of the Israelite journeys and campaigns to the west of the Rift Valley comprise three national territories—Egypt, Goshen, Canaan—and six wildernesses<sup>141</sup>—Red Sea, Shur/Etham, Sin, Sinai, Paran, and Zin—all corresponding to water catchments. Also included are three geozones—the Hill Country (South), Mount Seir (West), and the Negeb—corresponding to major topographical formations south of Canaan. Some geozone names have not been preserved; the Sinai Peninsula, for example, is represented only in terms of its wildernesses. Even though the biblical wildernesses between them account for the whole peninsula in terms of contiguous water-catchments, they do not designate or describe geomorphic regions in terms of location and elevation. So, for example, we do not have a specific topographical name for the Tih Plateau or the Southern Sinai massif, even though these regions are incorporated within the Wilderness of Sin (Arish catchment) and the Wilderness of the Red Sea (Red Sea coastal catchment) respectively. The biblical authors seem to have only detailed the geomorphic regions of the biblical lands as far as a line approximating the Way of the Red Sea (Darb al-Ghazza) along the southwest side of ancient idealised Israel (Fig. 2, Fig. 10).

Paran is the unnamed wilderness between Sin and Sinai in the Goshen-to-Sinai journey (Exod 17:1; Num 33:12-15; cf. 10:12) and appears twice in the narrative of the Sinai-to-Kadesh journey (Num 10:12; 12:16). Paran is probably also the unnamed wilderness through which Israel approaches the Arabah during the Negev half of the Kadesh-to-Jordan journey (Num 14:25; Deut 2:1). According to a hydrological model of the exodus regions, the Wilderness of Sinai is the Karkom catchment, a highlands tributary of the Paran catchment. Biblically, Mount Sinai is never associated with the Wilderness of the Red Sea; hence, all mountain candidates in the Red Sea catchment are ineligible. These candidates include the two most popular options, Jebel Musa in the Southern Sinai and Jebel al-Lawz in the Arabian Hejaz (Fig. 3, Fig. 4).

The discovery of the existence of a greater paleo-Paran river-basin illuminates how Kadesh could lie in both wildernesses Zin and Paran (Num 13:3, 26; cf. 20:1; 33:36). The

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<sup>141</sup> Shur and Etham are synonymous between the narrative and itinerary (Exod 15:32; Num 33:8).

Wilderness of Zin involves the river systems to the north of the Ramon Crater, the Wilderness of Paran involves those to the south, and the Kadesh district comprises the western interface of both wildernesses. The locations and parameters of the three geozones mentioned in connection with the Sinai and Negev region—the Hill Country (South), the Negeb, and Seir (West)—all help to anchor the wildernesses of the Israelite wanderings to the regions north of Elath and west of the Arabah. An understanding of the difference between geomorphic and geopolitical regions also clears up confusion regarding the relationship of Mount Seir (a geozone) to the Land of Edom (a national territory).

According to the hydrological model, the geopolitical regions (wildernesses and national territories) are defined by river catchments, sometimes one catchment per region, sometimes more. The geomorphic regions (geozones) are recognised by their location and elevation. To complete the summary of the biblical regions to the west of the Rift Valley,<sup>142</sup> the regions Israel encountered after leaving the Wilderness of Sinai may be briefly described thus:

- **Wilderness of Paran** is the entire paleo-Paran basin comprising several river systems from the Ramon Crater southward:
  - Nahal Paran drains the Southern Negev and the southern Central Negev Highlands towards the northern Arabah.
  - Wadis Jurayyah-Lussan-Jayifah drain the western Negev highlands towards Wadi Arish in northeastern Sinai. The Jayifah catchment is the Kadesh District at the interface with the Wilderness of Zin.
  - Nahal Neqaroth drains the Ramon Crater and its southern syncline towards the northern Arabah. Its biblical wilderness name has not been preserved.
  - Nahal Hayun drains the Upper Valleys above the southern Aravah towards the northern Aravah. Its biblical wilderness name has not been preserved.
- **Wilderness of Zin** comprises the Nahal Zin and upper Nahal Nitsana catchments of the Central Negev Highlands, with the Wadi Jayifah catchment (Kadesh district) of the northeastern Sinai as the interface with the Wilderness of Paran.

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<sup>142</sup> See 5.18 Summary: Egypt-Sinai Regions.

- **The Negeb** (geozone), reckoned both geomorphically and geopolitically, comprises the Beersheba and Arad basins in the Northern Negev, but may also be broadly defined as the Nahal Besor catchment.
- **The Hill Country (South)** (geozone) is the highlands region south of the biblical Negeb, usually called the Central Negev Highlands, extending west to Kadesh, south to Har Karkom.
- **Mount Seir (West)** (geozone) is the highlands region south of the biblical Negeb, specifically the Northern Negev Hills and extending along the western side of the northern Arabah. The Hill Country (South) and Mount Seir (West) are somewhat synonymous.

# CHAPTER 7: REGIONS EAST OF THE RIFT VALLEY (THE ARABAH TO AR OF MOAB)

## 7.1 INTRODUCTION: TRANSJORDAN REGIONS SOUTH

Chapters 5 and 6 have defined and described the biblical regions to the west side of the Rift Valley more or less in the order in which Israel encountered them in their journeying from Egypt across the Sinai Peninsula to the Arabah. The mix of biblical regions on the east side of the Rift Valley is different to that on the west; there are more national territories than wildernesses, and geozones span the entire distance of the Israelite journeys in the Transjordan (Fig. 2).<sup>1</sup> Like the wildernesses of the Sinai-Negev, those of the Transjordan function in the narrative as distinct regions (Deut 2:8, 26). Unlike the wildernesses of the Sinai-Negev, those of the Transjordan are sometimes named for their affiliated national territories (i.e. Wilderness of Moab, Wilderness of Edom).<sup>2</sup> The following discussion demonstrates that according to the hydrological model of the biblical regions, the Transjordanian wildernesses lie also within their affiliated national territories.<sup>3</sup>

In this hydrological investigation of the Transjordan Regions, the chapter break (between Chapters 7 and 8) occurs between Southern Moab (south of the Arnon River) and Northern Moab (north of the Arnon River). The intuitive place for a chapter break would occur between Moab and Ammon, that is, at the halfway mark between the four national territories of the Transjordan—Edom, Moab, Ammon, and the Bashan (Amorites). However, the choice to divide Moab allows for a united dealing of the Amorite territories and the Israelite conquest of the northern Transjordan.

The third and final stage of Israel's migration from Egypt to Canaan commences at Kadesh in the fortieth year of the wilderness era (Num 20:1, 22; cf. 33:38).<sup>4</sup> Israel

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<sup>1</sup> See 6.16 Summary: Sinai-Negev Regions.

<sup>2</sup> See 7.12 Wilderness of Edom; 7.16 Wilderness of Moab.

<sup>3</sup> See 8.2 Wilderness of Kedemoth; 8.6 Land of Jazer; 8.8 The Argob: Geozone.

<sup>4</sup> See 6.14 Wanderings: Zin and Paran.

circumnavigates Mount Seir (West) by the Way of the Red Sea (Deut 1:40; 2:1; cf. Num 14:25) to Mount Hor for Aaron's death and burial (Num 20:22-29; 33:37-38), continuing thereafter on the same road around Seir and Edom (West) to the Arabah (Num 21:4; Deut 2:1-3).<sup>5</sup> The regions associated with the first half of Israel's journey from Kadesh to the Jordan have been discussed in Chapter 6. Although the narrative gives few details, the journey from Kadesh to the Arabah probably passed through the Wilderness of Paran, that is, the Southern Negev.<sup>6</sup> This chapter and the next, Chapter 8, define and describe the Transjordanian regions, starting with the regions of the Arabah as Israel encounters them on their crossing of the Rift Valley from the west to the east side.

## 7.2 REGIONS: TRANSJORDAN

The modern term *Transjordan* incorporates all the wildernesses, territories, and geozones mentioned in the biblical narratives for the second half of the third stage of the Israelite journey, Kadesh-to-Jordan.<sup>7</sup> The first half of the third stage of the Israelite journey brings Israel from Kadesh in the Northern Sinai across the Negev to Jotbathah in the southern Arabah (Num 20:22; Deut 1:46-2:1; 10:6-7).<sup>8</sup> From here the Israelites cross the Arabah Valley and ascend the Edomite plateau, travelling overall northward through the Transjordan. The main body of the people travels as far as the Plains of Moab beside the Jordan River (Num 22:1; 33:48-49), but the Israelite army continues northward to conquer the Bashan and the Argob in the farthest reaches of the Dead Sea primary catchment at the foot of Mount Hermon (Num 21:31-35; Deut 3:1-7).<sup>9</sup>

Whereas the geopolitical regions of the Sinai-Negev<sup>10</sup> are all wildernesses with transient populations (soldiers, nomads, traders, miners, pilgrims), the geopolitical regions of the Transjordan include national territories with settled populations (farmers, shepherds, townspeople). Higher elevations and more northerly latitudes allow for perennial agriculture on the

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<sup>5</sup> See 6.12 Mount Seir (West): Geozone.

<sup>6</sup> See 6.3 Paleo-Paran Basin.

<sup>7</sup> See 4.1 The Biblical Data of the Israelite Journeys.

<sup>8</sup> See 6.14 Wanderings: Zin and Paran.

<sup>9</sup> See 8.7 The Bashan: Geozone; 8.8 The Argob: Geozone.

<sup>10</sup> See 2.4 Geozones: Sinai-Negev-Transjordan; 2.5 Geozones: Cisjordan (Canaan/Israel).

plateau (c. 1000 m ASL) and seasonal pasturage on the steppes (c. 700 m ASL) (Fig. 12). Accordingly, the Transjordanian nations—Edom, Moab, Ammon, Midian, and the Amorites each occupy a national territory עֲרֵץ *erets* “land” with:

- borders (Num 20:21; 21:13, 15, 24; 22:36; 33:44; Deut 2:4, 18, Josh 12:1-5)
- towns (Num 21:25; 32:33; Deut 2:37; 3:4)
- kings (Gen 36:31; Num 20:21; Num 22:4; Judg 11:17; Num 21:26, 33; Num 31:8).

The settled nations are threatened by Israel’s approach, even those receiving assurance from Moses that Israel is merely passing through to Canaan. Thus, the:

1. Edomite king (unnamed) denies access, confronts Israel (Num 20:14-21; Deut 2:4-5)
2. Moabite king Balak denies access, subverts Israel (Num 22:2-4; Deut 2:26-29; 23:3-4)
3. Amorite king Sihon denies access, attacks Israel (Num 21:21-23; Deut 2:30)
4. Ammonite king (unnamed) is not approached, does not attack Israel (Deut 2:19; Judg 11:17-18)
5. Amorite king Og resists invasion, attacks Israel (Num 21:33; Deut 3:1)
6. Midianite elders (princes, Mic 6:5) subvert Israel (cf. Num 22:4; 25:17-18; cf. 31:2; Josh 13:21).

There are wildernesses in the Transjordan also—the wildernesses of Edom, Moab, and Kedemoth (2 King 3:8; Deut 2:8, 26; cf. Num 21:23). Although the region of the Jordan River is sometimes characterised as מִדְבָּר *midbar* “wilderness” (Deut 1:1; Josh 15:61-62), the Arabah Valley both north and south of the Dead Sea is a geozone according to the toponymical pattern for the biblical regions. Thus, the term “Arabah” appears at least once in the Hebrew Bible with the definite article: הָעֲרָבָה *ha-aravah* (e.g. Deut 3:17).<sup>11</sup> The Wilderness of Edom (2 King 3:8) is not mentioned in the Pentateuch but is probably the unnamed wilderness on Israel’s approach to the border of Moab (Num 21:11).<sup>12</sup> Even though Israel passes through wildernesses in both the Sinai-Negev and Transjordan without encountering military opposition (Deut 2:1, 8, 26), the

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<sup>11</sup> See 2.1 Regional Toponymy.

<sup>12</sup> See 7.12 Wilderness of Edom.

biblical wildernesses are, in fact, geopolitical regions, inhabited by pastoral and nomadic peoples connected ethnically and/or economically to the settled peoples of the national territories (Num 20:14-21; Deut 2:4, 9, 19, 26-27; Judg 11:17). Unlike the agricultural populations in the national territories (Edomites, Moabites, Amorites), the pastoral populations in the wildernesses (Edom, Moab, Kedemoth) cooperate with Israel's passage through their lands, forgoing conflict to sell them food and water (Deut 2:6, 26-29).<sup>13</sup>

The topographical variations in the Transjordan are more extreme than in the Sinai-Negev, so the riverbeds are usually ravines, often impassable over long sections. Most long-distance travel, therefore, defaults to watersheds or their parallel paths running north-south along the plateau and steppe. The King's Highway rides the plunging profile through the national territories in the west (Fig. 12), while the Desert Highway skirts the national territories along level ground in the east. Whereas the Cisjordan is the natural conduit between Syria and Egypt and the Sinai is the natural conduit between Egypt and Arabia, the Transjordan is the natural conduit between Arabia and Syria.<sup>14</sup> Glueck notes the effect of Transjordanian topography on its international relations:

The orientation of Edom, Moab, Ammon, and Gilead, for economic and geographical reasons may be said to be chiefly to the north and south rather than to the west.<sup>15</sup>

Thus the Transjordan forms the eastern side of the triangle of trade-routes through the biblical lands which function as the interchange between the three great centres of civilisation in Bible times—Assyria to the north, Egypt to the west, and Babylon to the east.

### **7.3 BIBLE ATLASES: TRANSJORDAN**

Despite the greater amount of historical information available for the Transjordan, Bible atlases and commentaries are just as vague on the locations and limits of the biblical regions as

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<sup>13</sup> See 7.17 Land of Ar.

<sup>14</sup> Gerald L. Mattingly, "The King's Highway, The Desert Highway, and Central Jordan's Kerak Plateau," *ARAM* 8 (1996): 91.

<sup>15</sup> Nelson Glueck, *The Other Side of the Jordan* (New Haven, CT: American Schools of Oriental Research, 1940), 145.

for the Sinai and Negev. Aharoni's "Routes to Transjordan" map in his *Land of the Bible: A Historical Geography* uses labels to identify and indicate regions without delineating them. River-borders for the territories of Edom and Moab are assumed but not drawn, and the territory of Ammon indistinctly straddles the upper Jabbok.<sup>16</sup>

Rainey and Notley's "Israel's penetration into the Transjordan" map in the 2006 Carta atlas *The Sacred Bridge* does not attempt to depict borders for the wildernesses and national territories in the Transjordan, rather it spans each supposed region with a label. The Plains of Moab, the Mishor, and the Wilderness of Kedemoth are represented but the Wilderness of Moab is not.<sup>17</sup>

For the "Districts of the Old Testament" map in the 2009 *New Moody Bible Atlas*, Beitzel uses colour to distinguish the various territories of the Transjordan. This map represents the most dedicated recent effort to define and delineate the biblical regions, but uncertainty and confusion persist.<sup>18</sup> Pre-conquest Ammon lies inside the curve of the Jabbok riverbed but largely outside thereafter. The eastern borders of all the national territories are arbitrarily drawn. Beitzel depicts the Gilead (a geozone) and Ammon (a national territory) as though they are mutually exclusive areas (Fig. 22).<sup>19</sup>

Currid and Barrett's 2009 *Crossway ESV Bible Atlas* similarly uses colour to distinguish the national territories of Edom, Moab, and Ammon. Edom lies to the south of the Zered River and Moab between the Zered and Arnon as expected, but the eastern borders of all the national territories are arbitrary, as are the western and southern borders of Ammon and the Bashan.<sup>20</sup>

The "Wilderness Wandering" map in the Fortress 2019 *Atlas of the Biblical World* does not attempt to define and delineate any Transjordanian territories. None of the wildernesses appear (Edom, Moab, Kedemoth) and Ammon's territory is not represented.<sup>21</sup> It seems most biblical cartographers are agreed that there is not enough information to delineate most of the regions of the Transjordan, and especially not the wilderness regions.

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<sup>16</sup> Aharoni, *Land of the Bible*, 1979, 203, 213 maps 14, 15.

<sup>17</sup> Rainey and Notley, *The Sacred Bridge*, 123.

<sup>18</sup> Beitzel, *New Moody Bible Atlas*, 33 map 5; cp. Beitzel, 115 map 36.

<sup>19</sup> See 8.15 Map Comparisons.

<sup>20</sup> Currid and Barrett, *Crossway ESV Bible Atlas*, 98–99 maps 4–4 and 4–5.

<sup>21</sup> Hoffman and Mullins, *Atlas*, 39 map 12.

## 7.4 SECONDARY CATCHMENTS: TRANSJORDAN

The primary catchments of the Transjordan—Red and Dead—provide the foundation for a hydrological study of the biblical regions (Fig. 3). The secondary catchments of the Transjordan are the next level in the hierarchy of drainage systems between the Rift Valley and the Central Arabian Peninsula (Fig. 4). The Arabah catchment in both its parts, northern and southern, straddles the Rift Valley dividing the Sinai Peninsula from the Arabian Peninsula. The Jordan catchment in both its parts, northern (upper Jordan) and southern (lower Jordan), also straddles the Rift Valley dividing the Cisjordan from the Transjordan. Upper Jordan drains into an intermediate water body, Lake Kinnereth (Galilee), that ultimately drains into the Dead Sea via the lower Jordan. The status of the upper Jordan in the hierarchy of drainage systems is ambiguous: it is the same river stem as the lower Jordan, but they are separated by the lake. For the purposes of this investigation, the upper Jordan catchment including Lake Kinnereth is deemed a tertiary catchment.<sup>22</sup>

According to the hydrological model of this investigation, the river systems of the Rift Valley—Wadi Arabah and Nahal Yarden—are secondary catchments because they flow into the Dead Sea, the base water body for all Transjordanian regions except the southern Arabah which flows into the Red Sea. Strictly, therefore, the major rivers that enter the Rift Valley to join Nahal Yarden or Wadi Arabah would be classified as tertiary catchments. For the sake of a simpler model, however, all the major river systems of the Sinai-Negev and Transjordan are counted at the same level, that is, as secondary catchments (Fig. 4). These include the Arabah and Jordan catchments, even though the flow of the major rivers of the Negev and Transjordan pass through Wadi Arabah or Nahal Yarden before arriving in the Dead Sea. The Dead, Med, and Red seas have a number of minor coastal wadis that drain directly into the lake. These are not represented on the map as secondary catchments because they are not comparable in size and significance with the major river systems, so they are simply incorporated into the three primary catchments as part of their coastal plains.

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<sup>22</sup> See 5.3 Secondary Catchments: Egypt-Sinai-Negev; See 8.8 The Argob: Geozone.

Table 2 TRANSJORDAN SECONDARY CATCHMENTS AND BASE WATER BODIES

Secondary Catchments: Transjordan	Base Water Body
Southern Arabah (no waterway)	Red Sea
Wadi Arabah (Northern Arabah)	Dead Sea
Wadi Hasa (Zered River)	Dead Sea
Wadi Mujib (Arnon River)	Dead Sea
Wadi Zarqa (Jabbok River)	Dead Sea
Wadi Yarmuk (Yarmuk River)	Dead Sea
Nahal Yarden (Jordan River)	Dead Sea

## 7.5 FOUR GREAT RIVERS

Aharoni recognises the geographical significance of the four great rivers that drain the high Transjordanian plateau into the Rift Valley catchment:

Transjordan also has four large wadies with much longer stream beds which have carved deep canyons for themselves 25 to 30 miles in length. These wadies, which divide Transjordan into its principal geographical sectors, are: the Yarmuk (its name is first mentioned in the Mishnah), the Jabbok, the Arnon, and the Zered.<sup>23</sup>

He attempts to bound the Transjordanian national territories by these four riverbeds, but runs into conflict with the unity of the geomorphic regions:

These rivers [Yarmuk, Jabbok, Arnon, Zered] and their main tributaries flow at their upper courses near the border of the desert in a south-north direction, breaking suddenly to the west, and finally reaching the Jordan or Dead Sea through deep gorges. They are the main obstacles to the roads in this area and form the natural divisions of the country. It is no wonder, therefore, that they serve occasionally as political, ethnic, or administrative boundaries. Thus the Zered is the border between Edom and Moab... the Arnon between Moab and

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<sup>23</sup> Aharoni, *Land of the Bible*, 1979, 54.

Israel... and the Jabbok between Ammon and Israel as well as between Gad and the half-tribe of Manasseh.... However, the two latter valleys actually cross and bisect geographical units which show no real topographical differences on both sides of the respective valleys. Therefore, most of the above-stated borders were only temporary, and the Bible emphasizes the geographical unity of these topographical zones.<sup>24</sup>

Confusion ensues from such attempts to divide the Transjordan by the lines of its four major riverbeds because the resulting five slices do not neatly correspond to the national territories as described in the biblical records. Whereas Edom and Moab are indeed separated by the Zered riverbed (Deut 2:13, 18),<sup>25</sup> and Moab is divided into northern and southern parts by the Arnon riverbed (Num 21:13, 26),<sup>26</sup> the Jabbok riverbed does not clearly separate Moab from Ammon as seems to be required by many biblical texts (Num 21:24; Deut 3:16; Josh 12:2; Judg 11:13, 22). The Jabbok describes a wide arc, first eastward past the Ammonite capital Rabbath-bene-ammon (now the capital city of Jordan, Amman), then northward and finally westward to debouche at last into the Jordan River.<sup>27</sup> Hence, there is no simple east-west line by which to separate Moab to the south from Ammon to the north. Indeed, the deep curve of the Jabbok River places the location of the territory of Ammon in doubt—does it lie inside the curve, or outside, or both? Further north, the Yarmuk River confounds proposals to divide Ammon from the Bashan. Ammonites are never mentioned north of the Jabbok River so the region between the Jabbok and Yarmuk riverbeds cannot be Ammonite territory.

Baly cautions against viewing the great river valleys of the Transjordan as national borders, observing that the resulting territories do not fully correlate to, or account for, the changes in climate and vegetation, and hence land-use throughout the wider region:<sup>28</sup>

On paper, so to speak, it would seem sensible to draw the boundaries along the river valleys in the tidy manner in which the writer of Deuteronomy describes the frontier of Reuben as being “as far as the valley of the Arnon, with the middle of the valley as a boundary” (Deut 3:16), but the strong consciousness of

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<sup>24</sup> Aharoni, 37.

<sup>25</sup> See 7.11 Land of Edom.

<sup>26</sup> See 7.14 Land of Moab.

<sup>27</sup> See 8.5 Land of Ammon.

<sup>28</sup> Baly, *Geographical Companion*, 76.

the east Jordanian people that there were four separate regions whose limits did not coincide with the major wadis prevented this ever really happening.<sup>29</sup>

He suggests dividing the Transjordan into four broad regions according to the four traditional lifestyles: the Farmer of Bashan, the Highlander of Gilead, the Shepherd of Moab and Ammon, and the Trader of Edom.<sup>30</sup> Thus, Baly sketches the outlines of the national territories ecologically. By dismissing the role of the rivers in defining the national boundaries, Baly also inadvertently overlooks the possible hydrological connection between the four lifestyles and the four great river catchments.

In light of the success of the hydrological model in the Sinai-Negev where the biblical wildernesses correspond to secondary water-catchments across the region, the investigation now considers whether the same principles might apply in the Transjordan.<sup>31</sup> To this end, it is necessary to map the major river systems within the eastern half of the Dead Sea primary catchment and compare them with the biblical data concerning the geopolitical regions of the exodus era. A system emerges that simultaneously explains and resolves the conflict between river valley divisions and geomorphic units (as per Aharoni's discussion above), and also correlates the four biblical nations with Baly's four traditional lifestyles. By far the simplest and most effective way to define and confine the regions of the Transjordan is by the four major river catchments and their adjoining sections of the Jordan-Arabah catchment (Fig. 14):

1. **Greater Edom:** the Zered catchment plus the northern Arabah catchment
2. **Greater Moab:** the Arnon catchment plus the Dead Sea and southern (lower) Jordan catchments (eastern halves)
3. **Greater Ammon:** the Jabbok catchment plus the central (middle) Jordan catchment (eastern half)
4. **The Bashan:** the Yarmuk catchment plus the northern (upper) Jordan/Kinnereth catchment (eastern half).

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<sup>29</sup> Denis Baly, *The Geography of the Bible*, 2nd impression (London: Lutterworth, 1958), 227.

<sup>30</sup> He includes Ammon in the 'Shepherd' lifestyle category, but Ammon lies within the Gilead. Baly, 127, 219–51. See 8.5 Land of Ammon.

<sup>31</sup> See Chapter 3: Hydrological Model.

There is, of course, much to discuss regarding the historical geography of these regions throughout the biblical period. See each regional name in its own section.

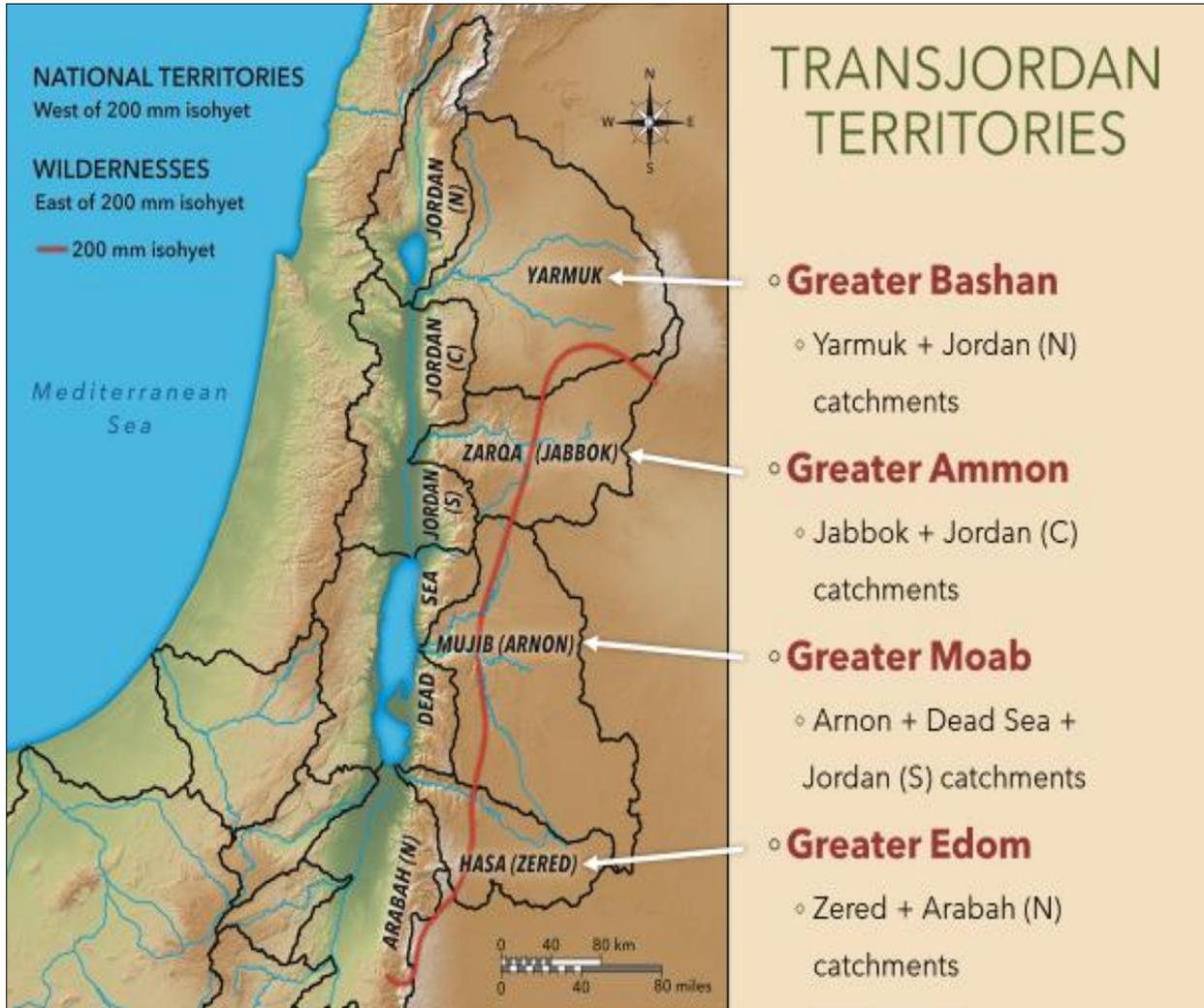


Figure 13 FOUR RIVERS, FOUR NATIONS

## 7.6 “THE DESERT FROM THE SOWN”

With me along the strip of Herbage strown  
That just divides the desert from the sown...<sup>32</sup>

Without an empirical system for identifying and delineating the biblical regions of the Transjordan, the best that can be done is to extrapolate boundaries (for wildernesses) and borders (for national territories) between the few known landmarks. The great advantage of the hydrological model is the provision of clear boundaries around and between the geopolitical regions of the biblical era, i.e. the national territories and wildernesses together. These boundaries are the watersheds of the secondary water-catchments: in the Sinai-Negev, the major rivers and coastal zones that drain into the Med, Red, and Dead primary catchments (seas); in the Transjordan, the four major rivers which drain into the Dead Sea primary catchment along its length.

Regarding the boundaries between the wildernesses in the east and the national territories in the west, there is an extra hydrological factor in the Transjordan that does not apply in the Sinai-Negev—the line that “divides the desert from the sown”. This line coincides with the 200 mm (8 in) isohyet (rainfall line) that runs more or less north-south through the middle of the steppe between the Transjordanian plateau on the west and the Central Arabian Plateau on the east (Fig. 14). The hydrological model discovers that the wildernesses east of the 200 mm isohyet are reckoned pastorally in the same way as in the Sinai-Negev, that is, as single catchments or half-catchments of the major rivers and their main tributaries. The national territories west of the 200 mm isohyet, however, are reckoned agriculturally, and are delineated by a mix of riverbeds, lakeshores, and watersheds according to the natural barriers and variations in the terrain. There is, of course, a transition from reliable agriculture at 300 mm and higher to sparse seasonal vegetation at 100 mm or lower.<sup>33</sup> The Yarmuk catchment in the north receives 300-600 mm of rain, which, with its rich volcanic soil, allows for reliable agriculture throughout the region. The Yarmuk catchment also provides pastoral land wherever the terrain is too rough

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<sup>32</sup> Khayyam, “Rubaiyat,” Stanza XI.

<sup>33</sup> MacDonald, *East of the Jordan*, 29–33.

for agriculture.<sup>34</sup> The region beyond the Dead Sea catchment eastward—the Central Arabian Plateau—is apparently outside the purview of the author(s) of the wilderness narratives.<sup>35</sup>

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<sup>34</sup> See 8.7 The Bashan: Geozone; 8.8 The Argob: Geozone.

<sup>35</sup> See 3.2 Primary Catchments.

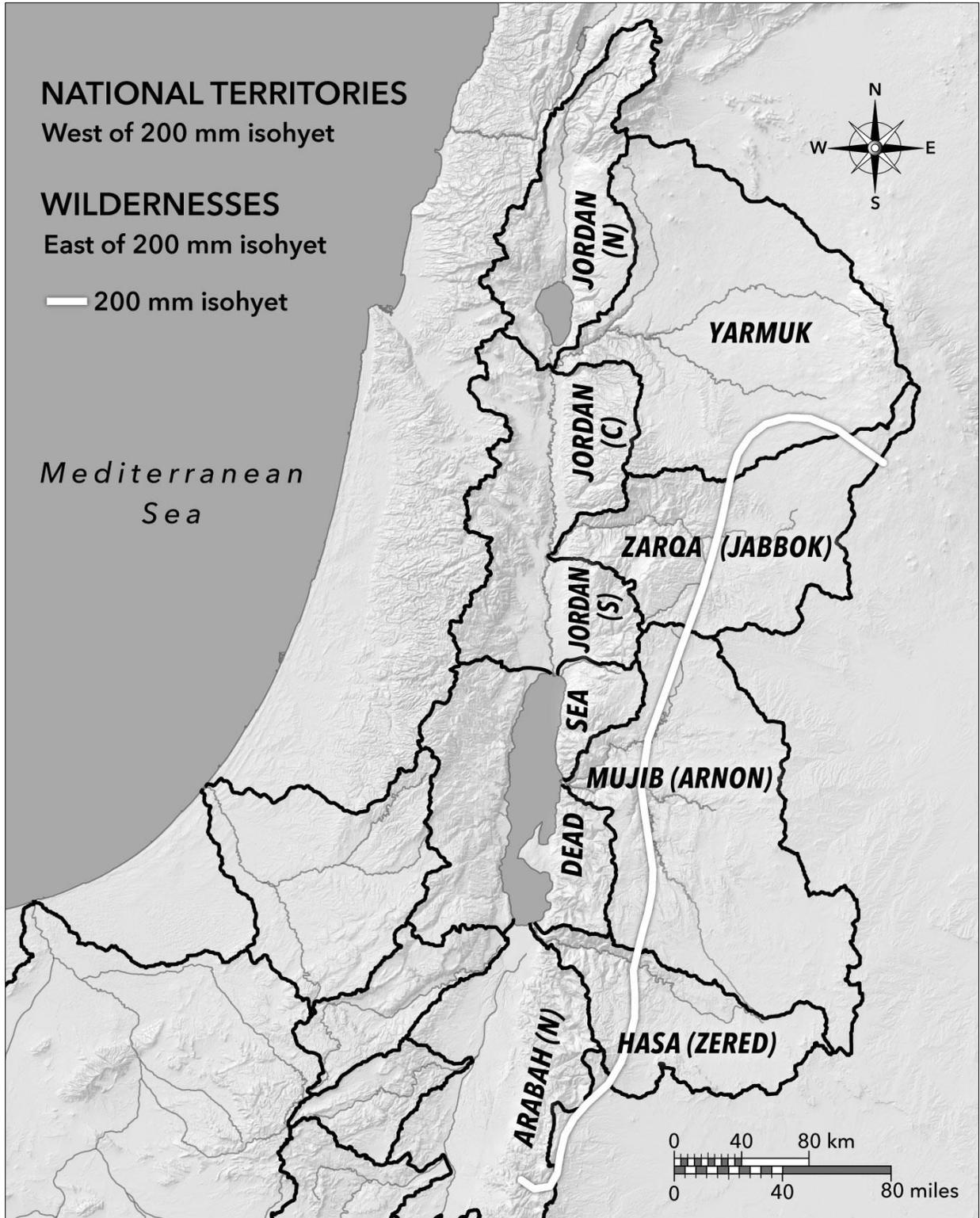


Figure 14 TRANSJORDAN CATCHMENTS AND 200 mm ISOHYET

## 7.7 THE ARABAH: GEOZONE

The Arabah geozone to the north of the Dead Sea divides (in modern terms) the Cisjordan on the west from the Northern Transjordan on the east. South of the Dead Sea, the Arabah geozone divides the Negev on the west from the Southern Transjordan on the east (Fig. 1). As with the suggested adoption of the spellings “Negeb” and “Negev”,<sup>36</sup> the spellings “Arabah” and “Aravah” can differentiate the biblical and modern usage respectively.<sup>37</sup> The broad biblical usage of the term הָעֲרָבָה *ha-aravah*, usually rendered as “the Arabah”, recognises the continuity of the Rift Valley from Lake Kinnereth (Sea of Galilee) in the north to the Red Sea (Elath-Aqaba Gulf) in the south (e.g. Deut 1:1, 7; 3:17; Josh 12:3; 2 Sam 2:29).<sup>38</sup> This causes some confusion with modern geographic terminology where generally only the section of the Rift Valley between the Dead Sea and Red Sea is called the Aravah.<sup>39</sup> Hence, the *biblical* Arabah geozone, like the Hill Country and Seir geozones, is best mapped in two parts: the Jordan Valley as “Arabah North” and the Aravah south of the Dead Sea as “Arabah South” (Fig. 2).

The biblical Arabah, North and South, is primarily reckoned geomorphically by its location and elevation relative to its neighbouring geozones.<sup>40</sup> Accordingly, it appears among the geozones of Israelite conquest prefixed with the definite article הַ ha- “the”:<sup>41</sup>

*Resume your journey, and go into the hill country of the Amorites as well as into the neighboring regions—the Arabah, the hill country, the Shephelah, the Negeb, and the seacoast—the land of the Canaanites and the Lebanon, as far as the great river, the river Euphrates. (Deut 1:7)*

Throughout its length, however, the Arabah is also reckoned geopolitically according to its component secondary water-catchments. Thus, the Jordan Valley (between Lake Kinnereth and the Dead Sea) is subdivided and apportioned to its immediate neighbours as part of their national

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<sup>36</sup> See 6.10 The Negeb: Geozone.

<sup>37</sup> Finkelstein, *Living on the Fringe*, 6:xii n. 3.

<sup>38</sup> Aharoni, *Land of the Bible*, 1979, 35.

<sup>39</sup> Jan J. Simons, *The Geographical and Topographical Texts of the Old Testament: A Concise Commentary in XXXII Chapters* (Leiden: Brill, 1959), 49.

<sup>40</sup> See 2.4 Geozones: Sinai-Negev and Transjordan

<sup>41</sup> See 2.5 Geozones: Cisjordan (Canaan/Israel).

territories (Fig. 14).<sup>42</sup> As discussed in the relevant sections following, the southern Jordan Valley (east of the riverbed) is attributed to Moab, then to Sihon and the Amorites, and then to the Israelite tribe of Reuben.<sup>43</sup> The central Jordan Valley (east of the riverbed) is attributed to Ammon, then to Sihon and the Amorites, and then to the Israelite tribe of Gad (Fig. 21). The Jordan Valley north of Lake Kinnereth lies partly within Greater Bashan, but remains the territory of the Geshurites and Maacathites after the conquest.<sup>44</sup> Thus, the geopolitical divisions remain fixed through several changes of national and tribal rule, confirming the principle of geographic determinism, or, more specifically, hydrographic determinism.

The Aravah to the south of the Dead Sea has a watershed which divides the valley into two parts, northern and southern. This introduces yet another potentially confusing subdivision of the biblical Arabah. The two water catchments of the southern Arabah geozone are labelled (abbreviated) in the catchment maps as Arabah (N) and Arabah (S) but are hereafter referred to as *southern Arabah* and *northern Arabah* (Fig. 4). The watershed between them lies 112 km south of the Dead Sea and 66 km north of the Red Sea, reaching 230 m above sea level.<sup>45</sup> At this location, Jebel er-Rishe crosses the Rift Valley diagonally from the southwest, narrowing and raising the valley floor to form the Aravah watershed (Fig. 12).<sup>46</sup> North of the watershed, Wadi Arabah flows northward to the Dead Sea, draining the highlands on both sides of the valley which is 20-30 km wide. South of the watershed, the valley suddenly narrows and its two sides are no more than 10 km (6 miles) apart.<sup>47</sup>

According to the hydrological model, the northern and southern catchments of the Arabah geozone are also geopolitical territories. The northern Arabah is often apportioned to

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<sup>42</sup> See 7.5 Four Great Rivers.

<sup>43</sup> See 8.10 Amorite and Israelite Territories.

<sup>44</sup> See 8.9 Geshur and Maacah.

<sup>45</sup> Hendrik J. Bruins, "Desert Environment and Geoarchaeology of the Wadi Arabah," in *Crossing the Rift: Resources, Routes, Settlement Patterns, and Interactions in the Wadi Arabah*, ed. Piotr Bienkowski and Katharina Galor, Levant Supplementary Series 3 (Oxford: Oxbow, 2006), 29.

<sup>46</sup> Baly, *Geography*, 1958, 210, 213.

<sup>47</sup> Baly, *Geography*, 1974, 208.

Edom,<sup>48</sup> whilst hegemony of the southern Arabah is disputed throughout the Israelite period.<sup>49</sup> Wadi Arabah in the northern Arabah catchment channels seasonal torrential flow from the Negev rivers—Zin, Neqaroth, Paran, and Hayun—as well as the runoff from the Edomite mountains northward to the Dead Sea. The southern Arabah in the Red Sea catchment has a different hydrology: it also drains the mountains along both sides of the Rift Valley, but its short streams, barred by alluvial fans, seep into the subsoil and do not form a continuous drainage pattern but drain southward towards the Gulf of Elath-Aqaba nonetheless.<sup>50</sup> The southern Arabah catchment extends much further east than the northern Arabah catchment which reaches only to the top of the Edomite ridge (Fig. 4).<sup>51</sup> Water arrives in the southern Arabah from as far east as Wadi Hasma (or Hisma) of which Wadi Rum (or Ramm) is one of many tributaries. Baly describes the Hasma as a “dissected desert” at “the very edge of the Biblical story”.<sup>52</sup>

On its united journeys as a nation, Israel entered the southern Arabah twice during the wilderness era; first during the second stage of the itinerary, Sinai-to-Kadesh (Num 33:33-36), and again during the third stage of the itinerary, Kadesh-to-Jordan (Deut 10:7; cf. 2:2-4). On their first visit to the southern Arabah, they passed from north to south through the stations of Jotbathah, Abronah and Ezion-geber before returning to Kadesh (Num 33:36), probably along the Way of the Red Sea, the Darb al-Ghazza.<sup>53</sup> The second time, having arrived again at Jotbathah, Moses made the decision to head north in the Arabah, crossing the border of the Land of Edom—probably the Red-Dead watershed between the southern Arabah and northern Arabah (Deut 2:3-8; Num 33:41-43). In the process Israel also crossed Wadi Arabah from west to east in order to enter the Transjordan, that is, all the lands east of the Rift Valley. Strictly, therefore, the southern Arabah should be discussed amongst the Sinai-Negev regions (Chapter 2), not only because both Israel’s visits to this catchment occurred during their journeys through regions to the west of the Rift Valley, but also in order to apportion the geozones more evenly between the

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<sup>48</sup> See 7.10 Northern Arabah.

<sup>49</sup> See 7.11 Land of Edom; 7.8 Southern Arabah.

<sup>50</sup> Orni and Efrat, *Geography*, 31.

<sup>51</sup> See 7.11 Land of Edom.

<sup>52</sup> Denis Baly, “The Pitfalls of Biblical Geography in Relation to Jordan,” *Studies in the History and Archaeology of Jordan* 3 (1987): 60, 65–66.

<sup>53</sup> See 6.14 Wanderings: Zin and Paran.

Sinai-Negev and Transjordan regions.<sup>54</sup> On the other hand, the greater area of land drained by the southern Arabah lies to the east of the Rift Valley and was utilised mostly by Arabian traders. On balance, therefore, discussion of this geopolitical region defaults to the Transjordan chapters.

## 7.8 SOUTHERN ARABAH

The southern Arabah is the driest and hottest part in the entire Negev and southwestern Jordan.<sup>55</sup> Near the Red Sea the mean annual rainfall is around 30 mm and the mean minimum and maximum temperatures are 19° and 40° degrees C respectively (66°, 104° F).<sup>56</sup> The Rift Valley south of the Aravah watershed is markedly different than that to the north. Quite suddenly it narrows to no more than 10 km (6 miles) with steep cliffs on both sides.<sup>57</sup> The cliffs on the east are no longer the Edomite limestone-over-sandstone range but a northern extension of the granite range that bounds the eastern shore of the Aqaba Gulf. Baly calls this grey range the “Mountains of Midian”<sup>58</sup> although it cannot be established from biblical references that Midian lay to the east of the gulf.<sup>59</sup> Notwithstanding, the formation warrants its own name, so “Midianite” will suit:

On the east, the granite Mountains of Midian run for the full length [of the southern Arabah].... Where the Midian granite on the east is separated from the Edomite plateau to the north of it there is a shattered zone, clearly visible from across the Arabah as a jumble of sand and sandstone, where multiple faulting has permitted passage into the broad interior of the Hasma.<sup>60</sup>

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<sup>54</sup> See 2.4 Geozones: Sinai-Negev and Transjordan.

<sup>55</sup> Bruins, “Desert Environment,” 29.

<sup>56</sup> Bruins, 30.

<sup>57</sup> Baly, *Geography*, 1974, 208.

<sup>58</sup> Baly, 244–46.

<sup>59</sup> See 7.9 Land of Midian.

<sup>60</sup> Baly, *Geographical Companion*, 59.

In other words, where the Edomite range meets the Midianite range along the eastern side of the southern Arabah, a few long oblique wadis allow the southbound traveller access to the eastern interior before the gulf is reached.<sup>61</sup>

The watershed between the southern and northern Arabah also marks the latitude where the Central Arabian Plateau to the east of the Shara range swings back along a NW-SE fault-line. Baly considers that the Land of Edom comes to an abrupt end at the southern edge of the plateau (south of the Maan basin),<sup>62</sup> a view consistent with a hydrological model that legitimates for Edom only the Zered catchment and northern Arabah catchment (Fig. 5).

In the south, the plateau breaks away into the dramatic, colorful wasteland of Wadi Hasma and Wadi Ram, the majestic gateway for the incense route to southern Arabia. Here the watchmen of Edom, standing on the plateau edge at Ras an-Naqb [“head of the pass”], would have seen each year the caravan approaching.<sup>63</sup>

From the edge of the plateau (at Ras an-Naqb) the King’s Highway (now the lesser road) and the Desert Highway meet and descend as one SSE across the western Hasma and through Wadi Yutm to the Aqaba Gulf (see Ras an-Naqb in Fig. 12).<sup>64</sup> The watershed lines between the Arabah (S) catchment and the Aqaba Gulf catchment are, of course, artificial divisions for the sake of the map; the Arabah (S) is effectively one with the Red Sea primary catchment on both sides of the gulf (Fig. 4).

The Hasma is a broad sandy plain studded with towering sandstone blocks forming a cross-hatched pattern of wadis through which the Arabian trade routes approached the Arabah and Elath through Wadi Yutm.<sup>65</sup>

The Hisma Depression is, at its western extremity, 800 m (2,600 ft) above sea level and descends southeastward into the interior of the Arabian Peninsula. It is hemmed in by the sharp ridges of the Southern Edom Mountains and the Shera Mountains which tower 700-800 m (2,200-2,600 ft) above the valley bottom.

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<sup>61</sup> Baly, *Geography*, 1974, 208.

<sup>62</sup> Baly, *Geographical Companion*, 59.

<sup>63</sup> Baly, *Geography*, 1974, 104.

<sup>64</sup> Baly, 246.

<sup>65</sup> Baly, 244–47.

The fantastic rock towers, columns, needles and castles of multicoloured sandstone create a landscape of sublime magnificence which has always deeply impressed nomads and pilgrims using this gateway to Arabia.<sup>66</sup>

Baly characterises “the fantastic Hasma” as a “dissected desert” at “the very edge of the Biblical story”.<sup>67</sup> The Hasma and the southern Arabah catchment belong to the inverted *desert crescent* (in apposition to the *fertile crescent*) which extends around the south and east sides of the whole Southern Levant.<sup>68</sup>

Although not named in the wilderness texts, the southern Arabah catchment may have been known to the biblical authors as תֵּמָן Teman, meaning “to the right hand”, hence (to one facing east) “the south”. Biblical Teman is linked to Dedan, the Hejaz region of northwestern Arabia, and Sheba, the southwestern Arabian Peninsula (cf. Tema, Isa 21:13-14; Jer 25:23-24; 49:7-8; Ezek 25:13). Teman also appears in parallel with Edom (Jer 49:20) and Mount Esau (Obad 8-9). The ancient oasis of Tema (or Tayma) in northwest Saudi Arabia cannot represent biblical Teman as it is some 500 km southeast of Edom. If the biblical genealogies are reliable, it was more likely founded by Ishmael’s son Tema in trading ventures with his brothers across the Arabian Peninsula (Gen 25:13-15; 1 Chron 1:29-31; Job 6:19).

The southern Arabah catchment, however, is well-positioned relative to all the regions associated with Teman. It adjoins the northern Arabah catchment (part of Edom) to the north, the paleo-Paran basin (Wilderness of Paran) to the west, and the eastern Aqaba Gulf catchment (Dedan) to the south (Fig. 5). Some have proposed that the Land of Edom had two urban centres, Bozrah and Teman (Amos 1:12),<sup>69</sup> but the weight of biblical evidence indicates that Teman was not a city but a region, and specifically a region south of Edom.<sup>70</sup> All the major biblical and historical cities of the Southern Transjordan, including Tafilah (Tophel, Deut 1:1), Bozrah, and

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<sup>66</sup> Orni and Efrat, *Geography*, 108–9.

<sup>67</sup> Baly, *Geographical Companion*, 59; Denis Baly, *Basic Biblical Geography* (Minneapolis, MN: Fortress, 1987), 60, 65–66; Baly, *Geography*, 1958, 257.

<sup>68</sup> Baly, *Geography*, 1958, 127.

<sup>69</sup> John R. Bartlett, “The Edomite King-List of Genesis XXXVI. 31-39 and I Chron. I. 43—50,” *The Journal of Theological Studies* 16, no. 2 (1965): 306.

<sup>70</sup> Bartlett, *Edom and the Edomites*, 40.

Petra, lie within the northern Arabah catchment,<sup>71</sup> the southern Arabah catchment being generally too inhospitable for permanent settlement.

Teman is an ancient Arabian name bestowed on Seir the Horite's daughter Timna (Gen 36:12), Ishmael's son Tema (Gen 25:15), and Esau's grandson Teman who became progenitor of the Edomite tribe of Temanites (Gen 36:10-11, 15, 40; Job 2:11). Geographical references to Teman, appearing only in the prophets, consistently associate the region with Edom and Arabia (Jer 49:7, 20; Ezek 25:13; Amos 1:12; Obad 1:9; Hab 3:3). A single connection between Teman and Paran appears in Habakkuk's prayer which rehearses in grand prophetic poetry the Israelite journey from the mountainous southern regions towards Canaan:

*God came from Teman, the Holy One from Mount Paran. [Selah] His glory covered the heavens, and the earth was full of his praise. (Hab 3:3)*

The use of "Teman" in parallel with "Paran" raises questions regarding the relationship between the regions. Biblically and historically, Paran is located on the west side of the Rift Valley.<sup>72</sup> Kadesh-barnea in the Wilderness of Paran, for example, is firmly identified at Ayn Qudayrat in northeastern Sinai (Num 12:16; cf. 13:3, 26; 33:36).<sup>73</sup> The region of Teman, however, is located on the east side of the Rift Valley. Hence, Habakkuk gives the sense that Israel (representing God) "came" from both sides of the Arabah.

In the context of the Israelite migration from west to east of the Rift Valley, the juxtaposition of Teman and Paran supports the suggestion that Teman may comprise or include the southern Arabah catchment. The wilderness itinerary of the fortieth year passes by the Way of the Red Sea from Kadesh in the Wilderness of Paran (Num 20:22; 33:37; Deut 1:46-2:1) to Jotbathah in the southern Arabah (Deut 10:7).<sup>74</sup> Here Moses changes the original plan which was to circumnavigate Edom to the south and east, turning north instead through the territory of Esau in the northern Arabah and northeast across the Zered Plateau to the far side of Moab (Deut 2:2-4, 8; Num 21:11; Judg 11:18). If the southern Arabah catchment is Teman, Jotbathah (Yotvata) is the place where Israel turned and "came from Teman" towards Canaan. In naming

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<sup>71</sup> See 7.10 Northern Arabah.

<sup>72</sup> See 5.14 Wilderness of Paran; 6.3 Paleo-Paran Basin.

<sup>73</sup> See 6.2 Kadesh District.

<sup>74</sup> See 4.1.3 Regions: Kadesh to Jordan.

Mount Paran (Sinai) and Teman as dual points of origin for the Transjordanian conquest, the prophet connects the holy mount in the first year of the wilderness era and Teman in the last year.<sup>75</sup> The mention of “YHWH of Teman” among the inscriptions at Kuntillet Ajrud also supports Habakkuk’s association of Paran with Teman and the significance of these two regions to the “southern theophany”.<sup>76</sup>

## 7.9 LAND OF MIDIAN

The Land of Midian was Moses’ destination when he fled from Pharaoh, and is the first national territory mentioned in the exodus narrative after the Land of Egypt (Exod 2:15; cf. 1:1). Despite many references to Midianites, the Hebrew Bible does not locate the Land of Midian other than to mention that Paran lay between Midian and Egypt during David’s reign:

*Then the LORD raised up an adversary against Solomon, Hadad the Edomite; he was of the royal house in Edom. For when David was in Edom, and Joab the commander of the army went up to bury the dead, he killed every male in Edom (for Joab and all Israel remained there six months, until he had eliminated every male in Edom); but Hadad fled to Egypt with some Edomites who were servants of his father. He was a young boy at that time. They set out from Midian and came to Paran; they took people with them from Paran and came to Egypt, to Pharaoh king of Egypt, who gave him a house, assigned him an allowance of food, and gave him land. (1 King 11:14-18)*

In other words, Hadad lived in Edom, removed to Midian, and passed through Paran *en route* to Egypt.<sup>77</sup> This account suggests a linear progression of regions westward from Edom through the Southern Negev and Central Sinai. From this reference, Midian does not seem to lie south of Edom along the eastern side of the gulf but rather to the west.

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<sup>75</sup> See 6.14 Wanderings: Zin and Paran.

<sup>76</sup> See 6.8 Kuntillet Ajrud. Gareth J. Wearne details how the “biblical southern theophany motif” is reflected in the Kuntillet Ajrud inscriptions. “The Plaster Texts from Kuntillet ‘Ajrud and Deir ‘Alla: An Inductive Approach to the Emergence of Northwest Semitic Literary Texts in the First Millennium B.C.E.” (Doctor of Philosophy, Sydney, Australia, Macquarie University, 2015), 114–15.

<sup>77</sup> See 5.14 Wilderness of Paran.

Hadad's flight vector—Edom-Midian-Paran-Egypt—comports with biblical accounts of Moses' encounters with the Kenite branch of Midian (Num 10:29; cf. Judg 1:16; cp. Gen 15:19). Before the exodus, while based in the Land of Midian, Moses took Jethro's flocks אַחַר הַמִּדְבָּר *ahar ha-midbar* "behind the wilderness" as far as "the mount of God, Horeb" (Exod 3:1).

As usual, in Semitic thought, one faces east when giving compass directions; 'behind' is therefore 'west'.<sup>78</sup>

The hydrological model of biblical regions identifies this unnamed wilderness as the Wilderness of Paran (Num 10:12)<sup>79</sup> and Mount Sinai-Horeb as Har Karkom on the western side of the Nahal Paran catchment.<sup>80</sup> Upon receiving his commission to liberate the Hebrews, Moses had to שׁוּב *shuv* "return" to Jethro to seek his leave (4:18) and "return" again to Egypt (vv. 18-20), these verbs indicating that Mount Sinai lay between Egypt and the Land of Midian. When Jethro later visited Moses and his rescued Hebrew slaves at Mount Sinai, the parties arrived almost simultaneously, possibly when Israel was still at Rephidim, the penultimate station to Mount Sinai (Exod 18:5; cf. 17:8). This seems most unlikely if Jethro was coming from the far side of the Aqaba Gulf.

These logistics and Jethro's role as priest of Midian (Exod 3:1; 18:1) may suggest that he commonly officiated for pilgrims to Mount Sinai as he did for Israel upon their arrival (Exod 18:12). Mount Sinai is implied to be outside the Land of Midian because Jethro went home "to his own land" (Ex. 18:37; Num. 10:30). A distinct yet proximal land to the east of Mount Sinai that also lies between Edom and Paran would be the Hayun catchment between the Paran and southern Arabah catchments (Fig. 4). This region is close enough for Jethro to function as priest at Mount Horeb-Sinai and far enough to be his "own land". The Land of Midian is not so labelled on the map of geopolitical regions because such a proposal is even more speculative than the identity of Teman (Fig. 5). Nonetheless, the unidentified Hayun catchment could possibly be the territory of the Kenite clan of Midian. If so, the Land of Midian during the wilderness era should be included with the Sinai-Negev regions, but is included here among the Transjordan regions according to common expectations.

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<sup>78</sup> Alan Cole, *Exodus*, Tyndale Old Testament Commentaries (Leicester, UK: InterVarsity, 1973), 61.

<sup>79</sup> See 5.14 Wilderness of Paran.

<sup>80</sup> See 5.12 Sinai in Paran and Seir.

Midian was an Arabian tribe associated with Sheba, Amalek, Cushan, and the *בְּנֵי־קֵדָם* *bene kedem* “people of the east” (Num 24:20-21; Judg 6:3, 33; 7:12; 8:10; 1 Chron 1:32; Isa 60:6; Hab 3:7). The Midianites’ camels and merchandising wealth (Gen 37:28, 36; Judg 7:12; 8:21, 26), their large flocks and herds (Num 31), their early presence near Mount Sinai-Horeb and amongst the Moabites and Amorites of the Central and Southern Transjordan (Exod 18; Num 22:4; 31: 8; Josh 13:21), along with their raids throughout pre-monarchic Israel (Judg 6:3-6; 8:10), indicate a mobile decentralised opportunistic nation.

In their floruit they appear to have been a large and amorphous Transjordanian grouping associated with Edom, Moab, Israel, Sihon, the Ishmaelites, and the Amalekites, while their connection with Israel is presumed in the biblical narratives in some sense at least, to have continued through the Kenites.<sup>81</sup>

Overall, therefore, it seems that Midianite territory cannot be identified with any single region, at least during the Israelite period. Payne proposes that the Midianites retreated into Arabia during the Israelite period:

As a result of a series of reverses over the following centuries, the Midianite population, which was not absorbed into the new socio-political units of Israel, Judah, Edom and Moab, was pushed back into the deserts of Northern Arabia.... It is hence no surprise to find in classical times the mention of towns in the Northern Hijaz which seem to preserve the ancient name.<sup>82</sup>

Josephus refers to “the city of Madian which lay upon the Red Sea” (*A.J.* 2.257), while Ptolemy records two towns, Modiana and Madiana, east of the Gulf of Aqaba (*Geographia* VI. 7.27).

The relevance of Hellenistic/Roman evidence to the location of Biblical Midian must in any case remain doubtful.<sup>83</sup>

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<sup>81</sup> William J. Dumbrell, “Midian – a Land or a League?,” *Vetus Testamentum* 25, no. 3 (January 1, 1975): 332.

<sup>82</sup> Elizabeth J. Payne, “The Midianite Arc in Joshua and Judges,” in *Midian, Moab, and Edom: The History and Archaeology of Late Bronze and Iron Age Jordan and North-West Arabia*, ed. John F. A. Sawyer and David J. A. Clines, vol. 24, *Journal for the Study of the Old Testament Supplement Series* (Sheffield, UK: JSOTS, 1983), 163–64.

<sup>83</sup> Davies, *The Way of the Wilderness*, 64, 110 n. 17.

## 7.10 NORTHERN ARABAH

Conditions in the northern Arabah are only marginally better than in the southern Arabah; the mean annual rainfall near the Dead Sea is 50 mm (2 inches) and the mean minimum and maximum temperatures are 11° and 39° C respectively (52°, 104° F).<sup>84</sup> The northern Arabah, however, channels considerably more surface and ground water from its wider catchment area than does the southern Arabah. From the west side, the northern Arabah receives not only the run-off from the Central Negev through Nahal Zin and Nahal Neqaroth but also that from the Southern Negev through Nahal Paran and Nahal Hayun (Fig. 4). The southern Arabah, by way of contrast, receives from the west side only the run-off from the escarpment. The uneven distribution of water to the two Arabah catchments results from the Southern Negev rivers flowing overall NNE towards the Dead Sea rather than overall southeast towards the Red Sea. Over millennia of desertification and erosion in the southern wildernesses, rainfall penetration has decreased and run-off has increased. Thus, despite its large catchment area, Wadi Arabah is not a perennial river, flowing only after it has rained in the Negev or along the Edomite mountain range.

As with the southern Arabah, Israel passed through the northern Arabah twice during the wilderness era,<sup>85</sup> first during the second stage of the itinerary, Sinai-to-Kadesh (Num 33:24-27; 32-35),<sup>86</sup> and again during the third stage, Kadesh-to-Jordan (Num 33:41-43; Deut 2:8; 10:7).<sup>87</sup> The full case for the routes of these journeys is outside the scope of this dissertation which investigates the geographic regions only,<sup>88</sup> but brief overviews appear in other sections (see footnotes).<sup>89</sup> Like the southern Arabah catchment, the northern Arabah catchment straddles the Rift Valley. Unlike the southern Arabah catchment lying mostly on the east side of the Rift Valley, the northern Arabah catchment lies mostly on the west side of the Rift Valley.

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<sup>84</sup> See 7.8 Southern Arabah.

<sup>85</sup> See 7.7 The Arabah: Geozone; 7.8 Southern Arabah.

<sup>86</sup> See 4.1.2 Sinai to Kadesh.

<sup>87</sup> See 4.1.3 Kadesh to Jordan.

<sup>88</sup> See 1.2 Research Question.

<sup>89</sup> See 6.14 Wanderings: Zin and Paran.

Notwithstanding its ambiguous status, the northern Arabah is here addressed among the Transjordanian regions as the Rift Valley component of the Land of Edom.<sup>90</sup>

## 7.11 LAND OF EDM

The Land of Edom is commonly divided into the broad plateau south of Wadi Zered, known in Arabic as Jabal (“mountain”), and the long narrow mountain ridge along the eastern side of the northern Arabah, known in Arabic as Shara:

In the north, from the Wadi el-Hasa to a line between Kalat Aneiza on the Hejaz railway and Jebel Dana, it is volcanic country, broken by valleys and extinct craters. This region is known as el-Jibal. The region to the south is known as esh-Shera; its limestone hills curve away towards Ma’an and the southeast, overlooking the Wadi Hisma and the eroded sandstone peaks of Jebel Ramm to the south. Beyond the esh-Shera to the southwest lie the granite mountains of Midian, pierced by the deep gorge of Wadi Yutm through which runs the main road from Ma’an to ‘Aqaba.<sup>91</sup>

The name Shara seems to preserve the biblical name Seir despite the consonantal difference.<sup>92</sup> These two mountain regions—Jabal and Shara—largely correspond to the two secondary water-catchments in the region. The Zered catchment drains the Edomite plateau northward into the Zered ravine and thence westward to the Dead Sea; and the northern Arabah catchment drains the mountains along both sides of the Rift Valley into Wadi Arabah and thence northward to the Dead Sea.

Although not directly so described, Edom’s northern border with Moab can be readily identified with Wadi Hasa, the Zered ravine.<sup>93</sup> On their journey northward through the Transjordan, the Israelites pass from “the wilderness bordering Moab toward the sunrise”,

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<sup>90</sup> See 7.11 Land of Edom; 7.5 Four Great Rivers.

<sup>91</sup> For a full discussion of Edom and its territories without reference to hydrology, see Bartlett, *Edom and the Edomites*. For the context of Ma’an and wadis Hisma, Ramm, and Yutm, see 7.8 Southern Arabah.

<sup>92</sup> Bartlett, 41.

<sup>93</sup> Kallai, “The Campaign of Chedorlaomer,” 228; MacDonald, *East of the Jordan*, 73.

probably the Wilderness of Edom,<sup>94</sup> to a campsite in Nahal Zered (Num 21:11-12; 33:44). Before crossing the Zered, Moses cautions the people against provoking the Moabites (Deut 2:13; cf. v. 18). These travel notices in sequence establish the Zered as the point where Israel left Edomite territory and entered Moabite territory. Regarding Edom's eastern border, Dearman takes a *relative aridity* approach:

The eastern border of Edom cannot be easily defined, as the already arid region merges with the Arabian desert.<sup>95</sup>

A hydrological model, however, determines that the biblical lands of the Transjordan—Edom, Moab, Ammon, and the Bashan—are all divided from Arabia at their continuous topographical boundary, that is, the eastern watershed of the greater Dead Sea catchment (Fig. 5). In this aspect, the hydrological model greatly clarifies and simplifies the outlines of Bible lands.

The escarpment along the eastern side of the northern Arabah, rising to 1700 m ASL, is an impressive sight when viewed from the west:

The whole eastern wall is intensely dramatic, since the Trans-jordan tableland is here at its highest, and the rough red sandstone ascends in jagged cliffs and precipices. It is well nigh impassable, for the winter storms have carved the rock into deep, unfinished gorges, and only rarely does one of the gorges provide a possible route onto the plateau.<sup>96</sup>

Whereas the Jabal plateau extends some 50 km (30 miles) eastward across the Zered catchment to the edge of the Central Arabian Plateau, the Shara range is constricted to less than 10 km wide on its eastern side by the high Maan basin that drains eastward:

In the south, however, the region is excessively narrow and the rain is sufficient to permit no more than a single line of villages along the very lip of the Arabah, for it dies away with great rapidity as soon as the edge of the [Edomite] plateau is passed.<sup>97</sup>

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<sup>94</sup> See 7.12 Wilderness of Edom.

<sup>95</sup> Dearman, "Edom, Edomites," 189.

<sup>96</sup> Baly, *Geography*, 1974, 208.

<sup>97</sup> Baly, *Geography*, 1958, 62.

The landlocked Maan basin is not part of the Dead Sea catchment and therefore not strictly part of Edom according to a hydrological model of Bible Lands.<sup>98</sup> It is likely, however, that Edomites controlled the oasis town of Maan (biblical name unknown) on account of its strategic location on the Desert Highway which crosses the Maan basin between the Zered plateau and Ras an-Naqb (“head of the pass”) above the Hasma (Fig. 4, cf. Fig. 12).<sup>99</sup>

Whereas the northern and eastern borders of Edom were hydrologically determined by the Zered riverbed and the eastern Dead Sea watershed respectively, the western and southern borders seem to have been politically negotiable.<sup>100</sup>

The extent and power of Edomite hegemony varied throughout the biblical and intertestamental periods.<sup>101</sup>

Biblical testimony refers to the border of Edom to the south of the Wilderness of Zin on the west side of the Rift Valley (Num 34:3; Josh 15:1). Archaeology reveals that the Arabah Valley did not inhibit the movement of people from east to west, and that common perceptions of the Rift Valley as a western boundary to Edom may have been influenced by its modern status as a political border.<sup>102</sup>

The western side of the Rift is less impressive and at times loses the effect of a scarp altogether. It is only a third of the height [of the eastern side] and is made up of tumbled chalk and limestone hills...<sup>103</sup>

Part of the reason for Edom’s intermittent annexation of the Central and Southern Negev (Seir West) was ready access through the northern Arabah via the mouths of the four major rivers of the Negev—Zin, Neqaroth, Paran, and Hayun (Fig. 4).

Edomite territory does not always include the southern Arabah catchment which functions as international territory for the passage of the great trade routes from Arabia to Egypt

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<sup>98</sup> See 3.1 Hydrology of Biblical Lands; 3.2 Primary Catchments.

<sup>99</sup> See 7.8 Southern Arabah.

<sup>100</sup> See 6.12 Mount Seir (West): Geozone.

<sup>101</sup> Beitzel, *New Moody Bible Atlas*, 35.

<sup>102</sup> Bienkowski, “The Wadi Arabah,” 22–24.

<sup>103</sup> Baly, *Geography*, 1974, 208.

and Gaza.<sup>104</sup> Thus, in both the second and fortieth years after the exodus, Israel passes through Jotbathah (now Yotvata) in the southern Arabah without challenge from the Edomites (Num 33:33-36; Deut 10:7).<sup>105</sup> By the time of Solomon, however, Elath and Ezion-geber lie within “the land of Edom” (1 King 9:26; 2 Chron 8:17). The region remains in dispute between Edomite, Judahite, and Syrian interests until its final loss to Edom during Ahaz’s reign (Uzziah 2 King 14:21-22; 2 Chron 26:1-2; Ahaz, 2 King 16:6). The Edomite kingdom exploited the expeditionary industries of the southern Arabah (mining, fishing, trading, shipping). Archaeologists have recently deduced that the Timna miners of the Iron Age were not foreign task-forces but local specialists, probably Edomites.<sup>106</sup> Nonetheless, the Edomite heartland remained the high rumpled plateau of the Zered catchment— “the field of Edom” שְׂדֵה אֶדוֹם *sedeh edom* (Gen 32:3; Judg 5:4 JPS)—where a typical annual rainfall of 300 mm enabled settled occupation.<sup>107</sup> Of Edom’s livelihood, Har-el observes:

Although this region’s high altitude (Obad 3) usually attracts enough rain for a minimum grain harvest, its economic base is grounded in shepherding (Isa 34:5-7) and control of the northern end of the Arabian Spice Route.<sup>108</sup>

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<sup>104</sup> Michael Jasmin, “The Emergence and First Development of the Arabian Trade Across the Wadi Arabah,” in *Crossing the Rift: Resources, Routes, Settlement Patterns, and Interactions in the Wadi Arabah*, ed. Piotr Bienkowski and Katharina Galor, Levant Supplementary Series 3 (Oxford: Oxbow, 2006), 143–45.

<sup>105</sup> See 4.1.3 Regions: Sinai to Kadesh; 7.7 The Arabah; Geozone.

<sup>106</sup> Erez Ben-Yosef et al., “Ancient Technology and Punctuated Change: Detecting the Emergence of the Edomite Kingdom in the Southern Levant,” *PLoS ONE* 14, no. 9 (September 18, 2019), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6750566/>; Erez Ben-Yosef and Aaron Greener, “Edom’s Copper Mines in Timna: Their Significance in the 10th Century,” *The Torah*, August 12, 2018, <https://thetorah.com/edoms-copper-mines-in-timna-their-significance-in-the-10th-century/>. Ben-Yosef et al., “Ancient Technology and Punctuated Change”; Ben-Yosef and Greener, “Edom’s Copper Mines in Timna.”

<sup>107</sup> Bruins, “Desert Environment,” 36.

<sup>108</sup> Har-El, *Understanding the Geography of the Bible*, 23.

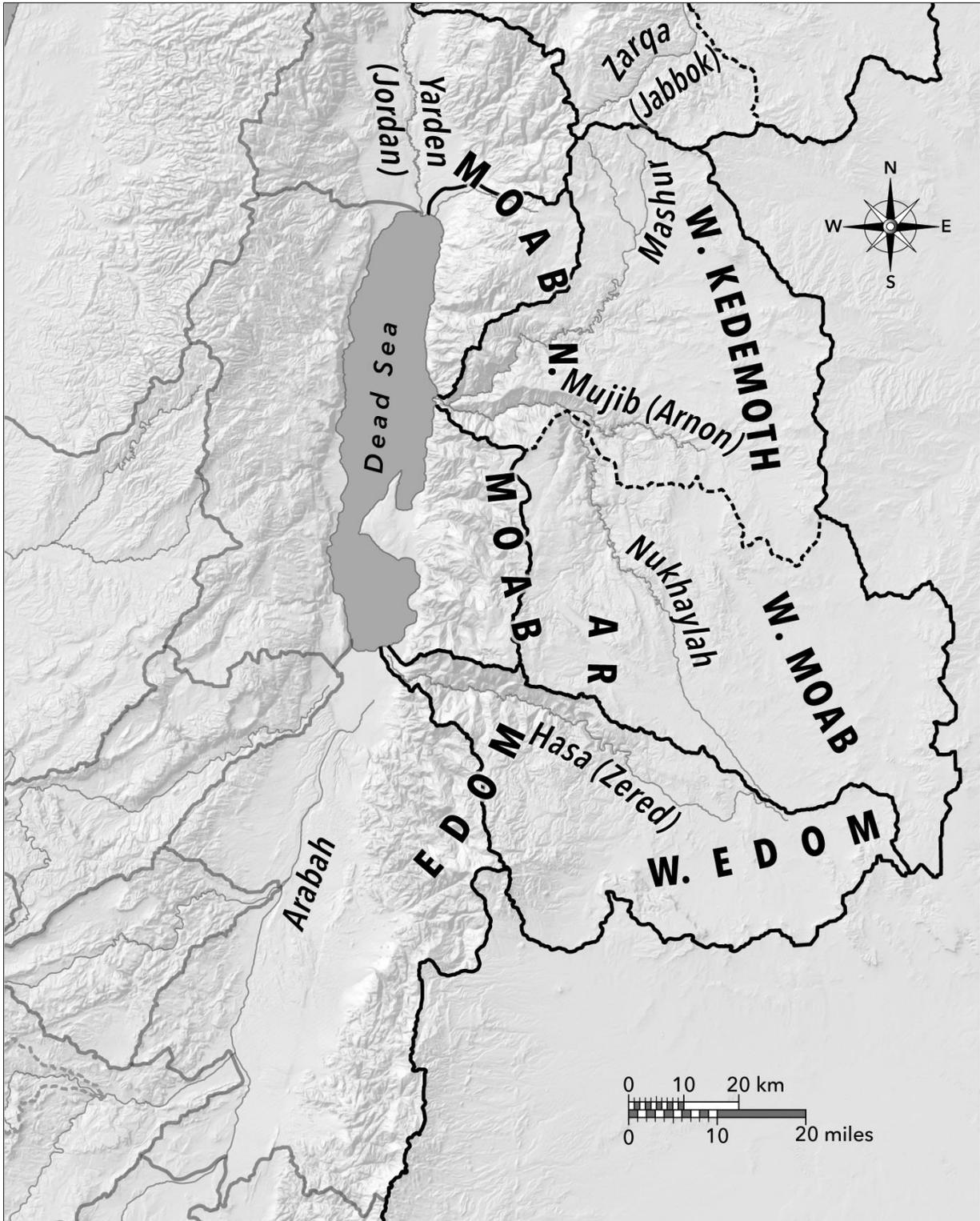


Figure 15 EDOM, MOAB

## 7.12 WILDERNESS OF EDOM

The Wilderness of Edom is not mentioned in the Pentateuch. It appears once in the book of Kings as part of an ancient road-name, דֶּרֶךְ מִדְבַּר אֶדוֹם *derekh midbar edom* “the Way of the Wilderness of Edom” (2 King 3:8). Nonetheless, the Israelites probably passed through this region on their way through Edom and around Moab in the fortieth year of the wilderness era (Deut 2:8-9, 13; Judg 11:18). The Wilderness of Edom may be the unnamed wilderness *al-peney moav* עַל-פְּנֵי מוֹאָב lit. “to the face of Moab” mentioned in the narrative at the point where Israel approaches Moab’s southern border:

*They set out from Oboth, and camped at Iye-abarim, in the wilderness bordering Moab toward the sunrise. From there they set out, and camped in the Wadi Zered. (Num 21:11-12)*

Iye-abarim is also described as lying בְּגְבוּל מוֹאָב *bi-gevul moav* “on the border of Moab” (Num 33:44 NIV; cf. usage in Num 21:13, 15, 24), a translation preferable to “territory” which would situate the station inside Moabite territory while Israel had not yet crossed the Zered. Tigay allows that the wilderness “bordering Moab toward the sunrise” would be to the southeast of Moab on the Edomite side of Wadi Zered.<sup>109</sup> By a hydrological model of biblical regions, the Wilderness of Edom is the upper Zered catchment to the east of the 200 mm isohyet (Fig. 14).<sup>110</sup> As found on the journey northward through the Transjordan, each of the national territories—Edom, Moab, and Ammon—has an associated wilderness in the same major river catchment.

Because the single mention of the Wilderness of Edom in the book of Kings has considerable geographical context, it is possible to locate the region and identify the road. During Ahab’s reign over Israel, Mesha king of Moab rebelled against Israelite rule over the Mishor (2 King 1:1; 3:4-5). Ahab’s successor Jehoram allied with Jehoshaphat king of Judah and an unnamed king of Edom to attack and subdue the Moabites. Jehoram left from Samaria, summoned Jehoshaphat from Judah, and together the kings travelled by the “way of the wilderness of Edom” (2 King 3:6-8). After a “roundabout march of seven days”, the armies found no water for the men and their livestock (v. 9). The kings consulted the prophet Elisha

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<sup>109</sup> Tigay, *Deuteronomy*, 527 n. 49.

<sup>110</sup> See 7.6 “The Desert From the Sown”.

who prophesied both water and victory, and the next morning, “water began to flow from the direction of Edom, until the country was filled with water.” (vv. 10-20) The Moabite army, drawn up at the frontier facing their enemies, saw the red sunrise reflected in the water opposite them and thought the water was blood. Concluding the allied armies had fought overnight and killed one another, they approached the enemy camp only to be ambushed and pursued. The Israelite forces advanced into Moab, destroying the towns, fields, springs, and trees, and ultimately besieging Kir-hareseth, the capital. In desperation the king of Moab sacrificed his son on the town wall,<sup>111</sup> causing chaos among the invading armies who then returned home (vv. 21-27).

Many geographers locate the Jehoram-Jehoshaphat advance to the west of Moab, tracing the Way of the Wilderness of Edom southward through Southern Judah into the Ghor at the southern end of the Dead Sea, and up through the eastern escarpment to Kir-hareseth at Kerak, the capital of Moab.<sup>112</sup> Aharoni even proposes that the biblical account is mistaken and should read “the way of Edom”—a road-name that does not appear in the Bible—locating this putative road to the west of the Dead Sea while also retaining a “way of the wilderness of Edom” to the east of Edom along the present line of the Desert Highway.<sup>113</sup> The allied armies, however, if approaching from the south and west, would have had to ascend the Moabite Plateau through the Dead Sea escarpment where the terrain is steep, rugged, and unsuited to horses employed in the march (2 King 3:7). Baly describes the scarp as “the plunging monocline of Moab, where the strata turn over headlong into the Rift”.<sup>114</sup> Thiel confesses that this route does not make strategic sense:

It is not easy to explain why the allies attacked Moab from the S, across Judean and Edomite territory, instead of going by way of the Israelite settlements in the N part of the Moabite sphere of influence.<sup>115</sup>

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<sup>111</sup> Rainey and Notley support a rabbinic view that Mesha sacrificed the captured son of the Edomite king. Rainey and Notley, *The Sacred Bridge*, 205.

<sup>112</sup> e.g. Rainey and Notley, 205; Currid and Barrett, *Crossway ESV Bible Atlas*, 145–46 map 6–5.

<sup>113</sup> Aharoni, *Land of the Bible*, 1979, 58–59, 203 map 14.

<sup>114</sup> Baly, *Geography*, 1958, 240.

<sup>115</sup> Winfried Thiel, “Joram (Person),” in *Anchor Bible Dictionary*, ed. David Noel Freedman (New York, NY: Doubleday, 1992), 951.

The optical illusion of a red sunrise reflected in water indicates the Moabites were facing east overlooking a shallow wadi. There is no location in the Ghor (Dead Sea region) where sun-rays could have this effect, chiefly because the eastern ridge of the Aravah keeps the Rift Valley in shadow until the red refraction of sunrise has ceased. Moreover, the Moabites could not have seen this phenomenon if they were facing west unless, of course, it were sunset, and even then the topography is not conducive. Few commentators, therefore, venture an explanation of the red sunrise phenomenon based on a battle scenario in the southern Dead Sea area (the Ghor). The weight of evidence suggests instead that the standoff was at the eastern border of Moab along Wadi Nukhaylah (sometimes spelled Ghuwaylah), the long southern tributary of the Arnon system that divides the Moabite pastoral steppe<sup>116</sup> from the eastern wilderness<sup>117</sup> and thus forms the “eastern frontier of Moab”.<sup>118</sup> The runoff came from an isolated rainfall at the edge of the Central Arabian Plateau to the southeast, the rainwater then draining northwestward and standing in the floodplain of the wadi. The Nukhaylah river system in its upper reaches is shallow and level, allowing for flood water to form large pools. Here the small agricultural town of Al-Wadi al-Abyad and its dam now take advantage of the same conditions that saved the Israelite confederacy in Mesha’s time.

Jehoram’s campaign route, therefore, led southward from Samaria to the Jordan Valley, then eastward across the Mishor, and then southward along the Way of the Wilderness of Edom, the present-day Desert Highway. The journey of 210 km would indeed require seven days at an average military rate of 30 km/day.<sup>119</sup> The king of Israel probably chose this eastern approach to avoid crossing the Arnon or Zered ravines, immense obstacles that would have put the invading armies at a strategic disadvantage. After defeating the Moabite army on a level battlefield to the east, the allied armies could advance directly westward across the Moabite steppe, ascending only 100 m over 35 km to attack the capital of Moab, Kir-hareseth (v. 25; Kir of Moab, Isa 15:1, modern Kerak). Their path to Kerak would almost certainly be via the Wadi Ghayth through the

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<sup>116</sup> See 7.17 Land of Ar.

<sup>117</sup> See 7.16 Wilderness of Moab.

<sup>118</sup> Miller, “Israelite Journey Around Moab,” 584.

<sup>119</sup> “A survey of the main authorities reveals a range of values for a day’s journey between 16 and 23 miles.” [25-37 km] Davies, “Significance of Deut 1.2,” 93; “the standard ancient rate of travel of c. 30 km./day”. Davies, “Wilderness Itineraries,” 170.

Fajj al-Usaykir,<sup>120</sup> a long broad shallow trough formed by parallel faultlines running NW-SE, linking the Desert Highway with the King's Highway on the north side of the Wadi Zered (Hasa).<sup>121</sup> Both rims of this natural corridor are lined with archaeological sites, including watchtowers and forts,<sup>122</sup> and the level terrain is ideal for cavalry (2 King 3:7). A modern road now runs the full length of the Fajj from the floodplain around the small town of Al-Wadi al-Abyad on the eastern steppe to Kerak on the plateau. For these reasons, Glueck also identifies the approach of Jehoshaphat's allies from the southeast.<sup>123</sup>

Thus, the geographical details of Jehoram's allied campaign against Moab (2 King 3) reveal he attacked Moab from the east. This detail is consistent with the predictions of the hydrological model which would locate the Wilderness of Edom in the eastern Transjordan. The Way of the Wilderness of Edom is the ancient equivalent of the present-day Desert Highway that passes north-south through the upper (eastern) reaches of all four major river catchments in the Transjordan (2 King 3:9, 20-22). The Desert Highway passes through the Zered catchment for only a short distance (~40 km) of the southern section from Amman to Aqaba (~300 km). Thus, the road-name Way of the Wilderness of Edom *דֶּרֶךְ מִדְבַּר אֶדוֹם derekh midbar edom* would be better translated "Way to the Wilderness of Edom", whether approaching from north or south.<sup>124</sup> The Israelite campaign under Jehoram reprised the early Israelite migration under Moses but in the reverse direction, this time to invade rather than bypass Moab to the east. In this region of "wadis that lie along the border of Moab" both campaigns suffered from lack of water (Num 21:14-18; cf. 2 King 3:9). The close correspondence of geographical details allows an early favorable assessment of the utility of the hydrological model in the Transjordan.

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<sup>120</sup> Appearing in some maps as Fajj al Medina or Muhayr al Fajj, the Fajj al Usaykir is "one of the most conspicuous topographic features of Moab... [and] one of the few easy routes of access into the fertile lands around Kerak." F. L. Koucky, "The Regional Environment," in *The Roman Frontier in Central Jordan: Interim Report on the Limes Arabicus Project, 1980-1985. Volume 1*, ed. S. Thomas Parker, BAR International Series 340 (Oxford: Oxford University, 1987), 30, 40.

<sup>121</sup> Baly, *Geography*, 1974, 32; Gerald L. Mattingly, "A New Agenda for Research on Ancient Moab," *The Biblical Archaeologist* 60, no. 4 (1997): 219.

<sup>122</sup> Mattingly, "The King's Highway," 96-98.

<sup>123</sup> Nelson Glueck, "Explorations in Eastern Palestine, III," in *Annual of the American Schools of Oriental Research*, vol. 18-19 (New Haven, CT: American Schools of Oriental Research, 1939), 61.

<sup>124</sup> "The names of the roads in biblical usage are usually based on their destination." Kallai, "The Campaign of Chedorlaomer," 230 n. 27.

## 7.13 MOUNT SEIR (EAST): GEOZONE

Among the ten geozones of the Israelite journeys,<sup>125</sup> הַר שֵׁעִיר *har seir* (Mount) Seir is the only toponym that does not appear at least once in the Hebrew Bible with the definite article.<sup>126</sup> This irregularity may be considered either an accidental (incidental) omission or an indication of the great antiquity of the name. According to biblical indigenous history, Seir pre-dates all Abrahamic toponyms in the broader region (Gen 14:6; Deut 2:12, 22). The Genesis genealogies reveal that Seir was a person, the primogenitor of the Horites (Gen 36:20-30), a nation that inhabited the mountainous country in the Southern Transjordan before Abraham and his nephew Lot arrived in Canaan (Gen 12:4-6). Lot's sons Ammon and Moab, born after the destruction of Sodom and Gomorrah (Gen 19:24-38), supplanted the Rephaim people of the Central and Northern Transjordan (Deut 2:9-11, 19-21), a nation contemporary with the Horites of the Southern Transjordan. Abraham's grandson Esau married into, lived amongst, and ultimately dispossessed, the Horites so that the inhabitants of Seir were known thereafter as Edomites (Gen 32:3; 36:1-9; cf. vv. 2, 18; Deut 2:12, 22). The name Seir survived (with an א/ע consonantal change) to Nabataean times when the range that divided Arabia from the Sinai was known as the Shara mountains.<sup>127</sup> The chief Nabataean god was Dushara, which translates to "He of Seir".<sup>128</sup> In Arabic, the southern 'Edomite' range is still called Shara.<sup>129</sup>

Although Seir and Edom are often associated (Gen 36:8, 9; 2 Chron 25:14; Ezek 35:15) or mentioned in parallel (Gen 32:3; 36:8; Num 24:18; Judg 5:4), the Seir geozone is not synonymous with Edomite national territory. If, like the biblical author(s), one distinguishes between geopolitical and geomorphic regions, conflicts between the extent of the geozones and the national territories that overlie them dissolve. Seir is a fixed geomorphic region whereas Edom is a geopolitical region, its western and southern extents varying throughout the biblical and intertestamental periods (Num 20:21; 1 Chron 4:42).<sup>130</sup> Just as the terms הַגִּלְעָד *ha-gilad* "the

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<sup>125</sup> See 2.4 Geozones: Sinai-Negev and Transjordan.

<sup>126</sup> See 2.2 Wildernesses, National Territories, Geozones.

<sup>127</sup> See 7.11 Land of Edom

<sup>128</sup> Davies, "Significance of Deut 1.2," 99.

<sup>129</sup> Bartlett, *Edom and the Edomites*, 34. Bartlett, 34.

<sup>130</sup> Beitzel, *New Moody Bible Atlas*, 35; Bartlett, "The Land of Seir," 15.

Gilead” or הַר הַגִּלְעָד *har ha-gilad* “mount of the Gilead” sometimes signify all the mountainous country to the north of Moab (Gen 31:21; Josh 22:9, 15; 1 King 4:19; 2 King 10:33),<sup>131</sup> so the terms “Seir” or “Mount Seir” signify all the mountainous country to the south of Moab (Gen 14:6; 36:8; Deut 2:8). The term “[Mount] Seir” also includes the high country to the west of the Arabah Valley and south of the biblical Negeb (Deut 1:44; 33:2; Josh 11:17; 12:7), that is, the Eastern Negev highlands and Arabah escarpment (Fig. 2).<sup>132</sup> The Way of Mount Seir, mentioned just once in the prologue to Deuteronomy, unites eastern and western Seir across the northern Arabah and Central Negev אֲדָמָה *ad* “unto” or “as far as” Kadesh-barnea (Deut 1:2).<sup>133</sup>

## 7.14 LAND OF MOAB

The hydrological model of the biblical regions identifies four major river catchments in Dead Sea catchment of the Transjordan.<sup>134</sup> These correspond to the four foundational territories of the nations of the Transjordan in all biblical eras. Greater Moab comprises the entire Arnon catchment extending to the north, east, and south of the Arnon stem (Wadi Mujib) plus the adjoining sections of the Rift Valley. The two subsections of Greater Moab are Southern Moab and Northern Moab:

- **Southern Moab** lies between the Zered and Arnon riverbeds (S-N) and the Dead Sea and Central Arabian Plateau (W-E).
- **Northern Moab** lies between the Arnon and Jabbok riverbeds (S-N) and the Dead-Sea–Jordan–Valley and Central Arabian Plateau (W-E).

Each half of Greater Moab—to the south and north of the Arnon stem (Wadi Mujib)—subdivides into three biblically-named geopolitical regions:

**Southern Moab** between the Zered riverbed to the south and the Arnon riverbed to the north comprises three geopolitical regions, listed here from west to east:

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<sup>131</sup> See 8.4 The Gilead: Geozone.

<sup>132</sup> See 6.12 Mount Seir (West): Geozone. Rainey and Notley, *The Sacred Bridge*, 40.

<sup>133</sup> See 6.5 “Eleven days from Horeb”; 6.2 Kadesh District.

<sup>134</sup> See 7.5 Four Great Rivers.

1. **Moab** proper is the agricultural plateau and the adjoining section of the Dead Sea catchment.<sup>135</sup>
2. **Ar of Moab** is the pastoral steppe between the plateau and the 200 mm isohyet to the east, a line roughly coinciding with the northward path of Wadi Nukhaylah.<sup>136</sup>
3. **Wilderness of Moab** is the steppe to the east of the 200 mm isohyet. Its eastern border is the western watershed of the Central Arabian Plateau.<sup>137</sup>

**Northern Moab** (discussed in Chapter 8) between the Arnon riverbed to the south and the Jabbok riverbed to the north comprises two geopolitical regions and a geozone, listed here from west to east:

1. **Plains of Moab** are the pastoral and cultivable ground within the southern Jordan Valley on the east side of the Jordan riverbed and to the south of the Jabbok–Jordan junction.<sup>138</sup>
2. **The Mishor**, a geozone, functions as a national territory. It is the agricultural plateau as far east as the 200 mm isohyet, a line roughly coinciding with the southward path of Wadi Mashur.<sup>139</sup> The plateau straddles the southern Jordan, northern Dead Sea, and western Mashur catchments.<sup>140</sup>
3. **Wilderness of Kedemoth** is the steppe beyond the 200 mm isohyet. Its eastern border is the western edge of the Central Arabian Plateau (Fig. 15).<sup>141</sup>

The central waterways of Northern and Southern Moab, here designated as Wadi Mashur and Wadi Nukhaylah respectively, both drain into the Arnon stem (Wadi Mujib) but from

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<sup>135</sup> See 8.13 The Jeshimon: Geozone.

<sup>136</sup> See 7.17 Land of Ar.

<sup>137</sup> See 7.16 Wilderness of Moab.

<sup>138</sup> See 8.12 Plains of Moab.

<sup>139</sup> “Mashur” appears frequently hereafter to represent a wadi-system draining the Mishor southward into Wadi Mujib, the biblical Arnon River. The name properly pertains only to the northernmost section of the wadi-system near Tall Umayri. See the map of the Umayri region in: Lawrence T. Geraty et al., “The Madaba Plains Project: The 1987 Season at Tell El-’Umeiri and Vicinity,” *Annual of the Department of Antiquities of Jordan* 31 (1989): 166 fig. 12.

<sup>140</sup> See 8.3 The Mishor: Geozone.

<sup>141</sup> See 8.2 Wilderness of Kedemoth.

opposite directions. Other smaller waterways enter the Arnon directly, but Mashur and Nukhaylah are the largest tertiary catchments in the Arnon system.<sup>142</sup> Wadi Mashur initially runs SSE from the Gilead foothills, consolidating the wadis from the eastern Mishor to join Wadi Zafaran from the central Mishor.<sup>143</sup> From Wadi Zafaran's junction with Wadi Thamad from the east (coming in from the Wilderness of Kedemoth), the name changes to Wadi Wala, a perennial river cutting southwest towards the western edge of the plateau. Here the name changes again to Wadi Haydan, a ravine plunging towards the Dead Sea to join Wadi Mujib (the Arnon stem) just 3 km from the shore.

Thus, Wadi Mashur (selecting one name from the series of wadis that run the length of Northern Moab, the Arabic name evoking “the Mishor”) drains the steppe of Northern Moab over 55 linear km in an overall southwest direction from its source in the Gilead foothills to its junction with the Arnon stem near the Dead Sea. For most of its course, Mashur runs overall north-south along the 200 mm isohyet, thereby coinciding with the edge of arable land. On the steppe near the northern end of the Mishor, the wadi bed is wide and shallow, but as each tributary joins from both east and west, the riverbed cuts deeper and deeper until at its junction with Wadi Mujib (the Arnon stem) approaching its entry into the Dead Sea (~ 400 m BSL), the wadi has become a deep ravine.

Wadi Nukhaylah (selecting one name from the series of wadis that run the length of Southern Moab), drains the steppe of Southern Moab over 65 linear km in an overall northwest direction from its source on the Central Arabian Plateau to its junction with the Arnon stem near Aroer (Tall Arair). As with other wadis in Jordan, its Arabic name changes from lower to upper reaches—Nukhaylah-Lejjun-Dabba,<sup>144</sup> with Wadi Sakhriyah its longest arm on the steppe. For most of its course, Nukhaylah runs between the 200 mm and 100 mm isohyets, thereby coinciding with the edge of pastoral land (Fig. 14).

Unlike the Hill Country geozone of the Cisjordan which, after the conquest, changes its name from “the Hill Country of the Amorites” to “the Mountains of Israel,<sup>145</sup> the Transjordanian

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<sup>142</sup> See 3.4 Tertiary Catchments; 7.15 Tertiary Catchments: Transjordan.

<sup>143</sup> See 8.3 The Mishor: Geozone.

<sup>144</sup> Burton MacDonald, *The Southern Transjordan Edomite Plateau and the Dead Sea Rift Valley: The Bronze Age to the Islamic Period (3800/3700 BC–AD 1917)* (Oxford: Oxbow, 2015), 3.

<sup>145</sup> See 6.9 The Hill Country: Geozone.

geozones retain their name throughout the centuries despite several population replacements. A geomorphic name for the tableland of Southern Moab has not been preserved or did not exist. The designations “the Bashan”, “the Gilead”, “the Mishor”, and “Seir” are not synonymous with, or indicative of, the names of the nations that occupy these regions.<sup>146</sup> So also a geomorphic designation for the Moabite Plateau ought not to refer to its inhabitants because Moab is a national territory not a geozone. Throughout biblical history, however, the core territory of Moab fills and defines the geographical allotment bounded on all four sides by hydrological borders: the Dead Sea on the west, Wadi Arnon on the north, Wadi Nukhaylah on the east, and Wadi Zered on the south. Hence, this region is only known to the biblical texts as Moab. The loss and omission of a geomorphic name for Southern Moab is represented in the Geozones map and Profiles diagram with the label for Moab thus: “[Moab]” (Figs. 2 and 3).

## 7.15 TERTIARY CATCHMENTS: TRANSJORDAN

Tertiary catchments are the first-level tributaries of secondary catchments which are in turn the first-level tributaries of the primary catchments of the region—Med, Red, and Dead.<sup>147</sup> According to the hydrological model of biblical regions, six tertiary catchments are significant to wilderness-era geography, three in the Sinai-Negev and three in the Transjordan. These six tertiary catchments attract biblical names in their own right as regions through which the Israelites passed on their migration from Egypt to Canaan (Fig. 9).

The named tertiary catchments in the Sinai and Negev are:<sup>148</sup>

1. Nahal Karkom in the Paran catchment: Wilderness of Sinai<sup>149</sup>
2. Wadi Jurayyah (Geraia, Quraiya) in the Arish catchment: Wilderness of Paran (added to Nahal Paran)<sup>150</sup>

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<sup>146</sup> See 2.4 Geozones: Sinai-Negev and Transjordan.

<sup>147</sup> See 3.4 Tertiary Catchments.

<sup>148</sup> See 6.4 Tertiary Catchments: Sinai-Negev

<sup>149</sup> See 5.15 Wilderness of Sinai.

<sup>150</sup> See 6.3 Paleo-Paran Basin.

3. Nahal Nitsana also in the Arish catchment: Wilderness of Zin (added to Nahal Zin).<sup>151</sup>

The named tertiary catchments in the Transjordan are:

1. Wadi Nukhaylah in the Arnon catchment: Wilderness of Moab and Ar of Moab<sup>152</sup>
2. Wadi Dhulayl in the Jabbok catchment: Land of Jazer<sup>153</sup>
3. the east half of the Lake Kinnereth basin in the Jordan catchment: The Argob.<sup>154</sup>

The first of the Transjordan tertiary catchments, here discussed among the six regions of Greater Moab,<sup>155</sup> is the catchment of Wadi Nukhaylah, the long southern tributary of the Arnon (Wadi Mujib). Glueck considered Wadi Nukhaylah (not the shorter Wadi Suaydah-Qattar directly east of Wadi Mujib) to be the primary eastern tributary of the Arnon, as evidenced by his descriptions of ancient sites extending along both sides of the “Wadi el-Mojib” to Lejjun and beyond, where Lejjun is, in fact, some 23 linear km south along Wadi Nukhaylah.<sup>156</sup> He also mistakenly captioned a Royal Airforce photograph of a Roman road as lying on the north bank of “Wadi el-Mojib”.<sup>157</sup> The road was later discovered on the east bank of Wadi Nukhaylah some 12 km south of the Mujib junction.<sup>158</sup> It is reasonable to conclude, therefore, that the ancients considered Wadi Nukhaylah to be the same waterway as the Arnon River and to extend the northern border of Moab along the eastern side. Miller recognises Wadi Nukhaylah’s role in the eastern border of Moab:

One of the main tributaries of the Mujib (Wadi en-Nukheilah, also called Wadi Lejjun) flows north by northwest before joining the main trunk some thirty kilometers east of the Dead Sea. Since this tributary represents roughly the

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<sup>151</sup> See 6.13 Wilderness of Zin.

<sup>152</sup> See 7.16 Wilderness of Moab; 7.17 Land of Ar.

<sup>153</sup> See 8.6 Land of Jazer.

<sup>154</sup> See 8.8 The Argob: Geozone.

<sup>155</sup> See 7.14 Land of Moab.

<sup>156</sup> Nelson Glueck, “The Civilization of the Moabites,” *American Journal of Archaeology* 38, no. 2 (1934): 212.

<sup>157</sup> Glueck, “Explorations III,” 112 fig. 43.

<sup>158</sup> Amos Kloner and Chaim Ben David, “Mesillot on the Arnon: An Iron Age (Pre-Roman) Road in Moab,” *Bulletin of the American Schools of Oriental Research* 330 (May 2003): 65.

dividing line between the settled area in ancient times and the desert fringe, one might think of it as marking a segment of the eastern frontier of Moab proper.<sup>159</sup>

The longest arm of the Nukhaylah river on the steppe, Wadi Sakhriyah, reaches southeast to the edge of the Zered catchment; thus, the Nukhaylah wadi does not mark only a segment of Moab's eastern frontier but its entire length. For most of its course, Wadi Nukhaylah runs between the 200 mm and 100 mm isohyets;<sup>160</sup> activity in this zone, therefore, is more often pastoral than agricultural.<sup>161</sup> The Nukhaylah catchment—an area that amounts to the majority of Moab's territory<sup>162</sup>—drains Moab's pastoral steppe northwestward into the Arnon, while the agricultural heartland of Moab mostly drains directly westward into the Dead Sea. The broad steppe was undoubtedly the foundation of Moab's pastoral economy, as attested by Moabite king Mesha's annual tribute to the Israelite kings Omri and Ahab of 100,000 rams (2 King 3:4).<sup>163</sup>

## 7.16 WILDERNESS OF MOAB

Like the Wilderness of Edom, the Wilderness of Moab is mentioned just once in the Hebrew Bible as part of a road-name, מִדְּבַר מוֹאָב *derekh midbar moav* “the Way of the Wilderness of Moab” (2 King 3:8). Unlike the Way of the Wilderness of Edom, a road named only in the book of Kings, the Way of the Wilderness of Moab is clearly identified as one of the roads Israel took during the third stage of the Israelite journey, Kadesh-to-Jordan:

*So we passed by from our brethren the children of Esau, which dwell in Seir, from the way of the Arabah from Elath and from Ezion-geber. And we turned and passed by the way of the wilderness of Moab. (Deut 2:8 RV)*

The logic of the verse indicates that the Way of the Wilderness of Moab connects the Way of the Arabah to the Wilderness of Moab. Like most biblical roads, therefore, the Way of the

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<sup>159</sup> Miller, “Israelite Journey Around Moab,” 584.

<sup>160</sup> Bruce Routledge, *Moab in the Iron Age: Hegemony, Polity, and Archaeology* (Philadelphia, PA: Pennsylvania University, 2004), 49 fig. 3.1.

<sup>161</sup> MacDonald, *East of the Jordan*, 91.

<sup>162</sup> Yoel Elitzur, “Naḥal Zered in the Bible and the Baraita De-Teḥumin,” trans. Dena Ordan, *Palestine Exploration Quarterly* 145, no. 2 (June 1, 2013): 10.

<sup>163</sup> MacDonald, *East of the Jordan*, 91.

Wilderness of Moab is named for the land of its destination, and not for the land of its passage. There are a few options to consider regarding the routes involved, but the important issue for an investigation of the biblical regions is to establish the location and parameters of the Wilderness of Moab. As the wilderness is mentioned only once (as above), the context must be carefully considered along with the hydrology of the wider region.

According to the hydrological model here presented, each of the four national territories of the Transjordan is defined by one of the great river catchments along with the adjoining section of the eastern Rift Valley catchment.<sup>164</sup> Each greater national region comprises an agricultural component on the western plateau and a pastoral component on the eastern steppe, divided by the approximate north-south line of the 200 mm isohyet. (The greater Yarmuk catchment is an exception to the rule—the pastoral component lies to the west.)<sup>165</sup> By this hydrological pattern, the Wilderness of Moab, a subregion of Greater Moab, is the pastoral steppe to the east side of the 200 mm isohyet that runs north-south through the southern half of the Arnon catchment.<sup>166</sup> Its four boundaries are all hydrological—riverbeds or watersheds:

- West: the Nukhaylah riverbed dividing the Wilderness of Moab from Ar of Moab. The line of this riverbed coincides more or less with the 200 mm isohyet.
- South: the Arnon–Zered watershed dividing Southern Moab from Edom.
- East: the Arnon–Arabia watershed dividing Southern Moab from the Central Arabian Plateau.
- North: the Nukhaylah–Suaydah watershed dividing the Wilderness of Moab from the Wilderness of Kedemoth.

Thus, the Wilderness of Moab is the eastern half of the Nukhaylah catchment, its boundaries enclosing a greater area than Moab and Ar combined (Fig. 5). The region is suitable only for intermittent grazing and the passage of international trade along the Desert Highway.

It is necessary here to explain the apparent conflict between biblical statements that the Israelites סָבְבוּ *savav* “went around” Edom (Num 21:4; Deut 1:46-2:1; Judg 11:18) and those

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<sup>164</sup> See 7.5 Four Great Rivers.

<sup>165</sup> See 8.8 The Argob: Geozone; 7.6 “The Desert from the Sown”.

<sup>166</sup> See 7.14 Land of Moab.

which suggest that they עָבַר *avar* “passed through” the גְּבוּל *gevul* “territory” or “border” of Edom (Deut 2:4, 8, 28-9). A harmonistic method<sup>167</sup> recognises that the Israelites left Kadesh with the intention of circumnavigating Seir (geozone) and Edom (national territory) but the regional power balance had shifted by the time they reached the Arabah (Israel had defeated the king of Arad in Southern Canaan, Num 21:1-3), so Moses now allowed passage through Seir, the Land of Edom:<sup>168</sup>

*Then the LORD said to me: “You have been skirting this hill country long enough. Head north, and charge the people as follows: You are about to pass through the territory of your kindred, the descendants of Esau, who live in Seir. (Deut 2:1-6)*

## 7.17 LAND OF AR

One of the more obscure regional toponyms of the Transjordan is “Ar”, for which there are six biblical references, five of them referring to the Israelite journey around Moab in the final year of the wilderness era (Num 21:14-15, 27-28; Deut 2:9, 16-18, 28-29; Isa 15:1). The Isaiah reference implies in parallel verse that Ar is a city like Kir (Kir-hareseth, Isa 16:7; Kir-heres, Jer 48:31, 36) and both are representative of the nation of Moab:

*An oracle concerning Moab. Because Ar is laid waste in a night, Moab is undone; because Kir is laid waste in a night, Moab is undone. (Isa 15:1)*

From this text, and because the Moabite עַר *ar* is equivalent to Hebrew עִיר *ir* (“town”),<sup>169</sup> some overlook its role as a geographical region of the wilderness journeys, seeking to identify Ar with a town such as Ir-Moab of the Balaam story (Num 22:36),<sup>170</sup> Dibon north of the Arnon stem,<sup>171</sup> or the biblically unidentified Khirbat al-Balua on the Moabite steppe.<sup>172</sup> The five itinerary

<sup>167</sup> See 1.4.2 Harmonistic Method.

<sup>168</sup> See 7.8 Southern Arabah.

<sup>169</sup> Gerald L. Mattingly, “Ar (Place),” in *Anchor Bible Dictionary*, ed. David Noel Freedman (New York, NY: Doubleday, 1992), 321.

<sup>170</sup> George Buchanan Gray, *A Critical and Exegetical Commentary on Numbers*, 1986 impression (Edinburgh: T&T Clark, 1903), 286.

<sup>171</sup> MacDonald, *East of the Jordan*, 75.

<sup>172</sup> Miller, “Israelite Journey Around Moab,” 593–95.

references, however, indicate that Ar is a region synonymous with, or part of, the land of Moab. Thus, like Rameses, Shur, Jazer, and a score of other wilderness toponyms, Ar is both a town and a region.

Ar אֶרֶב claims its status as a national territory (not a wilderness or geozone) by its attribution to Moab and its reference in parallel with the concept of “land”:<sup>173</sup>

*“Do not harass Moab or engage them in battle, for I will not give you any of its land as a possession, since I have given Ar as a possession to the descendants of Lot.” (Deut 2:9)*

The position of Ar in the itinerary sequence—after the Zered River crossing (Num 21:12-13) but before Moses sends a message from the Wilderness of Kedemoth to Sihon (Deut 2:13, 18, 26)—indicates its location on the eastern not northern side of Moab. Ar is associated with the wadis that flow down to the Arnon along the border of Moab:

*Wherefore it is said in the Book of the Wars of the LORD, “Waheb in Suphah and the wadis. The Arnon and the slopes of the wadis that extend to the seat of Ar, and lie along the border of Moab.” (Num 21:14-15)*

These indications of Ar’s nature and location are consistent with Ar as part of Southern Moab between the Zered and Arnon rivers, and to the east of Moab proper.

The two central morphological units of Southern Moab—the plateau and the steppe—broadly correspond to the region’s two hydrological units, the Rift Valley (Dead Sea) catchment and the Wadi Nukhaylah catchment (Fig. 15). Ar’s boundaries, therefore, like the boundaries of all the biblical regions in the Sinai-Negev and Transjordan are all hydrological:

- West: the Moabite plateau along the Dead-Sea–Nukhaylah watershed dividing Ar from Moab proper.
- South: the Zered riverbed dividing Ar from Edom.
- East: the Nukhaylah riverbed dividing Ar from the Wilderness of Moab. The line of this riverbed coincides more or less with the 200 mm isohyet.
- North: the Mujib riverbed dividing Ar from Northern Moab.

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<sup>173</sup> See 2.1 Regional Toponymy.

Activity in the Nukhaylah catchment is more often pastoral than agricultural.<sup>174</sup> Geographically and economically, pastoral Ar (the steppe) is both part of, and separate from, agricultural Moab (the plateau) as indicated in the biblical references. The decline in rainfall from west to east accounts for the lifestyle and cultural differences between the settled Moabites near the King's Highway who refused Israel passage (Deut 23:3-4; Judg 11:17) and the semi-nomadic Moabites near the Desert Highway who supplied food and water (Deut 2:27-29).<sup>175</sup>

Here again, in discerning the complex regions of the Transjordan, it is necessary to refer to the Israelite itinerary in order to justify identifying Ar as the Moabite steppe west of the 200 mm isohyet.<sup>176</sup> On the same day they left the Zered Valley, Israel crossed the southern boundary of Moab at Ar (Deut 2:18) to arrive on the east side of the land of Moab (Num 21:11-13). Thus, the people camped on the other side of the Arnon without entering Moab proper, "for the Arnon was the boundary of Moab." (Num 21:13; Judg 11:18). These apparently contradictory manoeuvres are only possible in the far southeast of the Arnon catchment where the Zered and Nukhaylah riverbeds lie close together at their sources on the Central Arabian Plateau and it is possible to cross both in the same day (Fig. 16). Miller deduces that "the Arnon" here refers to Wadi Nukhaylah:

It is possible to interpret Jephthah's statement as meaning that the Israelites camped east of the Wadi en-Nukheilah/Lejjun tributary, which would have placed them on the eastern (sunrise) side of the land of Moab and at the same time on the other side of the Arnon.<sup>177</sup>

Thus, Israel *cut the corner* of Ar on a northeast path, crossing to the other side of the Arnon, that is, the eastern side of Wadi Nukhaylah. Between leaving the Zered Valley and passing to their campsite beyond Wadi Nukhaylah (i.e. "on the other side of the Arnon", Num 21:13), the Israelites did not enter Moab proper and were in Ar for less than a day.

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<sup>174</sup> MacDonald, *East of the Jordan*, 91.

<sup>175</sup> David Ben-Gad HaCohen, "Ar Moab," *The Torah*, July 24, 2020, <https://www.thetorah.com/article/ar-moab>.

<sup>176</sup> See 7.16 Wilderness of Moab.

<sup>177</sup> Miller, "Israelite Journey Around Moab," 584.

The Nukhaylah catchment is the first of three tertiary catchments in the Transjordan to warrant regional names and is large enough to contain two regions of Greater Moab (Fig. 9): Ar (the western catchment), and the Wilderness of Moab (the eastern catchment). As the longest and deepest tributary of the Arnon system, Wadi Nukhaylah is the extended Arnon stem,<sup>178</sup> its catchment accounting for the great majority of the area of Southern Moab.<sup>179</sup> From their camp “on the other side of the Arnon” (Judg 11:18), Israel proceeded northward through the Wilderness of Moab. MacDonald sees advantage in Israel’s route along the eastern side of Wadi Nukhaylah:

It would avoid the major settled areas of Moab as well as the deeply cut, east–west flowing wadis to the west [see Num 21:14-15], which made traveling difficult at any season of the year and virtually impossible in the rainy season (usually from late November to March) [the time of Israel’s passage].<sup>180</sup>

Glueck also notes the strategy of by-passing Moab to the east.

It could have been done, however, only in spring-time when water and pasturage were abundant. And it was probably an especially rainy, long awaited spring-time, when report reached the tribal elders that the going through the desert east of Edom and Moab was particularly good.<sup>181</sup>

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<sup>178</sup> Nelson Glueck conflates Mujib and Nukhaylah. “The Civilization of the Moabites,” 213; “Explorations in Eastern Palestine, I,” in *Annual of the American Schools of Oriental Research*, vol. 14 (New Haven, CT: ASOR, 1934), 4, 40.

<sup>179</sup> Elitzur, “Nah̄al Zered in the Bible,” 10.

<sup>180</sup> MacDonald, *East of the Jordan*, 91.

<sup>181</sup> Glueck, “Transjordan,” 48.

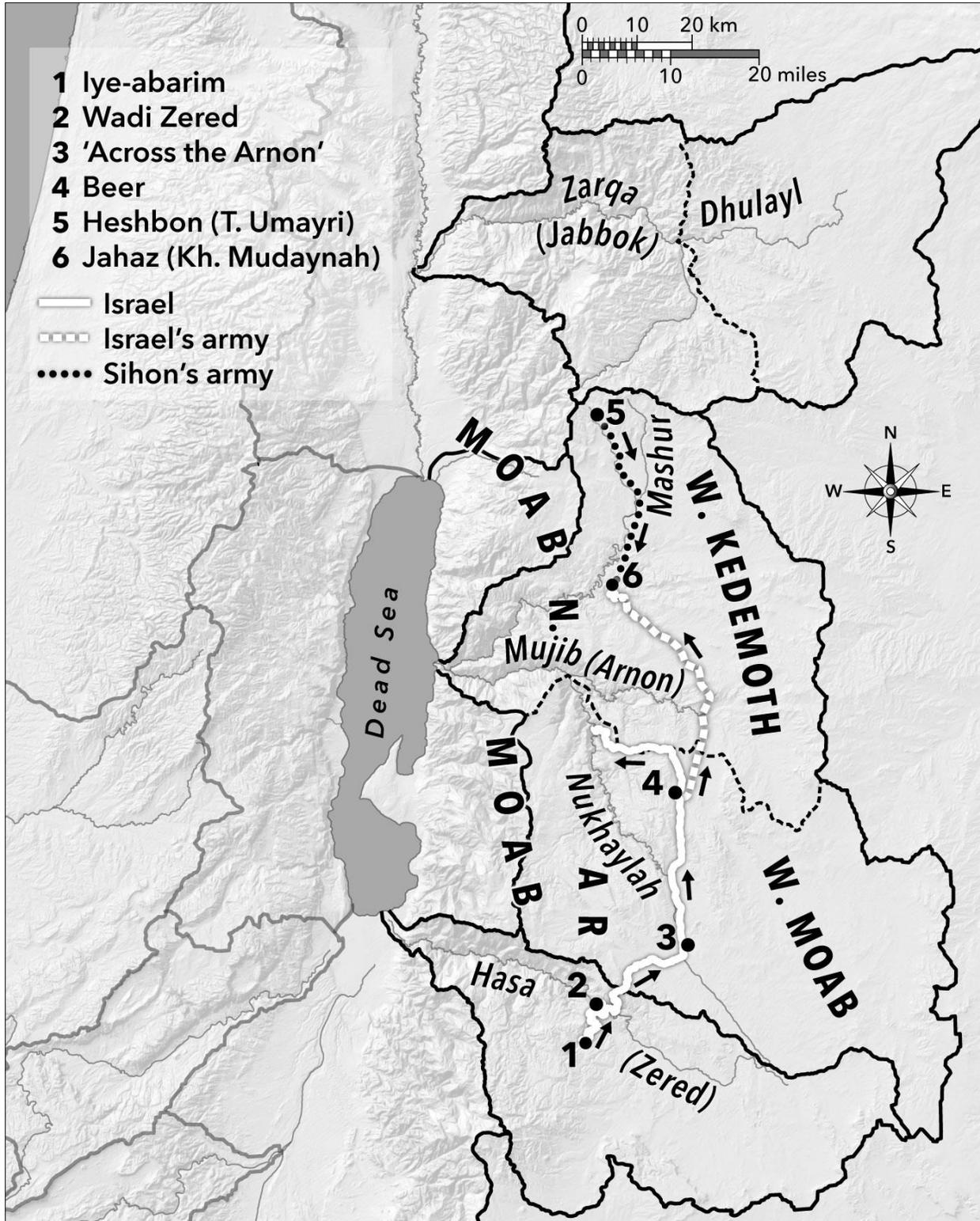


Figure 16 AROUND MOAB, SIHON CAMPAIGN

## 7.18 SUMMARY: TRANSJORDAN REGIONS SOUTH

Hydrology is the key to defining and delineating the biblical wildernesses and national territories of the Israelite journey through the Southern Transjordan. Hydrological lines—riverbeds, watersheds, and the line between “the desert and the sown”—make for distinct borders and boundaries by which the entire map of biblical Transjordan may be divided into territorial units. These units may then be attributed to historical nations and tribes in a manner consistent with biblical indications. Israel’s journeys through the Transjordan passed in close proximity to the territories of fellow Abrahamic nations (even passing through Edom); thus, a thorough knowledge of national borders was essential to avoid unnecessary conflict. Frequent biblical references to national borders along with the utility of the hydrological model makes it possible to identify and locate the geopolitical regions within and between the watersheds and riverbeds of the Transjordan.

The biblical regions fall into three categories: wildernesses, national territories, and geomorphic zones. The geopolitical regions (wildernesses and territories) and the geomorphic regions (geozones) must be mapped separately as they are generally identified and described by different principles. The wildernesses of the Transjordan lie to the east of the 200 mm isohyet (rainfall line) and are usually bounded by watersheds. The national territories of the Transjordan lie to the west of the 200 mm isohyet and are usually bounded by riverbeds. According to the hydrological model, the geopolitical regions (wildernesses and national territories) are defined by river catchments, sometimes one catchment per region, sometimes more. The geomorphic regions (geozones) are each identified by their location and elevation. The biblical regions to the east of the Rift Valley may be briefly described as follows:

- **The Arabah** (geozone) is reckoned both geomorphically and geopolitically. Geomorphically and in current terms, it is a valley in two parts: the Jordan Valley to the north of the Dead Sea, and the Aravah to the south. Geopolitically (hydrologically) and in the biblical context it comprises several water-catchments, each allocated to its neighbouring national territory.
- **Land of Midian** cannot be identified with any one region during the Early Israelite period. The Kenite clan of Midian lived within range of Mount Sinai whilst other Midianites lived amongst the Moabites and Amorites in the Transjordan.

- **Land of Edom** comprises the Zered catchment (south of the Zered riverbed) along with the Wadi Arabah catchment (northern Arabah). During the Israelite kingdom, the land of Edom includes the southern Arabah catchment to Elath. In some eras, Edom also extended into the Wilderness of Zin as far west as Kadesh-barnea.
- **Wilderness of Edom** is the eastern half of the Zered catchment (south of the Zered riverbed) between the 200 mm isohyet and the Zered–Arabia watershed. Although part of Greater Edom, the Wilderness of Edom functions as international territory.
- **Mount Seir (East)** (geozone) is the mountainous plateau and steppe on the east side of the Arabah, extending from Wadi Zered to the southern edge of the plateau at Ras an-Naqb overlooking Wadi Hasma, possibly the Land of Teman.
- **Land of Moab** or Southern Moab is the region between the Zered and Arnon riverbeds. Moab proper is the Moabite plateau and steppe.
- **Land of Ar** is the steppe that forms the western half of the Wadi Nukhaylah catchment between the Moabite tableland and the Nukhaylah riverbed, a line which approximates the 200 mm isohyet. Ar is part of Moab proper.
- **Wilderness of Moab** is the eastern half of the Nukhaylah catchment between the Nukhaylah riverbed and the Arnon–Arabia watershed. Although part of Greater Moab, the Wilderness of Moab functions as international territory.

Discussion and analysis of the biblical regions to the east of the Rift Valley continues in Chapter 8.

## **CHAPTER 8: REGIONS EAST OF THE RIFT VALLEY (AR OF MOAB TO THE BASHAN)**

### **8.1 INTRODUCTION: TRANSJORDAN REGIONS NORTH**

The section of the Israelite migration under current consideration is the third and final stage, Kadesh-to-Jordan.<sup>1</sup> Chapter 6 covered the biblical regions for the first part of the journey from Kadesh to the southern Arabah. These regions were all on the west side of the Rift Valley. Chapter 7 covered the biblical regions on the east side of the Rift Valley from the southern Arabah northward through Edom and Southern Moab (Moab proper). Chapter 8 now covers the biblical regions north of Wadi Mujib, the biblical River Arnon. Wadi Mujib, entering the Dead Sea about half-way along its eastern shore, is a great ravine that divides Southern Moab from Northern Moab. By the time of Israel's passage, according to the narrative, it also divided the Abrahamic nations of Edom and Moab in the south from the Amorite invaders under kings Sihon and Og in the north. The third Abrahamic nation of the Transjordan, Ammon, existed in a highland enclave within Sihon's Amorite territory.

Chapter 7 finished with the Land of Ar, the pastoral steppe of Southern Moab sloping gently eastward from the Moabite tableland to the 200 mm isohyet, a south-north rainfall line approximating the path of Wadi Nukhaylah, the main southern tributary of the Arnon (Fig. 15). According to the biblical account, Israel has been travelling northward through the Wilderness of Moab on the eastern side of Southern Moab to reach the Wilderness of Kedemoth (Deut 2:8, 26). From here the Israelite army will head northward through the Transjordan to conduct military campaigns against Sihon's Amorites in the Mishor, other Amorites in Jazer (Num 21:21-32; Deut 2:30-36; Judg 11:19-21), and Og's Amorites in the Bashan and the Argob (Num 21:33-35; Deut 3:1-6), all the while avoiding the Land of Ammon in the Gilead (Deut 2:37). Meanwhile the rest of the people will enter and cross the Arnon ravine to Dibon and occupy the newly conquered towns of the Mishor while awaiting the army's return. Finally the reunited nation will

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<sup>1</sup> See 4.1.3 Regions: Kadesh to Jordan.

descend through the Mountains of the Abarim (“crossings”) to arrive at last in the Plains of Moab in the southern Jordan Valley opposite Jericho (Num 22:1; 33:46-49).

## 8.2 WILDERNESS OF KEDEMOTH

Like the Wilderness of Moab, the Wilderness of Kedemoth *קְדֻמוֹת מִדְבָּר קְדֻמוֹת* *midbar qedemoth* is named just once in the Hebrew Bible in relation to Israel’s journey around Moab in the fortieth year:

*So I sent messengers from the wilderness of Kedemoth to King Sihon of Heshbon with the following terms of peace: “If you let me pass through your land, I will travel only along the road; I will turn aside neither to the right nor to the left. (Deut 2:26-27)*

Unlike the Wilderness of Moab, the Wilderness of Kedemoth appears elsewhere in the biblical texts, albeit unnamed, with the Israelite and Amorite armies approaching each other through the same wilderness:

*From there [Wadi Zered] they [Israel] set out, and camped on the other side of the Arnon, in the wilderness that extends from the boundary of the Amorites; for the Arnon is the boundary of Moab, between Moab and the Amorites. (Num 21:13)*

*But Sihon would not allow Israel to pass through his territory. Sihon gathered all his people together, and went out against Israel to the wilderness; he came to Jahaz, and fought against Israel. (Num 21:23)*

Kedemoth is one of four towns usually listed together, each with *מִגְרֵשָׁה* *migroshah* “pasture land”, the others being Bezer (“in the wilderness on the tableland [the Mishor]”), Mephaath, and Jahaz (or Jahzah) (Josh 13:18; 21:36-37; 1 Chron 6:78-79).<sup>2</sup> It is reasonable to suppose that these towns were located in Kedemoth’s namesake wilderness (*קְדֻמָּה* *qedem* “to the front”, “east”) on the eastern side of the 200 mm isohyet that runs north-south through the middle of the northern Arnon catchment (Fig. 14). Bezer, the one town of the four specifically located on the Mishor (Deut 4:44-43) must be the westernmost, possibly Tall Jalul on the

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<sup>2</sup> See 8.3 The Mishor: Geozone. “Holon” in Jer 48:21 is conceivably a mistranscription of Bezer.

Jordan–Mashur watershed.<sup>3</sup> This is consistent with the pattern for the Israelite towns of refuge, which probably lay along the north-south profiles in both the Transjordan and Cisjordan (Josh 20:2-9).<sup>4</sup>

According to the hydrological model of the biblical regions, the Wilderness of Kedemoth is the pastoral steppe of Northern Moab on the eastern side of the agricultural plateau, the Mishor (Fig. 15).<sup>5</sup> Like the wildernesses of Edom and Moab, the boundaries of the Wilderness of Kedemoth are all hydrological:

1. West: Wadi Mashur dividing the Wilderness of Kedemoth from the Mishor tableland. The north-south line of this wadi coincides more or less with the 200 mm isohyet.
2. South: the Suaydah–Nukhaylah watershed dividing the Wilderness of Kedemoth from the Wilderness of Moab (but see below).
3. East: the Arnon–Arabia watershed dividing Northern Moab from the Central Arabian Plateau.
4. North: the Arnon–Jabbok watershed dividing Northern Moab from Ammon and Jazer in the Jabbok catchment.<sup>6</sup>

The southern boundary requires some extra consideration. From Numbers 21:13 (as cited above) it is commonly supposed that the Wilderness of Kedemoth lies entirely to the north of the Arnon River (Wadi Mujib) or rather Wadi Suaydah (Sawaqa in its upper reaches), the short shallow tributary that extends the Arnon stem directly eastward. A problem arises with the detail that Moses sent messengers to Sihon “out of the wilderness of Kedemoth” when Israel had not as yet crossed the Arnon (Deut 2:26; cp. v. 24; cf. Num 21:21-24). If the main extension of the Arnon stem is Wadi Nukhaylah to the southeast and not Wadi Suaydah to the east,<sup>7</sup> the Wilderness of Kedemoth extends southeast of Wadi Mujib to the Nukhaylah–Suaydah

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<sup>3</sup> J. Andrew Dearman, “The Levitical Cities of Reuben and Moabite Toponymy,” *Bulletin of the American Schools of Oriental Research* 276 (1989): 55, 61.

<sup>4</sup> See 8.8 The Argob: Geozone; 8.10.1 Heshbon; 8.10.3 Mahanaim.

<sup>5</sup> See 8.3 The Mishor: Geozone.

<sup>6</sup> See 8.5 Land of Ammon; 8.6 Land of Jazer.

<sup>7</sup> See 7.15 Tertiary Catchments: Transjordan; 7.16 Wilderness of Moab; 7.17 Land of Ar.

watershed. Hence, it is possible for Israel to be in the Wilderness of Kedemoth before they cross the Arnon at Wadi Mujib (Fig. 5).

### 8.3 THE MISHOR: GEOZONE

The Mishor *הַמִּישׁוֹר* *ha-mishor* “the plain” (Deut 3:10; 4:43; Josh 13:9, 16, 17, 21; 20:8; Jer 48:21) is the tableland between Wadi Mujib (Arnon) to the south and Wadi Zarqa (Jabbok) to the north. This level agricultural region, a maximum of 45 km long and 20 km wide, is elevated some 600-750 m (2000-2400 ft) ASL. At the time of Israel’s passage, according to the Numbers narrative, Sihon’s Amorites inhabited the Mishor (Deut 3:10; Josh 13:9-10) having recently driven out the Moabites (Num 21:26).<sup>8</sup> After defeating Sihon, Israel retained the Mishor for the tribe of Reuben (Num 21:24-26; 32:33; Deut 3:16-17) but Israelite possession was sometimes disputed during the kingdom period (Judg 11:13; 2 Chron 20:10-11). The desirability and importance of the Mishor was due to three factors:

- the value of the land as a rich agricultural and grazing resource
- its governance over vital trade-routes running north-south and east-west
- the topographic nature of the flat plain— “Mishor” meaning “level place” —which facilitated military activity and surveillance.<sup>9</sup>

Miller contrasts the centrality and accessibility of the Mishor (Northern Moab) with the isolation and security of (Southern) Moab:

Northern Moab was easily accessible to the outside world... especially to the Israelites and the Ammonites. Correspondingly, the Moab known to the Israelites was essentially northern Moab. Where it is reported that certain Israelite kings conquered and ruled Moab, for example, the references are almost certainly to northern Moab. Virtually all of the Moabite place-names mentioned in the Hebrew Bible pertain to the region north of the Arnon. When places south

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<sup>8</sup> See 8.14 Indigenous Transjordan.

<sup>9</sup> James Roger Fisher, “Ammon in the Hebrew Bible: A Textual Analysis and Archaeological Context of Selected References to the Ammonites of Transjordan” (Berrien Springs, MI, Andrews University, 1998), 105, <https://digitalcommons.andrews.edu/dissertations/50/>.

of the Arnon are mentioned, the clues provided as to their locations are exceedingly vague.<sup>10</sup>

The biblical texts treat the Mishor as one region (Deut 3:10; Josh 13:9, 16-17, 21; Jer 48:21-25), but Mesha king of Moab distinguished the lands of Ataroth (MI line 10), Dibon (MI line 21, implied), and Madaba (MI lines 7-8),<sup>11</sup> thus indicating that the Mishor could be divided into smaller territories between the wadis that cut across the tableland.<sup>12</sup>

The Moabite plateau both north and south of Wadi Mujib straddles the Arnon–Rift-Valley watershed (the Arnon here represented in its major northern tributary, Wadi Mashur-Zafaran-Wala-Haydan).<sup>13</sup> Aharoni observes that, like the rest of the Transjordan, the Mishor has a “double watershed”<sup>14</sup> (used in the sense of “catchment” not “ridge”).<sup>15</sup> The western side drains westward into the Jordan–Dead-Sea rift while the eastern side drains southeastward into the Arnon River via a wadi that changes names many times over its course.<sup>16</sup> It begins with several shallow wadis that form across the high northern edge of the Mishor in the foothills of the Gilead. The central one, Wadi Mashur, flows south through the plateau, consolidating the wadis from the eastern Mishor to join Wadi Zafaran that comes in from the western Mishor. Continuing southward, Wadi Zafaran receives Wadi Thamad coming in from the eastern wilderness.<sup>17</sup> From this junction, the name changes to Wadi Wala, now a perennial river in a deep ravine, and swings southwest towards the edge of the plateau of Northern Moab where the name changes again to Wadi Haydan. From here the river plunges towards the Dead Sea to join Wadi Mujib (the Arnon) just 3 km from the shore (Fig. 15).

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<sup>10</sup> Miller, “Israelite Journey Around Moab,” 577–78.

<sup>11</sup> James B. Pritchard, ed., *Ancient Near Eastern Texts Relating to the Old Testament*, 3rd ed. with supplement (Princeton, NJ: Princeton University, 1974), 320–21.

<sup>12</sup> Israel Finkelstein and Thomas Römer, “North Israelite Memories of the Transjordan and the Mesha Inscription,” *The Torah*, June 18, 2018, <https://thetorah.com/north-israelite-memories-of-the-transjordan-and-the-mesha-inscription/>.

<sup>13</sup> See 7.14 Land of Moab.

<sup>14</sup> Aharoni, *Land of the Bible*, 1979, 36.

<sup>15</sup> See 3.1 Hydrology of Biblical Lands.

<sup>16</sup> See 7.14 Land of Moab.

<sup>17</sup> See 8.2 Wilderness of Kedemoth.

Geomorphically, the Mishor geozone is the section of the Transjordanian plateau directly east of the southern Jordan Valley and northern Dead Sea, reaching from the Arnon River (Wadi Mujib) in the south to the upper Jabbok River (Wadi Zarqa) in the north (Fig. 2).<sup>18</sup> As an agricultural plateau, it also functions in its entirety as a geopolitical region of Greater Moab.<sup>19</sup>

Five geozones of ten across the Sinai-Negev and Transjordan—the Hill Country, Seir, the Arabah, the Gilead, and the Jeshimon—are reckoned solely geomorphically, that is, they cannot be identified with any single geopolitical region because they span more than one national territory for each of the historical periods. The other five geozones of the ten—the Negeb, the Mishor, the Mountains of the Abarim, the Bashan, the Argob—may be defined *both* geomorphically and geopolitically because they lie entirely within a single national territory in each of the historical periods. So the Negeb lies within Canaan and then Judah;<sup>20</sup> the Mishor and the Mountains of the Abarim lie within the territory of Moab, then of the Amorites,<sup>21</sup> and then of the Israelite tribe of Reuben; and the Bashan and the Argob together define the national territory of the Rephaim, then of the Amorites, and then of the Israelite tribe of Manasseh.<sup>22</sup> Of the five geozones of dual definition, only the Mishor does not correlate to a single water-catchment but straddles the southern Jordan, northern Dead Sea, and western Mashur catchments. The eastern Mashur-Thamad catchment beyond the 200 mm isohyet is known to the biblical authors as the Wilderness of Kedemoth.<sup>23</sup>

## 8.4 THE GILEAD: GEOZONE

The Gilead הַגִּלְעָד *ha-gilad* or the Mount of the Gilead הַר־הַגִּלְעָד *har ha-gilad* is the premier geozone of the Transjordan, corresponding in prominence to the Hill Country of the Cisjordan (Fig. 12):

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<sup>18</sup> See 2.4 Geozones: Sinai-Negev and Transjordan.

<sup>19</sup> See 7.14 Land of Moab.

<sup>20</sup> See 6.10 The Negeb: Geozone.

<sup>21</sup> See 8.11 The Mountains of the Abarim: Geozone.

<sup>22</sup> See 8.7 The Bashan: Geozone; 8.8 The Argob: Geozone.

<sup>23</sup> See 8.2 Wilderness of Kedemoth.

The defining physical feature of the Levant is the Rift Valley and its two parallel mountain ranges, one lying to the west (the ‘backbone’ of Lebanon and Israel) and the other to the east (the highlands of Syria and Transjordan).<sup>24</sup>

None of the common English translations represent the toponym with the definite article, thus obscuring the sense of a geomorphic region. The term “the Gilead” varies in its application: sometimes it indicates the highlands to the north of the Mishor (e.g. Num 32:39, 40; Deut 2:36; 3:10, 12, 16; Josh 13:11); sometimes it includes the Mishor (Num 32:1-4, 26; 1 King 4:19; 2 King 10:33; 1 Chron 5:8-10; Pss 60:6-8; 108:7-9); and occasionally it also includes the Bashan (Num 32:39-40; 2 King 15:29; Zech 10:10). As the Mishor and the Bashan may be subsumed within the Gilead but not vice versa, so “the Gilead” sometimes serves as the general term for the entire plateau east of the Jordan (Deut 34:1; Josh 22:9, 13, 15).<sup>25</sup> Simons finds such variation to be a problem:

The delimitation of the tribal territories is further hampered by the uncertain or fluctuating meaning of some geographical terms (e.g. Gilead).<sup>26</sup>

His expectations regarding this and other geozones may be misplaced, however. Whereas wildernesses and national territories have distinct hydrological borders, geozones have overlapping topographical interfaces (see Fig. 2, Fig. 12).<sup>27</sup> Thus, the mountains of the Gilead extend northward into the southern Bashan and southward into the northern Mishor.

An understanding of the differences between geozones and national territories also helps to clarify references to *הַצִּי הַגִּלְעָד* *hatsi ha-gilad* “half the Gilead” or “half the hill country of the Gilead” *הַצִּי הַר־הַגִּלְעָד* *hatsi har-ha-gilad*. The lower Jabbok riverbed cleaves the Gilead highlands more or less in halves, north and south, and is commonly supposed to divide Sihon’s half-the-Gilead (south, Deut. 3:12; Josh. 12:2) from Og’s half-the-Gilead (north, Deut 3:13; Josh. 12:2, 5; 13:31).<sup>28</sup> The problems this belief creates for the national and tribal division of the Central Transjordan are too complex to describe; it is better to simply provide the solution.

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<sup>24</sup> Har-El, *Understanding the Geography of the Bible*, 19.

<sup>25</sup> Noth, *Old Testament World*, 62.

<sup>26</sup> Simons, *Geographical and Topographical Texts*, 114 §297.

<sup>27</sup> See 2.4 Geozones: Sinai-Negev and Transjordan.

<sup>28</sup> Beitzel, *New Moody Bible Atlas*, 35–36; Aharoni, *Land of the Bible*, 1979, 36.

Topographically, the Gilead dome reaches its greatest elevations along the Jabbok–Yarmuk watershed some 12-14 km north of the lower Jabbok riverbed (Fig. 12). Halving Gilead along its watershed (not the lower Jabbok riverbed) greatly assists in understanding the division of territory between kings Sihon and Og and then between the tribes of Reuben, Gad, and half-Manasseh. Gad’s town-lists include towns to the north of the lower Jabbok riverbed, notably Ramath-mizpeh and Mahanaim (Josh 13:26). If the Jabbok–Yarmuk watershed (not the lower Jabbok riverbed) is the northern limit of Sihon’s and then Gad’s territory, there is a stretch of land some 12-14 km from the lower Jabbok riverbed northward where these towns may be properly located.<sup>29</sup>

There is also considerable scholarly confusion regarding the relationship of the Land of Ammon to the Gilead. The biblical texts appear to separate the Gilead which was conquered from Ammon which was not:

*And at that time, we [Israel] took from the two kings of the Amorites... all the towns of the tableland [the Mishor], the whole of [the] Gilead, and all of [the] Bashan... (Deut 3:8-10)*

*Only you [Israel] did not encroach, however, on the land of the Ammonites... (Deut 2:37)*

Beitzel therefore considers the Gilead and Ammon to be mutually exclusive regions (see his depiction in Fig. 22):

On its eastern frontier, Gilead can only be defined negatively: it did not include the land of Ammon (Num. 21:23-24; Judg. 11:13; cf. 1 Sam. 11:1-4), so consequently it did not extend as far as the Eastern Desert in its southeastern quadrant.<sup>30</sup>

Finkelstein similarly deduces that the Gilead starts “west of the Ammonite territory, and stretches over the more mountainous area”.<sup>31</sup> By taking a harmonistic approach, however, the apparent contradiction in the conquest accounts may be obviated.<sup>32</sup> In the Deuteronomy texts,

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<sup>29</sup> See 8.10.3 Mahanaim.

<sup>30</sup> Beitzel, *New Moody Bible Atlas*, 35.

<sup>31</sup> Israel Finkelstein, Ido Koch, and Oded Lipshits, “The Biblical Gilead: Observations on Identifications, Geographic Divisions and Territorial History,” *Ugarit Forschungen* 43 (2011): 132.

<sup>32</sup> See 1.4 Methodology.

the biblical author is summarising the extent of the conquest in terms of geozones (Deut 3:8-10, all with definite articles); Ammon's exemption as a national enclave within the "whole of [the] Gilead" is understood.<sup>33</sup> The Gilead (a geozone) underlies Ammon (a national territory)—the former reckoned topographically, the latter hydrologically—but the Gilead also extends beyond Ammonite territory northward and southward (Fig. 2).<sup>34</sup>

## 8.5 LAND OF AMMON

The hydrological model enables progress with the most confounding puzzle of the biblical Transjordan, that of the location and extent of the Land of Ammon אֶרֶץ בְּנֵי-עַמּוֹן *erets bene-ammon*.<sup>35</sup> Consistent with the observation that the four great river catchments of the Transjordan correspond to the four nations in each era of biblical history, Greater Ammon is the entire Jabbok River catchment plus the adjoining section of the Rift Valley, the central Jordan Valley (Fig. 13).<sup>36</sup> Accordingly, the outer Jabbok watershed originally circumscribed Ammon's geopolitical reality with a continuous hydrological border that may be described in four sections:

1. West: the southern Jabbok–Jordan watershed through the Jordan Valley to the junction of the Jabbok River with the Jordan River.
2. South: the Jabbok–Arnon watershed dividing Ammon from Northern Moab.
3. East: the Jabbok–Arabia watershed dividing Ammon from the Central Arabian Plateau.
4. North: the Jabbok–Yarmuk watershed dividing Ammon from the Bashan.

Before the Amorite invasion of the Transjordan, Ammon probably also possessed the central Jordan Valley as far north as the southern end of Lake Kinnereth. This information may be deduced from the division of Amorite king Sihon's territory between the Israelite tribes of

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<sup>33</sup> See 8.5 Land of Ammon.

<sup>34</sup> See 2.4 Geozones: Sinai-Negev and Transjordan.

<sup>35</sup> MacDonald surveys various views on the borders of Ammon in Burton MacDonald and Randall W. Younker, eds., *Ancient Ammon*, vol. 17, *Studies in the History and Culture of the Ancient Near East* (Leiden: Brill, 1999).

<sup>36</sup> See 7.5 Four Great Rivers.

Reuben and Gad (Reuben, Josh 13:15-23; Gad, vv. 24-27). Reuben received the southern Jordan Valley, formerly Moabite territory (see below), while Gad received the central Jordan Valley to the south end of Lake Kinnereth, which we may assume, therefore, was formerly Ammonite territory. Before Israel arrived in the Transjordan, the simple correspondence of four nations to four river catchments had been disrupted by the Amorite invasion of Northern and Central Transjordan.<sup>37</sup> The following discussion concludes that Sihon's Amorites significantly reduced the ancestral range of the Bene-Ammon to a highland region circumscribed by the Jabbok riverbed, not the outer Jabbok watershed, and that Israel maintained that reduction with only minor concessions to Ammon along the southern border.

The Judges account of Jephthah's confrontation with Ammon includes a claim by the king of the Ammonites that their territory once included the Mishor and the southern Jordan Valley:

*The king of the Ammonites answered the messengers of Jephthah, "Because Israel, on coming from Egypt, took away my land from the Arnon to the Jabbok and to the Jordan; now therefore restore it peaceably." (Judg 11:13)*

Jephthah strongly denies this claim with a detailed historical account of Israel's taking of that region from Amorites not Ammonites:

*"Then the LORD, the God of Israel, gave Sihon and all his people into the hand of Israel, and they defeated them; so Israel occupied all the land of the Amorites, who inhabited that country. They occupied all the territory of the Amorites from the Arnon to the Jabbok and from the wilderness to the Jordan." (Judg 11:21-22)*

By this testimony and other biblical indications, it seems likely that the Ammonite king overstated his claim.<sup>38</sup> The fact that the biblical authors describe the Mishor and the southern Jordan Valley as Moabite lands, apparently without regard to any prior possession by Ammon, is perhaps the strongest evidence (Num 22:1; Deut 32:49; Josh 13:32; Isa 15; Jer 48). Jephthah's summation is supported by the four-rivers-four-nations model where Greater Moab is the entire

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<sup>37</sup> See 8.10.1 Heshbon

<sup>38</sup> Simons, *Geographical and Topographical Texts*, 120 §300.

Arnon catchment on all sides of Wadi Mujib and Greater Ammon is the entire Jabbok catchment on all sides of Wadi Zarqa.<sup>39</sup>

Because Israel did not engage Ammon during the conquest of the Transjordan, Ammonite geography is neglected in the Numbers narrative with only one indirect reference to the southern border:

*Israel put him [Sihon] to the sword, and took possession of his land from the Arnon to the Jabbok, as far as to the Ammonites; for the boundary of the Ammonites was strong. (Num 21:24)*

The Deuteronomy review simply confirms the southern border of Ammon as the Jabbok riverbed:

*And to the Reubenites and the Gadites I gave the territory from [the] Gilead as far as the Wadi Arnon, with the middle of the wadi as a boundary, and up to the Jabbok, the wadi being boundary of the Ammonites (Deut 3:16).*

The Jabbok riverbed, however, does not describe a simple east-west line as one might expect, but a wide anti-clockwise circuit through the Gilead highlands. Orni and Efrat sequence the directions of its flow thus:

The Yabbok River, its course changing from southeast to northeast (between ‘Amman and Zerqa), northwest, west, and finally southwest, is one of the largest in the country. Its tributaries come from 100 km (60 miles) east of the Jordan.<sup>40</sup>

It is hard to understand, therefore, in what way the Jabbok riverbed could serve as Ammon’s border with Northern Moab. Simons explains the problem in detail:

In the first place, there is the undeniable fact that in the formula “from Arnon to Yabboq” the two rivers *prima facie* stand for two opposite and parallel frontiers, which means that as “Arnon” is a southern frontier, “Yabboq” must be a northern one. This is so obvious that something more than the embarrassment of modern exegetes is required to deprive the texts of Numbers, Deuteronomy and Joshua of their natural sense... the more so because at any rate... the formula undoubtedly preserves that sense in Judg. xi, 13 and Judg. xi, 22.... On the contrary, the description of a territory as contained between an east-to-west river

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<sup>39</sup> See 7.5 Four Great Rivers.

<sup>40</sup> Orni and Efrat, *Geography*, 112.

in the South (Arnon) and a south-to-north river in the East (w. 'amman) is as clumsy as it is inadequate.<sup>41</sup>

Glueck and other geographers resolve the conflict by situating Ammon to the east, outside of the curve of the Jabbok riverbed, even while noting that this is a wilderness area in the rainshadow of the Gilead highlands and an unlikely region to support a population of national substance.<sup>42</sup>

Baly also situates the Land of Ammon to the east of the Jabbok riverbed but declines to set its borders:

The territory within which the Ammonites had been confined is a strangely indeterminate area of steppe, part of that narrow belt which is constantly disputed between the desert and the sown.<sup>43</sup>

He also neglects to explain how a territory to the east of the Jabbok riverbed can be centred around its capital on the west side:

The territory of Ammon north of Moab and east of Gilead is difficult to define. Certainly it was centered on Rabbath Ammon, the 'city of waters' (2 Sam 12:27), where the great citadel dominates the powerful springs at the head of the River Jabbok and the fertile valley as far as [modern town] Zerqa 12 1/2 miles (20 km) to the northeast, but its outer limits are very ill-defined, both physically and climatically.<sup>44</sup>

Simons sees the location of the Ammonite capital to the west of the Jabbok stem as the main indicator that the core territory of Ammon also lay to the west:

It should not be overlooked that the historic city of Rabbath-ammon was situated (in contrast with modern 'amman) on the west side of wady 'amman, the main constituent of the Yabboq.<sup>45</sup>

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<sup>41</sup> Jan J. Simons, "Two Connected Problems Relating to the Israelite Settlement in Transjordan I," *Palestine Exploration Quarterly* 79, no. 1 (January 1947): 95.

<sup>42</sup> Glueck, "Explorations III," 245–47; Zecharia Kallai, *Historical Geography of the Bible: The Tribal Territories of Israel* (Jerusalem / Leiden: Magnes / Brill, 1986), 250; Baly, *Basic Biblical Geography*, 64.

<sup>43</sup> Baly, *Geography*, 1958, 233.

<sup>44</sup> Baly, *Basic Biblical Geography*, 63–64.

<sup>45</sup> Jan J. Simons, "Two Connected Problems Relating to the Israelite Settlement in Transjordan II," *Palestine Exploration Quarterly* 79, no. 2 (July 1947): 95 n. 2.

Perhaps some of the confusion about the border of Ammon arises from the perception that the Jabbok River starts at Ras al-Ayn (“head of the spring”) below the ancient citadel of Amman. The citadel is about midway across the Transjordanian plateau, a location which leaves the western half of Ammon’s southern border undefined. Certainly, the Amman springs provide a perennial flow from the heart of the city eastward, but the sources of the Jabbok lie in the central Gilead highlands:

The undulating, hilly area west and northwest of Amman serves as a catchment region, funneling rain runoff eastward through the wadi systems sloping toward Amman where the River Zarqa is traditionally perceived to have its source. Younker identifies the source of the Wadi Zarqa not with the spring near the center of Amman, but with those tributaries extending into the wadis to the west.<sup>46</sup>

Which of several tributaries may be regarded as the stem of a river is sometimes hard to determine but in this case the one that extends the boundary of Ammon westward to the Jordan catchment is most suitable.<sup>47</sup> The springs below the citadel lie in the same wadi that comes from the Jabbok–Jordan watershed along a distinct WSW-ENE line. Now called the Abdoun Corridor, the wadi is marked by a highway running from the Prince Hussein interchange on the Airport Road (the Jarash or Jordanian Highway, no. 35) to the centre of the modern city of Amman. Thus, the likely southern border of Ammon (after Sihon’s invasion) is Wadi Abdoun running from its source on the Jabbok–Jordan watershed to the city of Amman where it joins (or becomes) Wadi Zarqa to continue downstream in a great arc to encircle ancient Ammon.

The clear Abdoun-Zarqa riverbed border notwithstanding, the Israelites afforded the Ammonites a generous southern buffer by avoiding all the  $\text{yad}$  “hand” of the Jabbok River:

*You [Israel] did not encroach, however, on the land of the Ammonites, avoiding the whole [ $\text{yad}$ ] upper region of the Wadi Jabbok as well as the towns of the hill country, just as the LORD our God had charged. (Deut 2:37)*

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<sup>46</sup> Fisher, “Ammon in the Hebrew Bible,” 93; citing an unpublished draft of Randall W. Younker, “Ammonite Material Culture” (Doctoral dissertation, Berrien Springs, MI, Andrews University, Institute of Archaeology, 1996), 83.

<sup>47</sup> Orni and Efrat specify Wadi Amman (coming from the north and passing to the northeast side of the citadel) as the main source of the Zarqa, as does Simon, both quoted above, but neither are seeking a wadi-border for Ammon Orni and Efrat, *Geography*, 112; Simons, “Two Connected Problems II,” 95 n.2.

By a hydrological model of national territories, this term may be understood to indicate the outer catchment of the upper Jabbok between the riverbed and the Jabbok–Jordan and Jabbok–Arnon watersheds on the southern side (Fig. 18). In other words, Israel respected the southern border of Greater Ammon, a watershed not a riverbed border. They inhabited towns no closer to Rabbah than Heshbon in the northern Mishor,<sup>48</sup> and did not venture into the trough between Heshbon and Rabbah through which ran the King’s Highway and Desert Highway. Nor would they have passed northwestward over the crest of western Gilead at the heads of the wadis Shuayb and Sir which flow down into the southern Jordan Valley (see details below).<sup>49</sup>

This geographical description of Israel’s voluntary exclusion zone on the south side of Ammon is the nearest the narrative comes to describing a catchment. The metaphor “hand” suggests the tributaries are like fingers and their confluence like the palm. Other hydrological applications of יָד “hand” (e.g. Num 13:29; 24:24; 34:3) include Jephthah’s reference to the Arnon catchment:

*While Israel lived in Heshbon and its villages, and in Aroer and its villages, and in all the towns that are יָדֵי אֲרֹעַ along [lit. “to the hand of”] the Arnon, three hundred years, why did you not recover them within that time? (Judg 11:26)*

Jephthah here describes the extra land claimed by the king of Ammon in three hydrological units: the northern Mishor (Mashur-Zafaran catchment) represented by Heshbon and its villages;<sup>50</sup> the Ammonite steppe (Dhulayl catchment) represented by the eastern Aroer and its villages;<sup>51</sup> and the southern Mishor (Thamad-Wala catchment) described as “the hand of the Arnon” with its unnamed towns which include Dibon, Ataroth, and the southern Aroer.<sup>52</sup> According to judge Jephthah, none of these hydrological units were part of Ammon when Israel arrived in the Mishor despite the king of Ammon’s claim.

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<sup>48</sup> See Appendix B.1 Heshbon.

<sup>49</sup> See 8.11 The Mountains of the Abarim: Geozone.

<sup>50</sup> See 8.3 The Mishor: Geozone.

<sup>51</sup> See 8.6 Land of Jazer.

<sup>52</sup> See 8.10 Amorite and Israelite Territories.

Baly rightly considers it “incomprehensible that [the Ammonites] should have planted their capital on the [riverbed] border”,<sup>53</sup> but this was the unhappy result of Sihon’s deductions from Greater Ammon. Israel wisely resolved Ammon’s security problem by restoring the pre-Amorite border along the Jabbok–Arnon watershed. Some 6 km to the south of the upper Jabbok riverbed, the Jabbok–Arnon watershed provides a clear east-west line for Greater Ammon’s restored southern border, and sets Rabbah well within Ammonite territory.<sup>54</sup> Israel not only avoided the “hand” of the Wadi Jabbok; they also avoided “the towns of the hill country” (Deut 2:37), that is, the Gilead highlands to the southwest of the Jabbok–Jordan watershed.<sup>55</sup> Here a ridge of mountains<sup>56</sup> divides the upper Jabbok tributaries from the sources of the wadis Shuayb and Sir, major descents into the southern Jordan Valley (Fig. 17).<sup>57</sup> The “towns of the hill country” in the buffer zone southwest of the Jabbok–Jordan watershed possibly include “Kiriathaim, and Sibmah, and Zereth-shahar on the hill [רֶחַל “mount”] of the valley” (Num 32:38; Josh 13:19) which region Dearman and Monson provisionally locate in the northwest quadrant of Reuben’s territory overlooking the southern Jordan Valley.<sup>58</sup> Thus, even though the entire catchment of the southern Jordan Valley belonged to the Reubenites post-conquest (Deut 3:12, 16-17; Josh 13:17, 20), they avoided the highlands of western Gilead for Ammon’s comfort.

In summary, a hydrological model helps to define and delineate Ammonite territory both before and after the Amorite and Israelite conquests of the Northern Transjordan. Before the Amorite invasion, Greater Ammon included the entire Jabbok River catchment extending from the Arabian Plateau in the east to the Jabbok–Jordan river junction in the west. Sihon’s Amorites reduced Greater Ammon on all sides, forcing the Ammonites to retreat to the Gilead highlands within the Jabbok riverbed, a circuit completed on the southwest side by the Jabbok–Jordan watershed (Fig. 21). By this understanding, after conquering the surrounding Amorites, Israel did

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<sup>53</sup> Baly, *Geography*, 1958, 232.

<sup>54</sup> See Appendix B.1 Heshbon.

<sup>55</sup> See 8.10 Amorite and Israelite Territories.

<sup>56</sup> See 8.11 The Mountains of the Abarim: Geozone.

<sup>57</sup> Louis Isaac Rabinowitz, “Ammon, Ammonites,” Encyclopedia.com, accessed January 28, 2020, <https://www.encyclopedia.com/religion/encyclopedias-almanacs-transcripts-and-maps/ammon-ammonites>. Rabinowitz.

<sup>58</sup> Dearman, “The Levitical Cities of Reuben,” 60; Monson and Lancaster, *Part Two—Central Arena*, 102.

not restore to Ammon their outer catchment on the north and east sides of the Jabbok curve but did provide a buffer along the south side where Ammon was least defensible, that is, of lowest elevation. In other words, Israel approached no closer to Ammon and its capital on the south side than the Jabbok–Arnon watershed, some 6 km south of Rabbah.<sup>59</sup>

Despite Amorite deductions from all sides of Greater Ammon, the remaining region circumscribed by the Jabbok riverbed and the Jabbok–Jordan watershed is a substantial territory—about 850 sq. km (330 sq. miles)—with a distinct defensible border, the Jabbok ravine and the high ridge of the southwest Gilead highlands. Its longterm average rainfall is 500 mm annually, compared with 300-350 mm in Moab and 100-200 mm in Edom.<sup>60</sup> Heavily forested in biblical times but fertile when cleared, its soil, aspect, and climate is well suited to the three highland staples—olives, grapes, and wheat—and other tree crops such as nuts, balm, gum, resin, and honey (Gen 37:25; 43:11).<sup>61</sup> At Rabbath-Ammon, the two main north-south routes—the King’s Highway and the Desert Highway—converge and diverge again, the former heading north through the heart of the Gilead highlands and the latter swinging to level ground to the northeast.<sup>62</sup>

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<sup>59</sup> See 8.10.1 Heshbon.

<sup>60</sup> Randall W. Younker and Øystein S. LaBianca, “The Kingdoms of Ammon, Moab and Edom: The Archaeology of Society in Late Bronze/Iron Age Transjordan (ca. 1400-500 BCE),” in *The Archaeology of Society in the Holy Land*, ed. Thomas E. Levy (London: Leicester University, 1995), 402–3.

<sup>61</sup> Baly, *Geographical Companion*, 60 figs. 15, 72–73; Har-El, *Understanding the Geography of the Bible*, 23.

<sup>62</sup> Aharoni, *Land of the Bible*, 1979, 55.

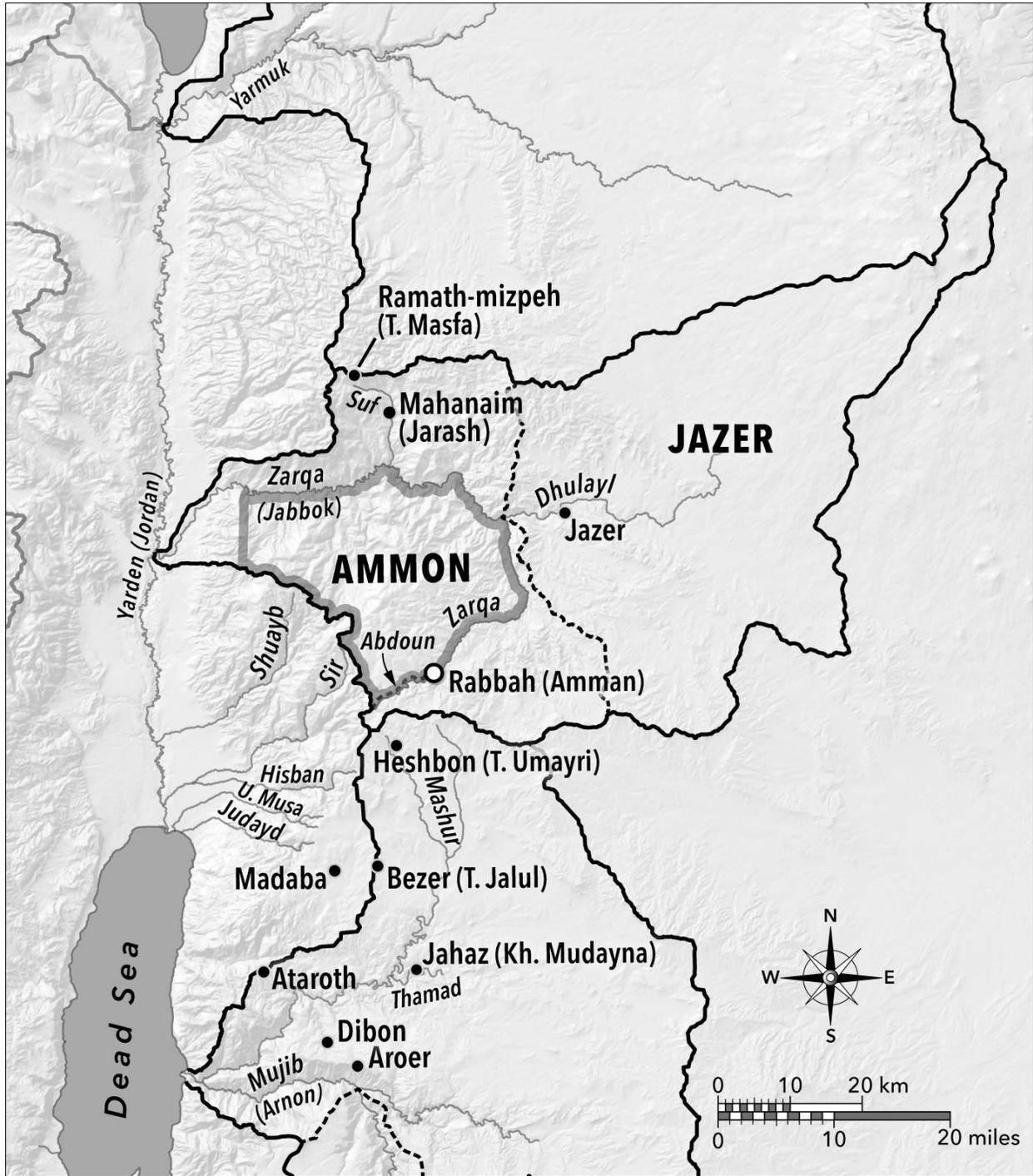


Figure 17 GREATER AMMON, JORDAN VALLEY, THE MISHOR

## 8.6 LAND OF JAZER

After defeating Sihon's Amorites in Northern Moab, Israel conquered other Amorites in Jazer before heading north to confront Og's Amorites in the Bashan:

*And Moses sent to spy out Jazer, and they took the towns thereof, and drove out the Amorites that were there. And they turned and went up by the way of [the] Bashan; and Og the king of [the] Bashan went out against them, he and all his people, to battle at Edrei. (Num 21:32-33 JPS)*

Jazer's intermediate position in the conquest sequence between Sihon's Mishor and Og's Bashan suggests that the Amorites of Jazer were an obstacle to Israel's northern campaign, guarding the main route between the two Amorite kingdoms. The Way of the Bashan is mentioned only once in the Bible (as above, Num 21:33), and its route is dependent upon the identity and location of the Land of Jazer, which seems to lie between Heshbon as representative of the towns of the Mishor and Edrei of the Bashan. The verb "turn" (above) is not שׁוּב *shuv* "return" or "veer" but פָּנָה *panah* literally "face" supporting a trajectory from the Mishor through Jazer to the Bashan. The command that Israel avoid the Ammonites (Deut 2:19) is almost identical to the command to avoid the Moabites (v. 9), suggesting that the Israelite army went around Ammon in the same way that they went around Moab, by the Desert Highway which to the north of Heshbon becomes the Way of the Bashan.<sup>63</sup> In their commission to avoid Ammon, the Israelite army could not have taken the King's Highway northward through the central Gilead as the common site-options for Jazer would necessitate.<sup>64</sup>

The toponym יַזְעָר *yazer* Jazer is mentioned more than most, with thirteen clear and two obscure references (Num 21:24; 26:20) showing that it is:

- a national territory, i.e. appearing at least once with אֶרֶץ *erets* "land [of]" but never with the definite article
- a land and a town with villages and pasture-lands suitable for mixed livestock (Num 21:32; 32:3-4, 26, 34-36; Josh 21:38-39; 1 Chron 6:81)

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<sup>63</sup> See Appendix B.1 Heshbon.

<sup>64</sup> See Appendix B.2 Jazer.

- part of, and also separate from, the Gilead (Num 32:1; Josh 13:25; 2 Sam 24:5; 1 Chron 26:31)
- close to the Way of the Bashan (Num 21:33)
- close to the desert (wilderness) yet associated with a “sea” (Isa 16:8; Jer 48:32 LXX)
- not in Ammon proper because the Israelites did not approach the borders of Ammon yet they conquered Jazer (Num 21:32-33; cp. Deut 2:37).

These details and descriptions support a location for Jazer on the eastern steppe between the Gilead and the Central Arabian Plateau. Consistent with the hydrological model for identifying biblical regions with river catchments, the Land of Jazer is the catchment of Wadi Dhulayl, the main tributary of Wadi Zarqa (Jabbok). The town of Jazer would therefore be the primary tell of the Dhulayl catchment, a region now known as the Hashamiyah district. The writer does not presently have the archaeological information for identifying the most likely site.<sup>65</sup>

Across the wilderness narratives, just three town names are constructed with “land” to indicate national territories—Rameses (Gen 47:11), Ar (in parallel, Deut 2:9, 18, 29; Isa 15:1), and Jazer (Josh 21:39; Num 32:1, 3).<sup>66</sup> A hydrological investigation finds each of these lands to represent a subsidiary water-catchment in a larger national territory:

1. Land of Rameses is the Wadi Tumilat catchment in the Land of Egypt<sup>67</sup>
2. Land of Ar is the Wadi Nukhaylah catchment in the Land of Moab<sup>68</sup>
3. Land of Jazer is the Wadi Dhulayl catchment in the Land of Ammon.<sup>69</sup>

This biblical pattern is consistent with King Mesha’s use of the term “land of X” for the subregions of Northern Moab. The *lands* named in the Moabite Inscription—Madaba (MI lines 7-8), Ataroth (line 10), and Dibon (implied in lines 20-21)<sup>70</sup>—are named for their principal

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<sup>65</sup> See Appendix B.2 Jazer.

<sup>66</sup> See 2.1 Regional Toponymy.

<sup>67</sup> See 5.5 Land of Goshen.

<sup>68</sup> See 7.17 Land of Ar.

<sup>69</sup> See 8.5 Land of Ammon.

<sup>70</sup> Pritchard, *ANET*, 320–21.

towns and are probably delineated by watersheds.<sup>71</sup> Thus, Jazer is the wilderness of Greater Ammon, a pastoral supplement to the forested (agricultural when cleared) highlands of the Gilead and a strategic and economic asset on the Desert Highway.

In the wider hydrological context, Wadi Dhulayl as biblical Jazer is the second of three tertiary catchments in the Transjordan to attract a regional name in its own right, the first being the western catchment of Wadi Nukhaylah as biblical Ar (Fig. 9).<sup>72</sup> Both Ar and Jazer lie on the eastern steppe between the Transjordanian and Arabian plateaus, the open land providing pasture-lands for Moab and Ammon respectively. Moab retained Ar after the Israelite conquest, but Ammon had already lost Jazer to the Amorites whose possession was succeeded by the Israelites (Judg 11:14-21). The Ammonites' loss of half their territory must have had a considerable impact on their means of subsistence—reducing their capacity for livestock and cancelling their access to trade along the Desert Highway—thus permanently restricting their lifestyle to the Highlander of Gilead.<sup>73</sup> The Amorites who took Jazer from Ammon, apparently governed by neither Sihon nor Og, were probably the shepherds of an otherwise agricultural nation, seeking wilderness pastures in the open land between the Mishor and the Bashan.

The 200 mm isohyet dividing the Gilead highlands from the eastern steppe runs close by the junction between Wadi Dhulayl with Wadi Zarqa,<sup>74</sup> marking also a distinct change in lifestyle and land-use. The region of Wadi Dhulayl is rich with archaeological remains from prehistoric, Early Bronze Age, Iron Age, Roman, Byzantine, and Islamic periods, a common profile for biblical sites in the Transjordan.<sup>75</sup> It seems the Bene-ammon lost Jazer, their eastern pasture-land, to the Amorites sometime before the Israelites arrived, after which the tribe of Gad possessed and retained the region (Josh 13:25; cf. 31:39). After Israel's conquest of the entire

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<sup>71</sup> See 8.3 The Mishor: Geozone.

<sup>72</sup> See 7.15 Tertiary Catchments: Transjordan; 7.17 Land of Ar.

<sup>73</sup> See 7.5 Four Great Rivers.

<sup>74</sup> Baly, *Basic Biblical Geography*, 63.

<sup>75</sup> Glueck, "Explorations III," 209–14 Glueck confined his survey in this region to sites along Wadi Zarqa. See Map II a, sites 312-320. Isabella Caneva et al., "The Wadi Az-Zarqa'/Wadi Ad-Dulayl Archaeological Project: Report on the 1997 and 1999 Fieldwork Seasons," *Annual of the Department of Antiquities of Jordan* 45 (2001): 84, 86.

Northern Transjordan (excluding the Land of Ammon),<sup>76</sup> the tribe of Gad rebuilt Jazer and other fortified towns of their pastoral inheritance (Num 32:34-36). The town was later designated as one of four Levitic centres within Gad's tribal territory (Josh 21:38-39; cf. Num 35:14).

Isaiah and Jeremiah both mention a יַם *yam* "sea" in connection with Jazer and the desert:

*The vines of Sibmah... reached to Jazer and strayed to the desert; their shoots once spread abroad and crossed over the sea." (Isa 16:8)*

*O vine of Sibmah, I will weep for thee with the weeping of Jazer: thy plants are gone over the sea, they reach even to the sea of Jazer". (Jer 48:32 KJV)*

Jeremiah's iteration of "sea", considered a scribal error, is omitted from many translations (e.g. NRSV, NIV).<sup>77</sup> If Jazer is the eastern steppe of Ammon, however, the "sea" refers to standing water in the Dhulayl catchment, as David Kennedy explains:

Seasonal lakes are common. Everywhere you see the low expanses of yellowish mudpan [which] tends to fill up in winter with a shallow lake [sic]. The beduin use them during transhumance and as they begin to dry out they dig deep pits in a part to keep some water days/weeks longer.<sup>78</sup>

He describes "the broad swathe of the Wadi adh-Dhulayl which can be 50-60 m. wide and 1-2 m. deep when in spate."<sup>79</sup> A similar phenomenon occurs in southeastern Moab, where water running off the Central Arabian Plateau pools on the level steppe near the mouth of the Fajj al-Usaykir and is available for the irrigation of fields around the small town of Al-Wadi al-Abyad, the site of Israel's camp "across the Arnon" (Num 21:13; Judg 11:18) and King Jehoshaphat's stand-off with the Moabites (2 King 3:20-21).<sup>80</sup>

The proposal that Ammonite territory originally included Jazer on its eastern fringe is consistent with descriptions of Gad's territory post-conquest:

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<sup>76</sup> See 8.5 Land of Ammon.

<sup>77</sup> Alan R. Millard, "Jazer," in *Illustrated Bible Dictionary* (Leicester, UK: InterVarsity, 1980), 736.

<sup>78</sup> Received from David Kennedy, *Re: Rees*, 18 June 2021.

<sup>79</sup> David Kennedy, "Roman Roads and Routes in North-East Jordan," *Levant* XXIX (1997): 82, 89 fig. 11; citing Selah Merrill, *East of the Jordan: A Record of Travel and Observation in the Countries of Moab, Gilead, and Bashan* (London: R. Bentley, 1881), 396; and G. Robinson Lees, "Across Southern Bashan," *The Geographical Journal* 5, no. 1 (January 1, 1895): 13-14.

<sup>80</sup> See 7.12 Wilderness of Edom.

*Their [the Gadites'] territory was Jazer, and all the towns of Gilead, and half the land of the Ammonites, to Aroer, which is east of Rabbah (Josh 13:25).*

This Aroer is not the Tall Arair on the rim of the Arnon Valley (Num 32:34)<sup>81</sup> but a town in Gilead that appears twice in the account of Jephthah's conflict with Ammon (Judg 11:26, 33). It seems to be the "Aroer, on the right side of the city that is in the middle of the valley of Gad, and unto Jazer" visited by King David's census takers (2 Sam 24:5 JPS; cf. 1 Chron 5:8-10). The "valley [river, נַחַל] of Gad" is probably Wadi Dhulayl, and "half the land" of Ammon in this context is the Dhulayl catchment, the eastern half of Greater Ammon in the same pattern whereby Ar is the eastern half of Southern Moab and the Wilderness of Kedemoth is the eastern half of Northern Moab. This scenario explains how Israel could take "half the land of the Ammonites" (the half already lost to the Amorites) and yet not "encroach... on the land of the Ammonites" (Deut 2:37; Josh 13:10) within the curve of the main stem of the Jabbok River.<sup>82</sup>

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<sup>81</sup> MacDonald, *East of the Jordan*, 166.

<sup>82</sup> See 8.5 Land of Ammon.

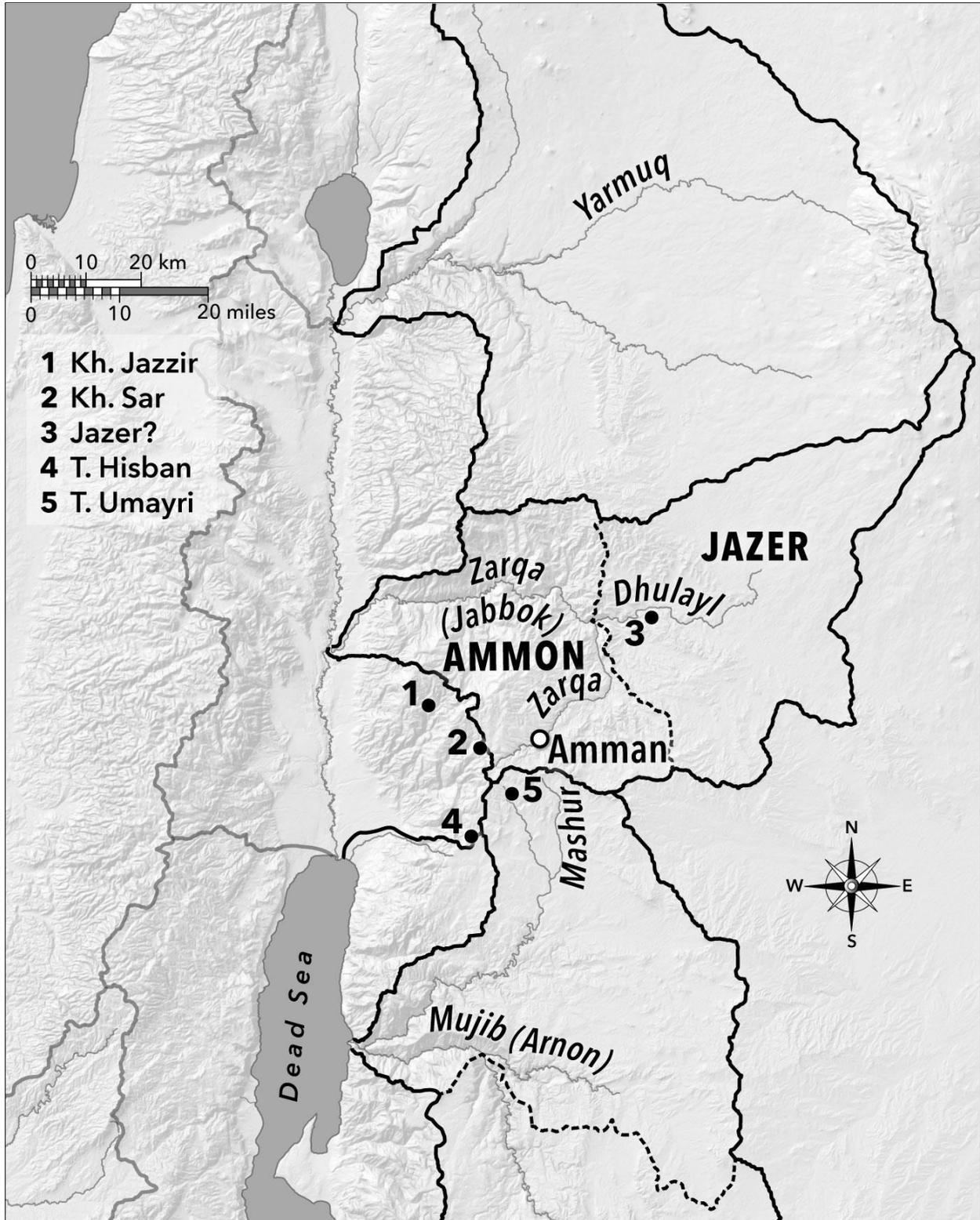


Figure 18 JAZER, HESHBON – OPTIONS

## 8.7 THE BASHAN: GEOZONE

The northernmost lands in the Transjordan are the Bashan and the Argob, for which Israel's army battled the Amorite King Og (Num 21:33-35; Deut 3:1-7). In regard to climate and organic resources, these are the most desirable lands in the eastern Dead Sea primary catchment, their wealth evinced by sixty fortified towns and their villages (Deut 3:4-5, cf. v. 14; Josh 13:30; 1 King 5:13). Even now, the region hosts over sixty small agricultural centres, with the smaller tells of ancient towns dotted among them:

Bashan (בְּשָׁן [ha-bashan], the fertile)... was known for its oak trees (from which oars were made, Ezek 27:6) and pasture land, its bull and kine, goats and fatlings, rams and lions. Its chief cities were Edrei, Ashtaroth, Salecah, and Golan.<sup>83</sup>

Northern rainfall [400-600 mm]<sup>84</sup> has transformed Bashan's basalt into plains of fertile soil, interrupted by two major volcanic outflows, the occasional ash cone and the eastern foothills of Jebel Druze. Rich soils, adequate rainfall and abundant sun creates an ideal agricultural setting, far exceeding any other region in the land. Bashan is both a grain basket and a grazing paradise, an area of intense settlement from the days of the Bible through Roman times.<sup>85</sup>

The Bashan's "impressive communication network and coveted intersections" hosted travel and trade from Damascus (north) and Arabia (south) through upper or lower Galilee westward to the Mediterranean.<sup>86</sup>

According to the nomenclature of biblical regions, the Bashan is a geozone because the toponym appears in the biblical texts prefixed at least once (in fact, nearly always) with הַ ha the definite article.<sup>87</sup> As one would expect for adjacent geozones, the Bashan is often listed with, and thus distinguished from, the Gilead (Deut 3:1, 13; Josh 12:5; 13:11, 31; 17:1, 5; 2 King

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<sup>83</sup> John R. Bartlett, "Sihon and Og, Kings of the Amorites," *Vetus Testamentum* 20 (1970): 265.

<sup>84</sup> MacDonald, *East of the Jordan*, 32 fig. 4.

<sup>85</sup> James M. Monson and Steven P. Lancaster, *Geobasics Study Guide: Map Studies in the Geography of the Land of the Bible: Part One—Northern Arena*, Version 4.2, Geobasics Study Guide: Map Studies in the Geography of the Land of the Bible (Rockford, IL: Biblical Backgrounds, Inc., 2010), 12.

<sup>86</sup> Monson and Lancaster, 12.

<sup>87</sup> See 2.2 Wildernesses, National Territories, Regions.

10:33) (Fig. 2). Geomorphically, the Gilead is a mountainous region and the Bashan is a depression (Fig. 12). Unlike the Gilead, however, the Bashan is the undivided possession of one nation or tribe in each era of early biblical history.<sup>88</sup> Accordingly, the Bashan seems to function as a national territory within hydrological borders that partially include the Gilead geozone (Num 32:39-40; Deut 3:15; Josh 22:7, 9; 1 King 4:13, 19).<sup>89</sup> None of Israel's Abrahamic relatives laid claim to the Bashan which first belonged to the indigenous Rephaim ("in Ashtaroth-karnaim", Gen 14:5) and then to the Amorites under King Og, himself a descendant of the Rephaim (Deut 3:11; Josh 12:4; 13:12).<sup>90</sup> Israel took the Bashan in its entirety, affording no rights to the Amorites to retain a core territory in the Transjordan. Only Edom, Moab, and Ammon, descendants and relatives of Abraham, retained and maintained core ancestral territories throughout the Israelite period. After Og's defeat, the numerous half-tribe of Manasseh took possession of this premier estate (Josh 13:29-21; 1 Chron 5:23).

As the greater national territories of the Transjordan have so far aligned with secondary river catchments within the Dead Sea primary catchment—Edom with the Zered, Moab with the Arnon, and Ammon with the Jabbok—so the territory of the Rephaim aligns with a secondary river catchment.<sup>91</sup> In the sequence of major rivers from south to north, the next after the Jabbok (Wadi Zarqa) is Wadi Yarmuk. This river is not named in the Bible but the extent and nature of its catchment fit the biblical requirements for the Land of the Bashan. Despite some reservations, Bartlett comes to the same conclusion, but does not see the hydrological implications for the other biblical regions of the Transjordan:

The boundaries of Bashan are not easy to draw. We should probably think of Bashan as the area drained by the River Yarmuk and its tributaries.<sup>92</sup>

Reckoned hydrologically, the Bashan is the entire Yarmuk River catchment<sup>93</sup> extending southward to the Yarmuk–Jabbok watershed which divides the hill country of the Gilead into

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<sup>88</sup> See 8.4 The Gilead: Geozone.

<sup>89</sup> For the five geozones of the Negev-Transjordan collection which function as national territories, see 8.3 The Mishor: Geozone.

<sup>90</sup> See 8.14 Indigenous Transjordan.

<sup>91</sup> See 7.5 Four Great Rivers.

<sup>92</sup> Bartlett, "Sihon and Og," 265.

<sup>93</sup> See 7.4 Secondary Catchments: Transjordan.

northern and southern halves.<sup>94</sup> Like the other national territories of the Transjordan, Greater Bashan also includes the adjoining section of the Jordan-Arabah catchment, in this case, the eastern half of the upper Jordan and Lake Kinnereth catchment, known to the biblical authors as the Argob.<sup>95</sup>

Without a hydrological model of the Transjordanian regions, the Bashan's distinction from the Argob is hard to establish from the biblical texts. The sixty towns are attributed to both regions, and the border markers, variously given as towns, mountains, or neighbours, seem inconsistent. The Bashan's distinction from the Gilead is also hard to establish, with the two regions sometimes conflated, sometimes differentiated. Simons, weighing the geographical data, concludes that the picture is confusing and incomplete:

The description of the inheritance of Menasseh [sic] consists of little more than a somewhat disturbed enumeration of districts, the nucleus of which is made up by "all Bashan and Half-Gilead".<sup>96</sup>

Kallai likewise cannot define or establish Manasseh's territory with clarity or certainty:

Anyone attempting to draw the borders of the Half-Tribe-of-Manasseh must be content with general lines only.... The borders of the Half-Tribe-of-Manasseh in the south and in the east are pure conjecture.<sup>97</sup>

A hydrological approach, however, provides a simple method for delineating and distinguishing the regions of the Northern Transjordan. The eastern border for all the greater national territories of the Transjordan is the outer watershed of the Dead Sea primary catchment.<sup>98</sup> Manasseh's southern and southeastern border is the Yarmuk–Jabbok watershed, while its northeastern border, the Yarmuk–Barada watershed ("Abana", 2 King 5:12; cf. Song 4:8 "Amana"), divides the Bashan from the Wilderness of Damascus (1 King 19:15). The Bashan's (and hence Manasseh's) eastern point is the Jebel al-Druze basalt massif, the "many-peaked mountain of Bashan" (Psa 68:15), reaching 1803 m (5915 ft) at its highest point. The western slopes receive

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<sup>94</sup> See 8.4 The Gilead: Geozone; 8.10 Amorite and Israelite Territories.

<sup>95</sup> See 8.8 The Argob: Geozone.

<sup>96</sup> Simons, *Geographical and Topographical Texts*, 123 §302.

<sup>97</sup> Kallai, *Historical Geography of the Bible*, 275.

<sup>98</sup> See 3.1 Hydrology of Biblical Lands.

plentiful rain (av. 300 mm) and heavy snow in the winter (v. 14), but the eastern slopes grade off rapidly into the desert.<sup>99</sup> In summary, although the Bashan, the Argob, and the Gilead are all geozones, only the Gilead is reckoned purely topographically; the Bashan and the Argob may be reckoned hydrologically, the Bashan corresponding to the Yarmuk catchment and the Argob to the upper Jordan and Lake Kinnereth catchment (Fig. 14).

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<sup>99</sup> Baly, *Basic Biblical Geography*, 61.

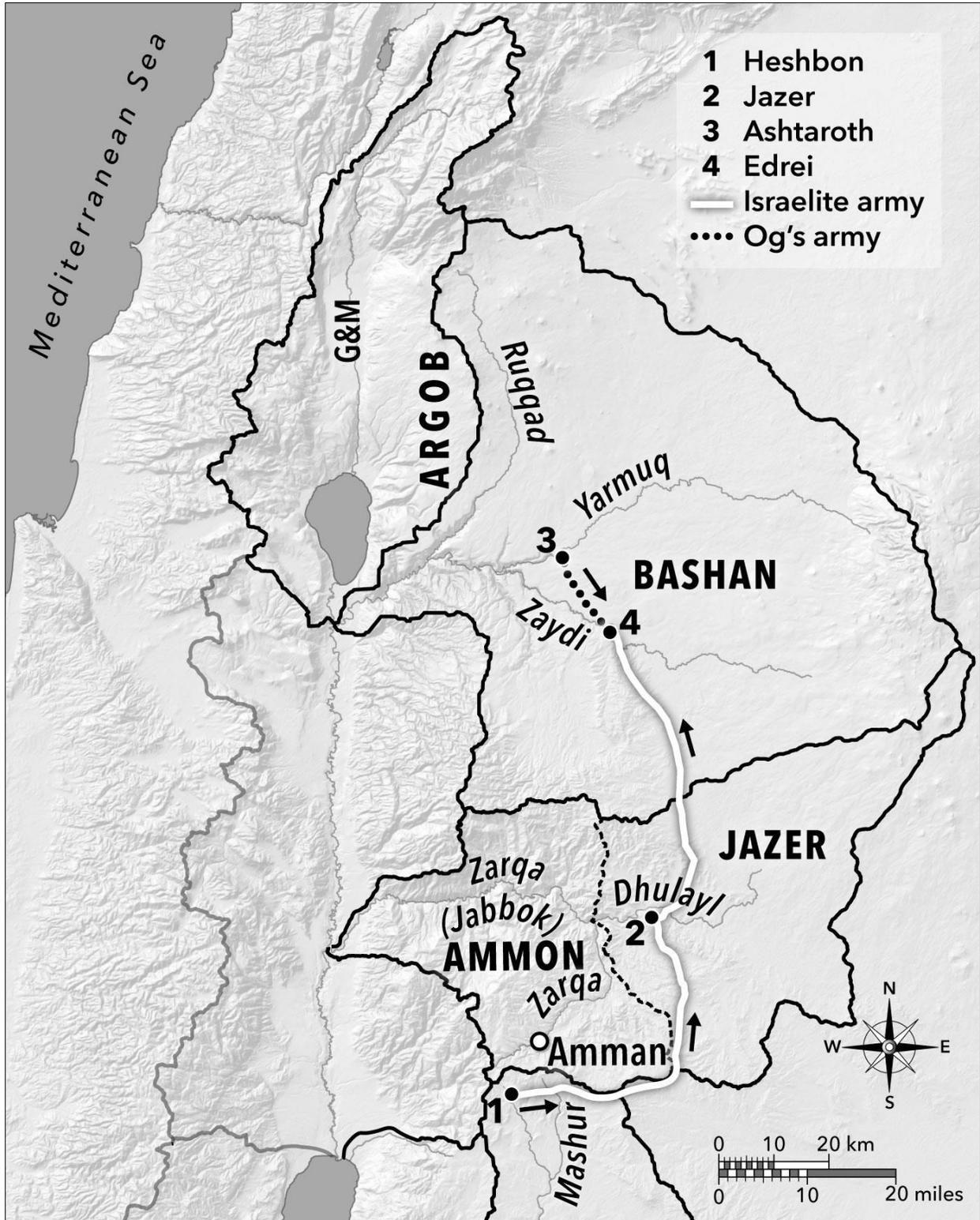


Figure 19 THE BASHAN AND THE ARGOB, OG CAMPAIGN

## 8.8 THE ARGOB: GEOZONE

Like the Bashan, the Argob אַרְגֹב *ha-argov* is primarily a geozone, its toponym appearing at least once in the biblical texts prefixed with הַ *ha* “the”, the definite article (Deut 3:13).<sup>100</sup> As part of Greater Bashan, however, it is also reckoned as a national territory, first the home of the Rephaim, then Og’s Amorites, and then the Israelite half-tribe of Manasseh. The identity of the Argob has remained a mystery as biblical geographers try to deduce its location and extent from few biblical references and from historical sources of doubtful authority. Eusebius, for example, identifies Argob with a single village (Erga) in western Gilead (in the Jordan catchment) as he does for Jazer,<sup>101</sup> despite the Argob’s biblical profile (like Jazer’s) indicating a large region with many towns.<sup>102</sup> Most geographers seek a region for the Argob within the Bashan, which, as they understand it, is the northern Yarmuk plateau. Robinson identifies the Argob with the basalt fields to the northeast and east of the Yarmuk River, “commensurate with the entire region of el-Lejah and Jebel ed-Druze—the most secure and best-defended portions of the land of Bashan”.<sup>103</sup> Over a century later, Moster in his doctoral investigation concurs that the Lejah is “our most plausible guess.”<sup>104</sup> Simons, on the other hand, decides that the region of Argob lies between the Lejah and the present district of the Golan, approximating the course of the River Ruqqad, the northern tributary of the Yarmuk.<sup>105</sup> Bartlett, having perceptively identified the Bashan with the entire Yarmuk catchment (see quote above), is at a loss to locate the Argob within it.<sup>106</sup> MacDonald concludes that “the geographical extent of Argob and its relation to Bashan is unclear.”<sup>107</sup>

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<sup>100</sup> See 2.2 Wildernesses, National Territories, Geozones.

<sup>101</sup> See Appendix B.2 Jazer.

<sup>102</sup> Eusebius of Caesaria, *Onomasticon*, 18 sec. 16.4.

<sup>103</sup> George L. Robinson, “The Ancient ‘Circuit of Argob,’” *The Biblical World* 20, no. 4 (1902): 254, 259.

<sup>104</sup> David Z. Moster, “The Tribe of Manasseh and the Jordan River: Geography, Society, History, and Biblical Memory” (Doctoral dissertation, Ramat Gan, Bar Ilan University, 2017), 158.

<sup>105</sup> Simons, *Geographical and Topographical Texts*, 8-9 §21.

<sup>106</sup> Bartlett, “Sihon and Og,” 265 n. 6.

<sup>107</sup> MacDonald, *East of the Jordan*, 127.

Of the ten geozones of the Sinai-Negev-Transjordan collection, the Argob is the only one whose toponym is not constructed with אֶרֶץ *erets* “land [of]”. Instead, in all four mentions (Deut 3:4, 13, 14; 1 King 4:13), the toponym is paired with the word הֶבֶל *hevel*, an abstruse noun variously translated “cord”, “line”, “rope”, and “portion”, the latter used mostly for Israelite tribal allotments (Josh 17:5, 14; 19:9). The word elsewhere denotes a section of Asher’s tribal border along the Mediterranean coast to Achziv (Josh 19:29 KJV), and clearly means “shore” in the construction הַיָּם הֶבֶל *hevel ha-yam* “seashore” in two prophetic references (Ezek 27:29; Zeph 2:5, 6, 7).<sup>108</sup> Such regional and hydrological allusions suggest that the Argob is arranged along a coastline, which in the neighbourhood of the Yarmuk catchment would be the eastern shore of Lake Kinnereth, the Sea of Galilee. By this proposition, the Argob correlates to the region now known as lower Golan. Upper Golan, the basalt plateau famed for its oak trees (Isa 2:13; Ezek 27:6; Zech 11:2) and cattle (Deut 32:14; Psa 22:12; 68:15, 30; Jer 50:19; Ezek 39:18; Amos 4:1; Mic 7:14), lies within the Yarmuk catchment to the east of the Jordan–Yarmuk watershed and is, therefore, part of the Bashan.<sup>109</sup>

The upper Jordan is the northernmost catchment within the Dead Sea primary catchment and the last unidentified region in the biblical Transjordan.<sup>110</sup> In the hierarchy of drainage systems in the hydrology model, the upper Jordan is accounted as a tertiary catchment.<sup>111</sup> Hence, the third named tertiary catchment of the Transjordan is הֶבֶל הַיָּרְדֵן *hevel [ha-]jargov* the Argob region.<sup>112</sup> The Argob of the Bashan is the third and last of three tertiary catchments in the Transjordan to merit a regional name, the others being Ar of Moab and Jazer of Ammon.<sup>113</sup> The upper Jordan-Kinnereth catchment extends southward from the peak of Mount Hermon, enclosing the upper Jordan Valley and Lake Kinnereth on both sides as far as the junction of the Yarmuk and Jordan rivers about 7 km south of the lake (Fig. 19). The line of the upper Jordan River and Lake Kinnereth bisects the basin from north to south, the Transjordan from the

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<sup>108</sup> Moster, “Tribe of Manasseh,” 153.

<sup>109</sup> See 8.7 The Bashan: Geozone.

<sup>110</sup> See 3.2 Primary Catchments.

<sup>111</sup> See 7.4 Secondary Catchments: Transjordan.

<sup>112</sup> See 7.15 Tertiary Catchments: Transjordan.

<sup>113</sup> See 8.6 Land of Jazer.

Cisjordan. Thus, the eastern half of the upper Jordan-Kinnereth catchment is the Argob; the western half is the Galilee, later to become the territory of the Israelite tribe Naphtali.<sup>114</sup>

By a hydrological understanding, the Argob's western boundary runs down the upper Jordan Valley from the peak of Mount Hermon southward, and continues along the eastern shore of Lake Kinnereth to its southern end. Strictly, the Argob (when reckoned as a national territory) should include the 7 km section of the Central Jordan Valley (south of the lake) as far as the Yarmuk-Jordan junction, but King Sihon (not King Og) possessed all the Jordan Valley ("the Arabah") between the shores of Lake Kinnereth and the Dead Sea (Josh 12:3; 13:27).<sup>115</sup>

The eastern boundary of the Argob is the Jordan–Yarmuk watershed that passes along the full length of the Golan Heights from the peak of Mount Hermon southward. In the Israelite kingdom period, Golan, one of the four principal Amorite towns of the Bashan (along with Edrei, Ashtaroth, and Salecah, Deut 3:10; Josh 12:4-5), was a Levitic centre and town of refuge (Deut 4:43; Josh 20:8; 21:27; 1 Chron 6:71). Like the other towns of refuge, it probably lay on the north-south profile of the Transjordan which in the Bashan is the Jordan–Yarmuk watershed.<sup>116</sup> Whereas the biblical toponym for the town "Golan" is never used in a regional sense, the modern Israeli designation "the Golan" is useful to locate the biblical region of the Argob.

Although enjoying fertile soils and abundant rainfall relative to most other regions of the Transjordan (500-1000 mm), the eroded slopes of the Argob from the Yarmuk–Jordan watershed down to the upper Jordan Valley and Kinnereth lakeshore are dotted with basalt boulders that render the land more suitable for pastoral than agricultural use.<sup>117</sup> Hence, the Argob as a pastoral wilderness lies to the west of the Bashan whereas the other pastoral wildernesses of the Transjordan lie to the east of their motherlands: Jazer to Ammon; the Wilderness of Kedemoth to Northern Moab; the Wilderness of Moab to Southern Moab (Moab proper); and the Wilderness of Edom to Edom (Fig. 20). Although the Argob and the Bashan are separate water-catchments, the Argob lies within Greater Bashan ("the region of Argob, which is in Bashan", 1 King 4:13)

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<sup>114</sup> See 8.9 Lands of Geshur and Maacah.

<sup>115</sup> See Appendix B.3 Mahanaim.

<sup>116</sup> See Appendix B.1 Heshbon; 8.8. The Argob: Geozone; 8.2 Wilderness of Kedemoth.

<sup>117</sup> Orni and Efrat, *Geography*, 119.

just as Jazer lies within Greater Ammon (“because [Jazer] is Ammon’s territory”, Num 21:24),<sup>118</sup> and Ar lies within Greater Moab (“Ar of Moab”, Num 21:28).<sup>119</sup>

Morphologically, the Argob is the broad escarpment of the Bashan Plateau descending westward over some 20 linear km from the Yarmuk–Jordan watershed (ca. 300 m ASL) to the upper Jordan Valley and Kinnereth lakeshore (ca. -200 m ASL). Hydrologically, it is the northernmost extent of the Dead Sea primary catchment. The upper Jordan catchment (the Argob) reaches to the very top of Mount Hermon (“all Mount Hermon”, Josh 13:11; Baalhermon, 1 Chron 5:23); the Yarmuk catchment (the Bashan) reaches only to the southeastern foot of the mountain. Mount Hermon’s consistent inclusion in Israelite territory despite its geological and morphological unity with the Antilebanon range<sup>120</sup> confirms that the geopolitical regions of biblical lands are reckoned by hydrology not topography (Deut 3:8-9; 4:47-48; Josh 12:1, 4-5; 13:11).<sup>121</sup>

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<sup>118</sup> See Appendix B.2 Jazer.

<sup>119</sup> See 7.17 Land of Ar.

<sup>120</sup> Tigay, *Deuteronomy*, 35.

<sup>121</sup> See 7.5 Four Great Rivers.

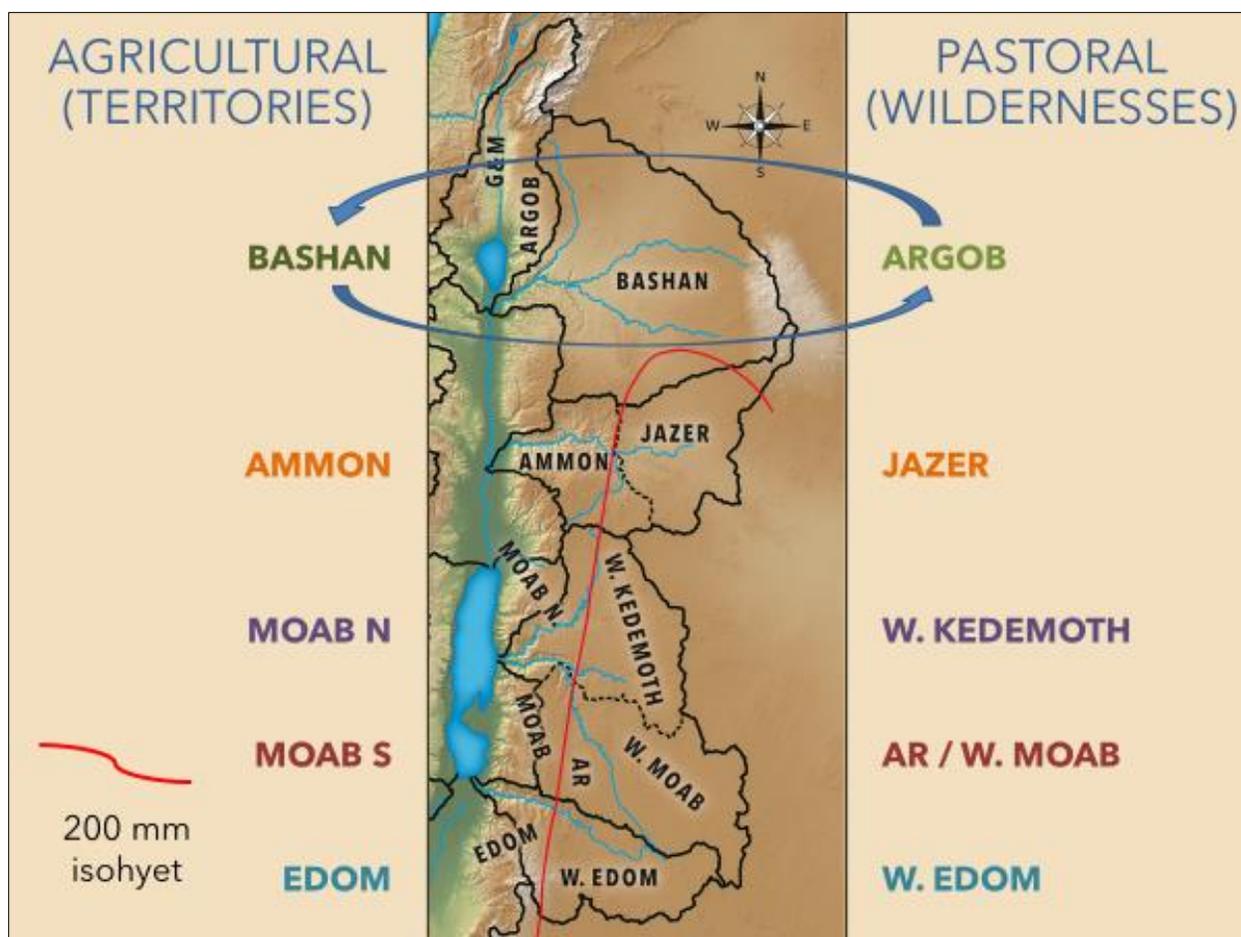


Figure 20 TRANSJORDAN: GEOPOLITICAL REGIONS

## 8.9 GESHUR AND MAACAH

Greater Bashan borders on the territory of הגִּשּׁוּרִי וְהַמַּעֲכָתִי *ha-geshuri ve-ha-maakhati* the Geshurites and Maacathites:

*King Og of Bashan... ruled over Mount Hermon and Salecah and all Bashan to the boundary of the Geshurites and the Maacathites (Josh 12:4-5)*

*Jair the Manassite acquired the whole region of Argob as far as the border of the Geshurites and the Maacathites, and he named them—that is, [the] Bashan—after himself, Havvoth-jair, as it is to this day. (Deut 3:14)*

After the conquest, this non-Israelite tribal kingdom lay “within Israel” (Josh 13:13) which means, according to the hydrological model of biblical regions, within the outer watershed of the

Dead Sea primary catchment.<sup>122</sup> The territory of Geshur and Maacah also lies outside the Bashan and the Argob of the Transjordan (as above). The area consistent with these specifications is the Hulah Valley in the heart of the upper Jordan catchment (Fig. 19). The hydrological model of biblical regions has identified the Bashan with the Yarmuk River catchment and the Argob with the eastern half of the upper Jordan-Kinnereth catchment.<sup>123</sup> Thus, Geshur and Maacah border the Argob directly, and the Bashan indirectly in that Greater Bashan includes the Argob, as is evident from every incidence of the toponym (Deut 3:4, 13, 14; 1 King 4:13).<sup>124</sup>

The Hulah Valley reaches to the southwestern foot of Mount Hermon, the southernmost mountain of the Antilebanon range. About 25 km long and 6-8 km wide, the valley descends gradually from 200 m ASL at its northern end to 70 m ASL at its southern end some 15 km north of Lake Kinnereth. Abundant rainfall (400-800 mm), a Mediterranean climate, and high ground water make for lush conditions throughout the region. On both sides of the valley are steep slopes: on the east, the Golan Heights rise to around 900 m (2950 ft) ASL; on the west the upper Galilee rises to around 700 m (2300 ft) ASL. To the south, the basalt hills of the Korazim Plateau (the Rosh Pinna *sill* or *dam*) intercept the upper Jordan River over a distance of about 9 km (5.5 miles), restricting flow into the Kinnereth basin thus creating the lake and wetlands of the southern Hulah Valley.<sup>125</sup> After the modern state of Israel drained the lake in the 1950s, the marshlands, measuring about 5 km (3 miles) across and covering about 15,000 acres, were reduced to around 1000 acres.<sup>126</sup> In 1852, Robinson described the “lavish fertility” of the region in terms of bees and honey, large crops obtained with very little labour, and rich pastures for all kinds of livestock: “This region still merits the praise accorded to it by the Danite spies. [Judg 18:7].”<sup>127</sup>

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<sup>122</sup> See 3.2 Primary Catchments.

<sup>123</sup> See 8.8 The Argob: Geozone.

<sup>124</sup> See 8.17 The Bashan: Geozone.

<sup>125</sup> Beitzel, “Pre-Roman Roads,” 779.

<sup>126</sup> “Geography of Israel: Hula Valley,” Jewish Virtual Library, accessed March 5, 2020, <https://www.jewishvirtuallibrary.org/hula-valley>. “Hula Valley.”

<sup>127</sup> Edward Robinson, *Later Biblical Researches in Palestine, and in the Adjacent Regions: A Journal of Travels in the Year 1852*, 2nd ed. (1st ed. 1856) (Boston, MA: Crocker & Brewster, 1857), 394–96.

Following the Israelite conquest of Canaan, the Galilee region was allocated to the tribe of Naphtali (Josh 19:32-39; 20:7; 2 Chron 34:6). Abel-beth-maacah along with Ijon, Dan (Laish, Judg 18:27-28), and other towns of Naphtali appear in both biblical and extra-biblical texts associated with the far north (2 Sam 20:14; 1 King 15:20; 2 King 15:29; cf. 2 Chron 16:4; Josh 20:7).<sup>128</sup> Tel Abil, commonly identified as Abel-beth-maacah,<sup>129</sup> is a large archaeological site located in the northwestern Hulah Valley about 6.5 km (4 miles) west of Tel Dan, close to the border of present-day Israel with Lebanon. The site's far-north location may suggest that Maacah possessed the Hulah Valley and Geshur possessed the Korazim plateau and the northern Kinnereth basin to the south of the Hulah Valley.<sup>130</sup> Other biblical and geographical data suggest that Naphtali's territory comprised the entire western half of the upper Jordan-Kinnereth catchment to the southwestern foot of Mount Hermon (Deut 34:1-3),<sup>131</sup> the first indication that the hydrology model may also apply to the Israelite tribal allocations (Fig. 21). Hydrologically, the upper Jordan Valley (including the Hulah Valley) would have been divided between half-Manasseh on the east in the Argob and Naphtali on the west in the Galilee but Geshur and Maacah retained their territory between them:

*Yet the Israelites did not drive out the Geshurites or the Maacathites; but Geshur and Maacath live within Israel to this day. (Josh 13:13)*

Geshur and Maacah in northern Galilee are not to be confused with *ha-geshuri* the Geshuri people of the Mediterranean Coast south of Philistia (Josh 13:2; 1 Sam 27:8).

The idealised northern boundary of Israel claims a large section of the Lebanon as far as the northern "Mount Hor" in the Lebanon range:

*This shall be your northern boundary: from the Great Sea you shall mark out your line to Mount Hor; from Mount Hor you shall mark it out to Lebo-hamath, and the outer limit of the boundary shall be at Zedad (Num 34:7-8).*

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<sup>128</sup> William G. Dever, "Abel-Beth-Maacah: Northern Gateway of Ancient Israel," in *The Archaeology of Jordan and Other Studies. Presented to Siegfried H. Horn*, ed. Lawrence T. Geraty and Larry G. Herr (Berrien Springs, MI: Andrews University, 1986), 211–14.

<sup>129</sup> Joseph Kaplan, "The Identification of Abel-Beth-Maacah and Janoah," *Israel Exploration Journal* 28, no. 3 (1978): 157.

<sup>130</sup> Mazar deduces Maacah to be north of Geshur, but locates them both in the Golan Heights. Benjamin Mazar, "Geshur and Maacah," *Journal of Biblical Literature* 80, no. 1 (1961): 15.

<sup>131</sup> Kallai, *Historical Geography of the Bible*, 238 map 3.

In the conquest accounts, however, Israel claimed territory no further north than the outer watershed of the Dead Sea primary catchment, leaving the Lebanon largely alone:

*This is the land that still remains [unconquered]: ... the land of the Gebalites [mountain-dwellers], and all Lebanon, toward the east, from Baal-gad below Mount Hermon to Lebo-hamath, all the inhabitants of the hill country from Lebanon to Misrephoth-maim, even all the Sidonians. (Josh 13:5-6)*

Despite its inclusion within Israelite territory, the ‘finger’ of the Hulah Valley catchment protrudes between the regions of Lebanon and Syria. Accordingly, David’s son Absalom by Maacah daughter of the King of Geshur (2 Sam 3:3; 1 Chron 3:1-2; cf. 2 Chron 11:20-21) identifies his maternal homeland as “Geshur in Aram [Syria]” (2 Sam 15:8). At times throughout the biblical period, Geshur allies with Aram against Israel (2 Sam 10:6; cf. 1 Chron 19:6-7; 2:22-23), no doubt because of its seclusion beyond the Galilee basin and its non-Israelite (possibly Syrian) indigenous population.

The upper Jordan River runs along the eastern edge of the Hulah Valley in its southern part and through the middle in its northern part. This may account for the apparent ambiguity in Joshua’s survey of the conquered Transjordanian regions and territories regarding whether Geshur and Maacah are “beyond Jordan eastward” or at the border of the Bashan (i.e. to the west of the upper Jordan River):

*With whom [half-Manasseh] the Reubenites and the Gadites have received their inheritance... beyond Jordan eastward.... From Aroer, that is upon the bank of the river Arnon, and the city that is in the midst of the river, and all the plain of Medeba unto Dibon; And all the cities of Sihon king of the Amorites, which reigned in Heshbon, unto the border of the children of Ammon; And Gilead, and the border of the Geshurites and Maachathites, and all mount Hermon, and all Bashan unto Salcah; All the kingdom of Og in Bashan, which reigned in Ashtaroth and in Edrei, who remained of the remnant of the giants: for these did Moses smite, and cast them out. (Josh 13:8-12 JPS)*

To clarify and summarise, the western half of the upper Jordan-Kinnereth catchment is the Galilee of Naphtali; the eastern half is the Argob of half-Manasseh. Between them, Geshur and Maacah occupied the Hulah Valley and possibly the entire upper Jordan Valley as far as Lake Kinnereth. So far as the neighbouring geozones are concerned, Geshur and Maacah occupy the gap between the three highland regions, the Argob, the Lebanon, and the Galilee (Fig. 2).

## 8.10 AMORITE AND ISRAELITE TERRITORIES

Before the Israelite conquest of the Transjordan, King Sihon controlled three geographic regions:

1. the Mishor
2. half of the Gilead
3. the Arabah (east of the Jordan riverbed).<sup>132</sup>

*Sihon king of the Amorites, who dwelt in Heshbon, and ruled from Aroer, which is on the edge of the valley of Arnon, and the middle of the valley, and half [the] Gilead, even unto the river Jabbok, the border of the children of Ammon; and the Arabah unto the sea of Chinneroth, eastward, and unto the sea of the Arabah, even the Salt Sea, eastward, the way to Beth-jeshimoth; and on the south, under the slopes of [the] Pisgah". (Josh 12:2-3 JPS)*

In the same period, King Og also controlled three geographic regions:

1. the Bashan
2. the Argob
3. the other half of the Gilead.

*... and the border of Og king of [the] Bashan, of the remnant of the Rephaim, who dwelt at Ashtaroth and at Edrei, and ruled in mount Hermon, and in Salcah, and in all [the] Bashan, unto the border of the Geshurites and the Maacathites, and half [the] Gilead, even unto the border of Sihon king of Heshbon. (Josh 12:4-5 JPS; for the Argob, see Deut 3:4, 13)*

After the Israelite conquest, the tribes of Reuben, Gad, and half-Manasseh succeeded the two Amorite kingdoms (Num 32:33), their combined tribal territories covering all the same geographic regions formerly ruled by Sihon and Og (Deut 3:12-17; 29:8; Josh 12:2-6; 13:8-12). Because three tribal groups inherited two kingdoms, half-Manasseh received Og's entire kingdom (Deut 3:13-14; Josh 13:29-32) while Reuben and Gad divided Sihon's kingdom between them (Deut 3:12, 16-17). Manasseh received Og's half-the-Gilead intact (Josh 13:31; cf. Josh 12:5) but in the division of Sihon's territory between Reuben and Gad any corresponding

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<sup>132</sup> See 7.7 The Arabah: Geozone.

mention of the other half-the-Gilead disappears (Josh 13:15-28). Gad as the northern of the two tribes should have received Sihon's half-the-Gilead but instead receives "Jazer, and all the towns of [the] Gilead" and "half the land of the Ammonites", two perplexing substitutions (Josh 13:25, cp. Deut 2:37).

Gad's territorial allocation may be described in three geographic regions:

1. Jazer and all the towns of the Gilead
2. half the land of the Ammonites
3. central Jordan Valley (east of the Jordan riverbed):

*Moses gave an inheritance also to the tribe of the Gadites, according to their families. Their territory was Jazer, and all the towns of [the] Gilead, and half the land of the Ammonites, to Aroer, which is east of Rabbah, and from Heshbon to Ramath-mizpeh and Betonim, and from Mahanaim to the territory of Debir, and in the valley Beth-haram, Beth-nimrah, Succoth, and Zaphon, the rest of the kingdom of King Sihon of Heshbon, the Jordan and its banks, as far as the lower end of the Sea of Chinnereth, eastward beyond the Jordan. (Josh 13:24-27)*

These three regions enclose all the towns within Gad's territory (see also Num 32:35-38) except for Heshbon which is officially within Reuben's territory (v. 37; Josh 13:17, 26) and three Reubenite towns in the southern Mishor—Ataroth, Dibon, and Aroer on the Arnon (v. 34).<sup>133</sup> "Aroer, which is east of Rabbah" (v. 25) is another town on the Zarqa not the Arnon.<sup>134</sup>

Reuben's territorial allocation may also be described in three geographic regions:

1. the Mishor
2. the Mountains of the Abarim
3. southern Jordan Valley (east of the Jordan riverbed):

*Moses gave an inheritance to the tribe of the Reubenites according to their clans. Their territory was from Aroer, which is on the edge of the Wadi Arnon, and the town that is in the middle of the valley, and all the tableland by Medeba; with Heshbon, and all its towns that are in the tableland; Dibon, and Bamoth-baal, and Beth-baal-meon, and Jahaz, and Kedemoth, and Mephaath, and Kiriathaim, and Sibmah, and Zereth-shahar on the hill of the valley, and Beth-*

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<sup>133</sup> See 8.5 Land of Ammon.

<sup>134</sup> See 8.6 Land of Jazer.

*peor, and the slopes of Pisgah, and Beth-jeshimoth, that is, all the towns of the tableland, and all the kingdom of King Sihon of the Amorites, who reigned in Heshbon, whom Moses defeated.... And the border of the Reubenites was the Jordan and its banks. (Josh 13:15-23)*

According to Israel's and Balaam's itineraries, the "Beth-(baal-)" towns lie on the ridges and slopes around the southern Jordan Valley, that is, within the Mountains of the Abarim geozone (Israel, Num 21:19-20; 33:47; Balaam, 22:41; 23:14, 28), but are here loosely included in "all the towns of the tableland [the Mishor]".<sup>135</sup>

Overall, therefore, Reuben receives the southern and western parts of Sihon's territory (the Mishor through to the southern Jordan Valley) and Gad the northern and eastern parts (all the outer Jabbok catchment around Ammon within the Jabbok riverbed). The question remains as to how the tribes of Reuben and Gad divide between them Sihon's half-the-Gilead such that neither tribe receives half-the-Gilead in total. With the Gilead dome divided into northern and southern halves along the Yarmuk–Jabbok watershed (its highest elevations) and not along the lower Jabbok riverbed,<sup>136</sup> Gad's portion of the southern half-the-Gilead surrounds Ammon's territory on the north, east, and southeast sides. Reuben's portion of the southern half-the-Gilead borders Ammon on the southwest side along the Jabbok–Jordan watershed where the Gilead highlands descend into the southern Jordan Valley. With Gad and Reuben as successors to Sihon's half-the-Gilead, and half-Manasseh as successor to Og's half-the-Gilead, the delimitations of the Amorite kingdoms and the territories of their Israelite successors are in full accord (Fig. 21).

Even though the original allocations for Reuben and Gad were well distinguished, there seems to have been some mixing and migration between the Transjordanian tribes. Soon after the conquest, Gad built three fortress towns—Dibon, Ataroth, and Aroer on the Arnon—in the southern Mishor (Num 32:34; cf. v. 24; hence "Dibon-gad", Num 33:45-46). The Moabite Inscription establishes that "men of Gad" dwelt in "the land of Ataroth" until Mesha's conquest of the Mishor (MI line 10).<sup>137</sup> A likely explanation is that Gad assisted or relieved Reuben with security along the Moabite border and the arrangement persisted for centuries. During the reign

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<sup>135</sup> See 8.11 The Mountains of the Abarim: Geozone.

<sup>136</sup> See 8.4 The Gilead: Geozone.

<sup>137</sup> Pritchard, *ANET*, 320–21.

of King Saul, some Reubenites migrated to the edge of the eastern desert “because their cattle had multiplied in the land of Gilead” and there they defeated the Arabian Hagrites (1 Chron 5:9-10, 26). Around the same time, some Gadites migrated northward into the eastern Bashan as far as Salecah, formerly one of Og’s towns, living adjacent to the aforementioned Reubenites, and also, no doubt, to the Manassites (vv. 11, 16; cp. Deut 3:10; Josh 12:5;13:11; cf. v. 30; 1 Chron 5:11-22).

The towns which Gad built in the southern Mishor—Ataroth, Dibon, and Aroer on the Arnon (Num 32:34)—correlate to the fortress towns King Mesha later reclaimed and rebuilt for Moab along with Jahaz where Israel had defeated Sihon the Amorite (2 King 1:1; 3:4-5; Num 21:23-24; MI lines 10-11, 18-21, 26). These four towns all lie within the catchment of Wadi Thamad-Wala, the northern tributary of Wadi Mujib (the Arnon stem) that cuts southwest across the southern Mishor to join Wadi Mujib close to the Dead Sea.<sup>138</sup> Ataroth lies in the catchment on the northwest side of the riverbed while Jahaz, Aroer, and Dibon lie in the catchment to the southeast side. Mesha mentions the “land of Ataroth” (MI line 10), “the land of Madaba” (MI lines 7-8), and hints at a “land of Dibon” south of Jahaz (MI lines 20-21, 29). With Dibon and Ataroth identified with Tall Dhiban and Khirbat Ataruz respectively,<sup>139</sup> the lands of Dibon and Ataroth represent the two halves of the Thamad-Wala catchment on either side of the ravine. Moreover, with Madaba identified with Tall Madaba,<sup>140</sup> the “land of Madaba” represents the part of the Mishor that lies within the Rift Valley catchment (Fig. 17). By Mesha’s reckoning, therefore, the subregions of the Mishor are defined and delineated by the same hydrological principles as the subregions of Moab and Ammon (Ar and Jazer respectively), that is, between watersheds and riverbeds of tertiary catchments.<sup>141</sup>

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<sup>138</sup> See 8.2 Wilderness of Kedemoth.

<sup>139</sup> MacDonald, *East of the Jordan*, 84–85, 112–14.

<sup>140</sup> MacDonald, 109.

<sup>141</sup> See 7.15 Tertiary Catchments: Transjordan.

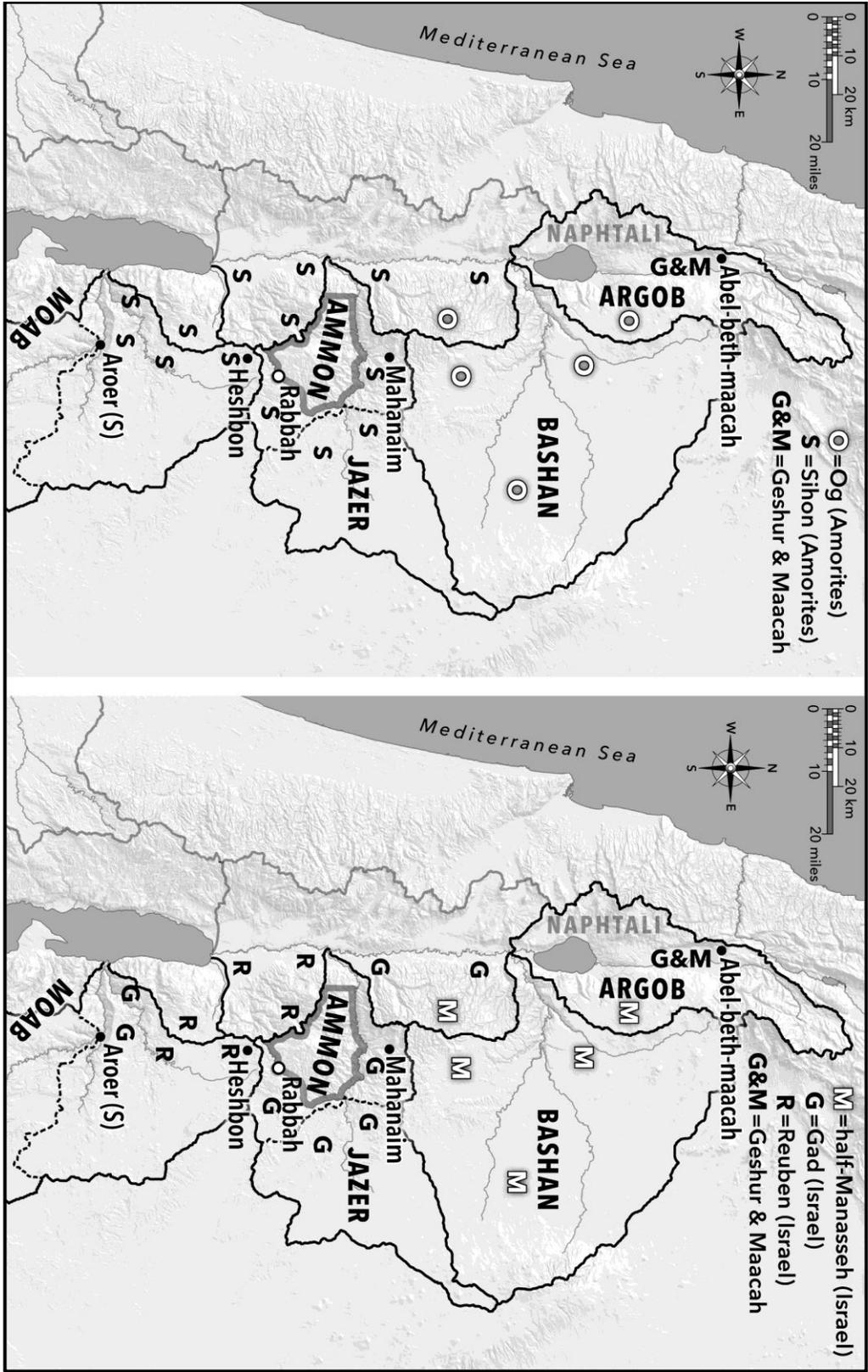


Figure 21 AMORITE AND ISRAELITE TERRITORIES

## 8.11 THE MOUNTAINS OF THE ABARIM: GEOZONE

Between the central Transjordanian plateau and the southern Jordan Valley lies the geozone *harey ha-avarim* הַרֵי הָעֲבָרִים [the] Mountains of the Abarim (Num 33:47-48), literally “mountains of the crossings” (Fig. 2). The context offers the sense of crossing from the plateau down into the valley, not of crossing the Jordan riverbed from the Transjordan to the Cisjordan. The idea of a descent into a river-valley is found also in the name of the wilderness station Iye-abarim עֵי הָעֲבָרִים *iyey ha-avarim* to the south of the Zered ravine in Edom (Num 21:11; 33:44). Baly, on the other hand, gives the meaning of “the Abarim” as “the regions beyond”:

The name clearly reflects the view of them [the mountains] from the distant Judean highlands to the west, for in fact they are not mountains at all. They are, it is true, structurally the narrow tail of mountainous Gilead as it sinks into the Dead Sea, but they are everywhere lower than the plateau, whose inhabitants peer down into them from above. It would be much more accurate to call them “scarplands”.<sup>142</sup>

The name Abarim always appears with the definite article except once in the book of Jeremiah where it still conveys the concept of a highlands region:

*Go up to [the] Lebanon, and cry out, and lift up your voice in [the] Bashan; cry out from Abarim, for all your lovers are crushed. (Jer 22:20)*

The Mountains of the Abarim represent Israel’s last station on the Transjordanian Plateau before camping “in the plains of Moab by the Jordan at Jericho” (Num 33:47-49). The plural regional nature of this itinerary station (“mountains”) supports the possibility that the Israelite tribes and clans approached the valley from several directions. Having occupied “all the towns of the Amorites” on the Mishor while the army campaigned against Amorites in the Land of Jazer and in the Bashan (Num 21:25, 31-33), the people now descended into the southern Jordan Valley by more than one route. A hydrological view of the Mountains of the Abarim identifies six watersheds (ridges) divided by five riverbeds that descend all the way from western Gilead and the northwestern Mishor into the southern Jordan Valley. From north to south, these wadi-descents are Shuayb, Sir, Hisban, Uyun Musa, and Judayd, their names changing twice or more

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<sup>142</sup> Baly, *Basic Biblical Geography*, 62.

throughout their length. There are other wadis descending to the valley floor, but only these five wadis span the full distance and are navigable throughout their length. The biblical authors seem to regard the six slices of the southern Jordan Valley scarplands as separate mountains, hence the plural “Mountains of the Abarim”. Their distinction is evidenced by the use of the definite article for two ridges whose names are preserved: הַפִּסְגָּה *ha-pisgah* the Pisgah from פִּסַּג *pasag* meaning “cleft” (Deut 3:27), and הַפְּעוֹר *ha-peor* the Peor from פָּעַר *paar* meaning “gap” (Num 23:28).

The singular expression “*this* mountain of the Abarim” הַר הָעֵבְרִים הַזֶּה *har ha-avarim ha-zeh* in reference to Mount Nebo confirms that there were separate identities for each of the mountain ridges between the Moabite plateau and the Jordan Valley:

*Ascend this mountain of the Abarim, Mount Nebo, which is in the land of Moab, across from Jericho, and view the land of Canaan, which I am giving to the Israelites for a possession (Deut 32:49; cf. Num 27:12).*

*Then Moses went up from the plains of Moab to Mount Nebo, to the top of [the] Pisgah, which is opposite Jericho, and the LORD showed him the whole land: [the] Gilead as far as Dan (Deut 34:1).*

From the tops of these promontories, their average 700 m ASL elevation appears much higher relative to the nearly 400 m BSL depression near the Dead Sea, a dramatic 1100 m fall. Inspired by the awesome view, cult centres on the “high places” בָּמוֹת *bamoth* are named in various combinations with *beyt* בַּיִת “temple” and/or *baal* בָּעַל (Num 22:41; 23:14, 28; cf. Jer 48:35; cf. Num 21:19-20; Josh 13:17, 20), the generic name for the pagan gods of the region and era (Judg 3:7; 8:33). These shrines feature in the story of Balaam who sought to curse Israel from the tops of three of the six Mountains of the Abarim surrounding the southern Jordan Valley:

1. possibly “the Meon”, Num 22:41; cf. 1 Chron 5:8
2. “the Pisgah”, 23:13-14
3. “the Peor” 23:27-28.

## 8.12 PLAINS OF MOAB

The Plains of Moab עֲרְבוֹת מוֹאָב *arevot moav* are part of Greater Moab, a national territory that comprises the entire Arnon catchment plus the adjoining sections of the Rift Valley.<sup>143</sup> The word “plains” (pl. of עֲרָבָה *aravah*) in this case stands in for the word אֶרֶץ *erets* “land” by which national territories are usually denoted.<sup>144</sup> Readily identified with the eastern half of the southern Jordan Valley, the Plains of Moab host Israel’s final campsite of the wilderness itinerary (Num 22:1; 33:48). This region comprises the steppe area above the valley floor, an area up to 8 km (5 miles) wide east-west with an elevation from 300-200 m BSL. There are corresponding Plains of Jericho עֲרְבוֹת יְרִיחוֹ *arevot yeriho* on the other side of the Jordan River (Josh 4:13; 5:10; Jer 39:5; 52:8; 2 King 25:5), somewhat narrower east-west and irrigated by fewer perennial rivers.

The banks of the Jordan riverbed (380-390 m BSL), dubbed by the prophets “the pride of the Jordan” גֵּאוֹן הַיַּרְדֵּן *geon ha-yarden* (Jer 12:5; 49:19; 50:44; Zech 11:3), sustain deep thickets of tamarisk, willow, poplar, oleander, cane, and reeds. Between the lush river banks and the plains of Moab on the east side and those of Jericho on the west side lie high eroded dunes of barren Lisan Marlstone.<sup>145</sup> With the band of dunes 1-3 kilometres wide, it was not practical for dwellers in the Plains of Moab to source water from the Jordan River but rather from the wadis and springs crossing the valley from the heights to the east. The alternative name for the region, the Kikkar הַכֶּכָּר *ha-kikar* (meaning “round” and suggesting a disc or plaza),<sup>146</sup> appears but once in the wilderness texts to designate the whole southern Jordan Valley including the western side around Jericho (Deut 34:3).

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<sup>143</sup> See 7.5 Four Great Rivers.

<sup>144</sup> See 2.1 Regional Toponymy.

<sup>145</sup> Menashe Har-El, “The Pride of the Jordan: The Jungle of the Jordan,” *Biblical Archaeologist* 41, no. 2 (1978): 67–68.

<sup>146</sup> Yigal Levin, “The Jordan River in Biblical Geography: From Boundary to Allegory,” *ARAM* 29, no. 1/2 (2017): 223 n. 5.

## 8.13 THE JESHIMON: GEOZONE

The Jeshimon הַיְשִׁימוֹן *ha-yeshimon* appears in the wilderness narratives as a region associated with Balaam’s final attempt to curse Israel in the Plains of Moab (Num 21:20; 23:28). On both occasions, it indicates a wasteland (from יָשַׁם *yasham* “lie waste”) visible from the eastern rim of the Jordan Valley (lit. “that overlooks the face of the Jeshimon”). In David’s time, the term “the Jeshimon” designates the barren slopes on the western side of Dead Sea (cp. 1 Sam 23:19, 24), as Baly describes:

[The Jeshimon] owes its existence to the unhappy combination of two facts, the decreasing rainfall which always marks the eastward-facing slopes, and the dry and thirsty chalk which soaks up what little rain there is, and here is exposed over a very wide extent. The result is a desolation that has to be seen to be believed, starting with incredible suddenness almost at the edge of the water-parting road [the Med–Dead watershed], and extending to the shores of the Dead Sea. No people have ever lived in this region, save for those who clung to its very edges...<sup>147</sup>

The town Beth-jeshimoth’s location at the southern limits of the Plains of Moab suggests the eastern slopes of the Dead Sea are also called the Jeshimon (Num 33:49; Josh 12:3). The name Jeshimoth or Jeshimon seems to be preserved in Arabic in Wadi Uzaymi, Ayn Suwaymah, and the associated Tall Azaymah near the northeastern shore of the Dead Sea.<sup>148</sup> During their journeys through the Transjordan, Israel did not enter the Jeshimon region on either side of the Dead Sea; instead they bypassed Edom and Moab to the east and entered the southern Jordan Valley by the wadi-descents from the northwest Mishor (Num 33:46-49).

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<sup>147</sup> Baly, *Geographical Companion*, 52.

<sup>148</sup> Nelson Glueck, “The Jordan,” *The Biblical Archaeologist* 6, no. 4 (December 1943): 23–25; Kallai, *Historical Geography of the Bible*, 442; MacDonald, *East of the Jordan*, 88.

## 8.14 INDIGENOUS TRANSJORDAN

The Israelite journey northward through the Transjordan visits in reverse order the territories conquered by the four northern kings of Abraham's time:<sup>149</sup>

*In the fourteenth year Chedorlaomer and the kings who were with him came and subdued the Rephaim in Ashteroth-karnaim, the Zuzim in Ham, the Emim in Shaveh-kiriathaim, and the Horites in the hill country of Seir as far as El-paran on the edge of the wilderness (Gen 14:5-6; cf. vv. 1-2).*

The only region described and named in this list of indigenous nations is Seir; the other three regions are identified by their principal towns. Ashteroth-karnaim is recognisable as Ashtaroth of the Bashan (Deut 1:4), Ham as Havvoth-ham (later Havvoth-jair) of the Gilead (Num 32:39-41, emended; Judg 10:4),<sup>150</sup> and Shaveh-kiriathaim as Kiriathaim of the Mishor (Josh 13:19). By this geographical listing, each town represents a geozone. Aharoni offers a historical-critical explanation for the parallel toponyms:

In this archaic document several double names are given: Ashteroth-Karnaim, Shaveh-Kiriathaim, En-Mishpat-Kadesh, and the Valley of Siddim-the Dead Sea. It appears that in each such case the second name was well-known from the time of the Monarchy and was meant to supplement the more ancient name or to indicate its location.<sup>151</sup>

In line with the Genesis listing of the four indigenous nations of the Transjordan are the historical notes interpolated in the account of Israel's journey through the region (Deut 2:10-12, 20-23). Long before Israel's arrival, the Edomites had dispossessed the Horim (Horites, Deut 2:22), the Moabites the Emim (Deut 2:8-12), and the Ammonites the Zamzummim (or Zuzim, Gen 14:5), the latter a tall people related to the Rephaim and the Anakim (Deut 2:20-21; cf 1:28; Num 13:33). Thus, the four major river catchments of the Transjordan serve as the original homelands of the first nations and then as the greater homelands for the second nations.

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<sup>149</sup> Kallai, "The Campaign of Chedorlaomer," 219.

<sup>150</sup> Kallai, 226; citing Abraham Bergman (Biran), "The Israelite Occupation of Eastern Palestine in the Light of Territorial History," *Journal of the American Oriental Society* 54, no. 2 (1934): 176.

<sup>151</sup> Other double names in this text are El-paran and Hazezon-tamar. Aharoni, "Tamar and the Roads to Elath," 32.

All four national territories include their adjoining sections of the Rift Valley catchment draining directly westward to the Jordan River, Dead Sea, or Wadi Arabah (Fig. 13).<sup>152</sup>

Not long before Israel's arrival, two Amorite kings conquered the Northern and Central Transjordan and dispossessed the incumbent nations in three territories:

1. The Ammonites retreated to the inner Jabbok catchment within the curve of the Jabbok riverbed and the Jabbok–Jordan watershed while Sihon's Amorites took the outer Jabbok catchment and the adjoining central Jordan catchment (east).<sup>153</sup>
2. The Moabites retreated to the Southern Arnon catchment between the Arnon and Zered riverbeds (i.e. Moab proper) while Sihon's Amorites took the northern Arnon catchment and the adjoining southern Jordan catchment (east).<sup>154</sup>
3. King Og's Amorites dispossessed the Rephaim in Greater Bashan. Og is himself considered one of the Rephaim so his invasion may have been more of a coup (Deut 3:11, 13; Josh 12:4).

Thus, the four indigenous nations of the Transjordan—Rephaim, Zamzummim, Emim, and Horim—were dispossessed and replaced by the four nations contemporary with Israel of the exodus and conquest—Amorites, Ammonites, Moabites, and Edomites. Within a hydrological paradigm, these two sets of four nations occupied the same four major river catchments—Yarmuk, Jabbok, Arnon, and Zered—along with their adjoining sections of the Rift Valley catchment. Each set of nations—indigenous and Abrahamic—broadly represent Baly's four lifestyles of the Transjordan—Farmer, Highlander, Shepherd, and Trader.<sup>155</sup>

According to the biblical sequence, therefore, Israel was the fourth wave of settlers in the Transjordan: first the indigenous nations, second the Abrahamic nations, and third the Amorite nation(s). The narrative explains how the migrating Israelites bypassed the Edomites in Seir and the Moabites in Southern Moab (Moab proper) out of respect for their shared Abrahamic ancestry (Deut 2:4-5, 19).<sup>156</sup> Once north of the Arnon stem (Wadi Mujib), however, the Israelites

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<sup>152</sup> See 7.5 Four Great Rivers.

<sup>153</sup> See 8.5 Land of Ammon.

<sup>154</sup> See 8.10 Amorite and Israelite Territories.

<sup>155</sup> Baly, *Geography*, 1958, 127, 219.

<sup>156</sup> See 7.11 Land of Edom; 7.14 Land of Moab.

dispossessed King Sihon's Amorites from Northern Moab.<sup>157</sup> Bypassing the (Abrahamic) Ammonites of the inner Jabbok catchment,<sup>158</sup> they dispossessed other apparently ungoverned Amorites (i.e. no king) from the outer Jabbok catchment (half-the-Gilead and Jazer), thus retaining half-the-Gilead and half-Ammon for themselves (Deut 3:12; Josh 12:2; 13:25).<sup>159</sup> The Israelite army then continued northward to dispossess King Og's Amorites from the Yarmuk catchment.<sup>160</sup> The biblical author takes care to note that the Argob, taken from Og's Amorites along with the Bashan, also formerly belonged to the Rephaim (Deut 3:13). It is understood that the lands of Edom, Moab, and Ammon include their adjoining sections of the Wadi Arabah, Dead Sea, and River Jordan catchments respectively. Nonetheless, the biblical author judges it necessary to account for the upper Jordan-Kinnereth catchment by name (the Argob) as the section adjacent to the Bashan.<sup>161</sup>

## 8.15 MAP COMPARISONS

Finally, we can compare the best current map of the Transjordanian regions, Beitzel's map of the biblical districts on both sides of the Jordan,<sup>162</sup> with the new map of Transjordanian regions according to the hydrological model (Fig. 22). The first difference to note is that Beitzel's districts are basically unrelated to river catchments as evidenced by the upper riverbeds extending past the eastern boundary-line. The Transjordanian regions on the new hydrological map, on the other hand, are defined by the four great river-systems. The second difference is that Beitzel's eastern boundaries are rounded and approximate whereas the regions according to the hydrological map are precisely outlined by the outer watershed of the Dead Sea primary catchment. Because Beitzel's map is not specifically focused on the Israelite migration from Egypt to Canaan, only the major regions of the Israelite kingdom period are represented. Nonetheless, the seldom-mentioned wildernesses of Moab and Kedemoth, the mysterious

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<sup>157</sup> See 8.2 Wilderness of Kedemoth; 8.3 The Mishor: Geozone.

<sup>158</sup> See 8.5 Land of Ammon.

<sup>159</sup> See 8.4 The Gilead: Geozone; 8.6 Land of Jazer; 8.10 Amorite and Israelite Territories.

<sup>160</sup> See 8.7 The Bashan: Geozone.

<sup>161</sup> See 8.8 The Argob: Geozone.

<sup>162</sup> Beitzel, *New Moody Bible Atlas*, 33 map 5 "Districts of the Old Testament".

territories of Ar and Jazer, and the obscure districts of the Argob and Geshur-Maacah are all located by the hydrological map.

Another difference to note is that Ammon's territory is markedly different between the maps. Because Beitzel does not apparently distinguish between geomorphic and geopolitical regions,<sup>163</sup> he offsets the Gilead from Ammon and the Mishor from Moab as though they are mutually exclusive regions. According to the findings of this investigation, however, geopolitical regions (hydrological) overlie geomorphic regions (topographical); hence Ammon overlies part of the Gilead, and Northern Moab overlies the Mishor (and parts of other geozones also). This understanding greatly assists in the mapping of biblical regions. The three most important discoveries of this investigation go hand in hand:

1. Toponymical distinctions between regional types (wildernesses, territories, and geozones)
2. Hydrological distinctions between geopolitical regions (wildernesses and territories)
3. Topographical distinctions between geomorphic regions (geozones).

The hydrological regions together account for all the lands of the Israelite journeys between Egypt and Syria. The topographical regions together account for all the lands of the Israelite kingdom period and that of its Abrahamic neighbours.<sup>164</sup>

The power and appeal of this new way of identifying and delineating biblical regions is in the application of a consistent and complete method. The *foundation* of the method is the understanding that the major river catchments offer the most promising framework for defining the geographic regions of the Sinai, Negev, and Transjordan. The *elements* of the method are the major watersheds and riverbeds throughout the wider region along with the 200 mm isohyet dividing the agricultural lands in western Transjordan from the pastoral lands in the east. The *method* itself is the comparing of text and terrain in order to identify sections of the land that might best fit the biblical indications for each named region. These sections of the land may lie within watersheds, between riverbeds, or a combination of both, that is, within and between

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<sup>163</sup> See 2.2 Wildernesses, National Territory, Geozones.

<sup>164</sup> See 6.16 Summary: Sinai-Negev Regions.

watersheds and riverbeds. It may have come as a surprise to the reader, as it did to the writer, to realise that the eastern frontier of biblical lands is a precise line, that is, the outer watershed of the Dead Sea primary catchment extending from the northernmost edge of the Upper Jordan catchment on top of Mount Hermon to the southernmost edge of the Zered catchment on the Central Arabian Plateau. This boundary is so empirical it could be drawn with a stick in the sands of the eastern deserts along the line where rainfall divides to flow westward to the Rift Valley or eastward to the Arabian Peninsula.

Unlike other approaches to mapping the biblical regions, the hydrological approach offers precise wilderness boundaries and territorial borders. The wilderness boundaries are usually the watersheds of the major rivers, while the territorial borders of the Transjordanian nations are usually the riverbeds. An additional element is the 200 mm isohyet of the Transjordan dividing “the desert from the sown” and serving as a boundary between the following paired geopolitical regions:

- Edom and the Wilderness of Edom. Both regions lie within the Zered River catchment, Edom to the west of the 200 mm isohyet, and the Wilderness of Edom to the east.
- Moab and the Wilderness of Moab. Both regions lie within the southern Arnon river catchment. The 200 mm isohyet approximates the south-north line of Wadi Nukhaylah from its source near the Zered River (Wadi Hasa) to its junction with the Arnon River (Wadi Mujib).
- Northern Moab and the Wilderness of Kedemoth. Both regions lie within the northern Arnon river catchment. The 200 mm isohyet approximates the north-south line of Wadi Mashur from its source in the Gilead foothills to its junction with the Arnon (Mujib) near the Dead Sea.

The well-watered regions of the Bashan and the Argob are separated by a watershed not an isohyet. In contrast to the other paired regions of the Transjordan (as in the list above) their toponyms attract the definite article signifying their primary status as geozones. Beitzel has an arbitrary eastern border for the Bashan and does not attempt to locate the Argob.<sup>165</sup>

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<sup>165</sup> See 7.3 Bible Atlases: Transjordan.



## 8.16 SUMMARY: TRANSJORDAN REGIONS NORTH

The biblical regions east of the Rift Valley fall into three toponymical categories: wildernesses, national territories, and geozones. The geopolitical regions (wildernesses, territories) and the geomorphic regions (geozones) must be mapped separately because they are identified and described by different principles. The geozones are determined by location and relative elevation, the wildernesses and territories by hydrology. The named geozones of the Transjordan journeys—the Arabah, Seir (East), the Mishor, the Gilead, the Bashan, the Argob, the Mountains of the Abarim, and the Jeshimon—provide the terrestrial foundation for the wildernesses and national territories. The wildernesses of the Transjordan lie to the east of the 200 mm isohyet (rainfall line) and are usually bounded by watersheds; the national territories lie to the west of the same line and are usually bounded by riverbeds. Thus, hydrological lines—riverbeds and watersheds—provide distinct borders and boundaries by which the entire map of biblical Transjordan may be divided into geopolitical units. These units may then be attributed to historical nations and tribes consistent with biblical indications.

The four major river catchments of the Transjordan from north to south—Yarmuk, Jabbok, Arnon, Zered—along with their adjoining sections of the Jordan-Arabah (Rift Valley) catchment correspond to the territories of the four indigenous nations—Rephaim, Zamzumim, Emim, Horim—and the territories of their successors, the four pre-Israelite nations—Amorites, Ammonites, Moabites, and Edomites. Each national territory has an associated pastoral wilderness—Argob, Jazer, wildernesses of Kedemoth-Moab, Wilderness of Edom—with all but the Argob lying within the same river catchment as its agricultural counterpart. All the biblical lands of the Transjordan (with the exception of the southern Arabah) lie within the outer watershed of the Dead Sea primary catchment, as does the land of Geshur and Maacah below Mount Hermon. According to the hydrological method for defining and delineating biblical regions, the biblical regions of the Transjordan from the Arnon River northward may be briefly described thus:<sup>166</sup>

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<sup>166</sup> For biblical quotes and reasoning, see the relevant sections by regional name.

- **Wilderness of Kedemoth** is the eastern catchment of the main northern tributary of the Arnon River, Wadi Mashur-Zafaran-Thamad, between the wadi-bed in the west and the Arnon–Arabia watershed in the east. It extends southeast to the Nukhaylah watershed, the northern border of the Wilderness of Moab.
- **The Mishor** (geozone), reckoned both geomorphically and geopolitically, is the tableland north of the Arnon draining westward into the Dead Sea and Jordan Valley, and eastward into Wadi Mashur-Zafaran-Wala, the main northern tributary of the Arnon River catchment.
- **The Gilead** (geozone) is the mountainous land to the east of the Jordan Valley. In some texts, it seems to include the Mishor, the Bashan, the eastern steppe, and the eastern slopes of the Jordan catchments, that is, all the highlands north of the Arnon River. But most often “the Gilead” or “the Mount Gilead” refers to the mountainous dome between the Mishor and the Bashan.
- **Land of (Bene-)Ammon** from the time of the Amorite invasion is encircled by the entire Jabbok riverbed (Wadi Zarqa) with the Jabbok–Jordan watershed completing the border to the southwest.
- **Land of Jazer** is the catchment of Wadi Dhulayl, the main eastern tributary of the Jabbok River. The Bene-ammon lost this pastoral region first to the Amorites and then to the Israelites.
- **The Bashan** (geozone), reckoned both geomorphically and geopolitically, is the entire Yarmuk River catchment.
- **The Argob** (geozone), reckoned both geomorphically and geopolitically, is the eastern half of the upper Jordan and Lake Kinnereth catchment between the lakeshore and the Jordan–Yarmuk watershed along the ridge of the Golan Heights. Geopolitically, the Argob is considered part of the Bashan.
- **Geshur and Maacah** possessed the upper Jordan Valley comprising the Hulah Valley (Maacah) and the northern Kinnereth basin (Geshur). Together these regions form the western border of the Argob.

- **The Mountains of the Abarim** (geozone) are the western slopes of the Mishor and western Gilead. This region is divided into six slices (hence “mountains”) by the five wadi-descents from the plateau to the southern Jordan Valley. Each of these mountain ridges was known as a small geozone, e.g. “the Peor”, “the Pisgah”.
- **Plains of Moab** are the level cultivable region in the southern Jordan Valley between the Jordan riverbed and the Mountains of the Abarim.
- **The Jeshimon** (geozone) is the area of steep barren slopes around the Dead Sea, the name on the east side inferred from the equivalent region on the west side and confirmed by the Balaam narrative.

# CHAPTER 9: CONCLUSIONS AND RECOMMENDATIONS

## 9.1 INTRODUCTION TO CONCLUSIONS

The Research Question for this investigation proposed a hydrological approach to the analysis of the biblical regions:

Is it possible to identify and delineate the geographic regions of the Israelite migration from Egypt to Canaan using a hydrological approach?<sup>1</sup>

The hypothesis that the biblical authors identified geographic regions by reference to major water-catchments seems intuitive and probable. Wherever ancient people crossed a watershed, they knew they were leaving one river system and entering another with a different topography, geology, and ecology. Moreover, ancient travellers understood (as do we) that all wadis in a river system connect and lead downhill to a distant sea or lake and that the ultimate destinations on either side of a major watershed can be dramatically different. Land masses may be divided by their water catchments into a patchwork pattern accounting for the entire area. The mapping of water catchments is, in fact, the only empirical and comprehensive method by which to delineate natural regions within clear fixed boundaries. Topographical formations, on the other hand—mountain ranges, plateaus, and depressions—are almost impossible to delineate because they generally transition to their neighbouring formations. Geomorphic regions, therefore, are governed not by hydrological but by topographical principles, an approach already known to biblical geographers.

The Methodology section of this dissertation outlined three tasks for investigating the geographic regions of the Israelite migration between Egypt and Canaan according to the biblical narratives:<sup>2</sup>

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<sup>1</sup> See 1.2 Research Question.

<sup>2</sup> See 1.4.3 Cumulative Case.

1. Identify toponymical patterns of the geographic regions to distinguish them by type.
2. Develop a hydrological model of the entire span of the Israelite journeys in order to identify and delineate the geographic regions.
3. Assess the model’s efficacy in accounting for all the textual and terrestrial data pertaining to the geographic regions.

The toponymical patterns turned out to be simple and consistent, with the discovery of three types of geographic regions across the biblical arena—wildernesses, national territories, and geozones.<sup>3</sup> In accordance with the original hypothesis, the wildernesses and national territories were found to relate to water catchments.<sup>4</sup> The geozones, however, were found to relate to large land formations of various kinds.<sup>5</sup> Thus, the investigation has discerned two different *families* of geographic regions, each family governed by different principles:

- Geopolitical regions (hydrology): wildernesses and national territories
- Geomorphic regions (topography): geozones.

This chapter summarises the findings of each of the above three tasks, draws conclusions from the new information, and assesses the significance of the hydrological hypothesis to biblical geography.

## 9.2 TOPONYMY: CONCLUSIONS

The discovery of three toponymical categories for biblical regions—wildernesses, national territories, and geozones—has proven to be crucial to the successful investigation of the geography of the Israelite migration:

1. Wilderness names are always constructed with מִדְבָּר *midbar* “wilderness” (e.g. “wilderness of Shur”).

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<sup>3</sup> See 2.1 Regional Toponymy.

<sup>4</sup> See Chapter 3: Hydrology Model

<sup>5</sup> See 2.4 Geozones: Sinai-Negev and Transjordan.

2. National territory names are constructed at least once with עֵרֶץ *erets* “land” (e.g. “land of Edom”).
3. Geozone names are constructed at least once with “land” (e.g. “land of the Negeb”) but are also prefixed at least once with הַ *ha-* “the”, the definite article (e.g. “the Gilead”).

These three toponymical categories indicate the nature of the biblical regions, whether pastoral (wildernesses), agricultural (national territories), or geomorphic (geozones).<sup>6</sup> Much scholarly confusion in identifying and defining biblical regions arises from category errors, that is, from confusing different types of regions. When geopolitical regions (wildernesses, national territories) are distinguished from geomorphic regions (geozones), there is no competition between the categories and their geography is consistent and coherent. The geopolitical and geomorphic regions must be mapped separately and in different styles—the former according to hydrology (Fig. 5), and the latter according to topography (Fig. 2). The geomorphic regions (land formations) underlie the geopolitical regions (wildernesses and territories).

The toponymy of the Pentateuchal texts is also highly structured numerically. Across the several biblical accounts of the Israelite journeys through the Sinai-Negev and Transjordan, there are thirty named geographic regions which may be organised into three sets of ten by toponymical form: wildernesses, national territories, and geozones. There are also ten named roads of the Israelite journeys.<sup>7</sup> The wildernesses and national territories of the Sinai-Negev and Transjordan account for all the land through which the Israelites passed on their journeys between Egypt and Canaan.<sup>8</sup> There are also ten named geozones listed for the Cisjordan (Land of Canaan), as found in the conquest directive of Deuteronomy (Deut 1:7) made up with a reference in Joshua and one in Isaiah (Josh 11:16-17; Isa 35:2).<sup>9</sup> The geozones of the Transjordan and Cisjordan together account for all the land pertaining to Israel and its Abrahamic neighbours during the Israelite kingdom period. The area thus covered reaches north-south from the Lebanon to the Red Sea Gulf and east-west from the Central Arabian Plateau to

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<sup>6</sup> See 2.1 Regional Toponymy.

<sup>7</sup> See 2.3 Ancient Roads.

<sup>8</sup> See 2.4 Geozones: Sinai-Negev and Transjordan.

<sup>9</sup> See 2.5 Geozones: Cisjordan (Canaan-Israel).

the Mediterranean Sea. The southwestern limit of named geozones approximates the ancient Darb al-Ghazza (the Way of the Red Sea) from Gaza to Elath. Such comprehensive coverage of the biblical arena by the biblical collection of regional names seems remarkably thorough.

### 9.3 HYDROLOGY AND TOPOGRAPHY: CONCLUSIONS

The hydrological model provides an extensive framework for understanding the geopolitical regions of the biblical arena.<sup>10</sup> The foundational hydrological units of the greater region are the primary catchments (the Med, Red, and Dead seas),<sup>11</sup> subdivided by secondary catchments (the major rivers),<sup>12</sup> and supplemented by tertiary catchments (their main tributaries).<sup>13</sup> Secondary catchments across the region may be matched with the biblical wildernesses and national territories, their outer watersheds and central riverbeds serving in various combinations as borders and boundaries.<sup>14</sup> Only a few tertiary catchments warrant their own biblical names or, more precisely, only a few regional names for tertiary catchments have been preserved by the biblical authors.<sup>15</sup> The wildernesses and national territories are all geopolitical regions, that is, they are all occupied by one or more distinct ethnic groups. Some geopolitical regions are single water-catchments, some comprise two or more catchments, and others are half-catchments, that is, the area between a central riverbed and its outer watershed on one side.<sup>16</sup> Some agricultural national territories, specifically Edom, Moab, and Ammon (after the Amorite invasion), lie between or within riverbed borders with only one side bounded by a watershed.

A region-by-region application of the hydrological hypothesis throughout the Sinai-Negev and Transjordan has been productive and enlightening. Some basic expectations derived from the more explicitly described regions were extended to locate and define other more

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<sup>10</sup> See 3.1 Hydrology of Biblical Lands.

<sup>11</sup> See 3.2 Primary Catchments.

<sup>12</sup> See 3.3 Secondary Catchments.

<sup>13</sup> See 3.4 Tertiary Catchments.

<sup>14</sup> See 5.3 Secondary Catchments: Egypt-Sinai-Negev; 7.4 Secondary Catchments: Transjordan.

<sup>15</sup> See 6.4 Tertiary Catchments: Sinai-Negev; 7.15 Tertiary Catchments: Transjordan.

<sup>16</sup> See 6.6 Kadesh in Paran and Zin.

scantly described regions. Development and refinement of the hydrological model remained in process to the very end of the investigation as variations and nuances arose. For example, it became apparent that the wildernesses across the region were mostly bounded by watersheds according to pastoral (semi-nomadic) land-use, while the national territories of the Transjordan were mostly bounded by riverbeds according to agricultural (settled) land-use. Another development in the Transjordan was the role of the 200 mm isohyet (rainfall line) between “the desert and the sown” as a boundary between the wildernesses to the east (within watersheds) and the national territories to the west (between riverbeds). With these and other pragmatic adjustments, the rules for dividing the land according to hydrological principles became more flexible while remaining sufficiently consistent and predictive to remain useful.

The biblical authors identify geomorphic regions (geozones) by intermittently referring to them with the definite article (e.g. “the Gilead”). The boundaries of these large land formations are vague or ambiguous and must be mapped separately and in a different style to regions determined with hydrological boundaries. Together they account for all the lands of the biblical arena on both sides of the Rift Valley. Five of the ten named geozones of the Sinai-Negev and Transjordan—the Hill Country, Seir, the Arabah, the Gilead, and the Jeshimon—extend across more than one national territory in each biblical period. The other five geozones in the same arena—the Negeb, the Mishor, the Mountains of the Abarim, the Bashan, and the Argob—are each inhabited by only one nation in each of the biblical eras, thus they are also reckoned as national territories. Of interest is the geomorphic variety for each of these *chimera* regions: the Negeb is a basin,<sup>17</sup> the Mishor is a tableland,<sup>18</sup> the Mountains of the Abarim are scarplands,<sup>19</sup> the Bashan is a depression,<sup>20</sup> and the Argob is a hillside.<sup>21</sup> Nonetheless, they all qualify as geozones, and the biblical authors recognise them as such in their toponymy. The biblical author(s) understood and operated this system of regional definitions without explicitly referencing it in the texts. A thorough hydrological knowledge infuses the geographical data, but the nearest the biblical account comes to describing a watershed boundary is a reference to the

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<sup>17</sup> See 6.10 The Negeb: Geozone.

<sup>18</sup> See 8.3 The Mishor: Geozone.

<sup>19</sup> See 8.11 The Mountains of the Abarim: Geozone.

<sup>20</sup> See 8.7 The Bashan: Geozone.

<sup>21</sup> See 8.8 The Argob: Geozone.

“hand” יַד *yad* of the Jabbok River as Israel’s voluntary exclusion zone south of Ammon (Deut 2:37).<sup>22</sup>

The nomenclature for the wildernesses, national territories, and geozones is consistently organised and applied throughout the biblical narratives and reviews. Every named region of the Transjordan lies within the outer watershed of the Dead Sea primary catchment excepting only the southern Arabah which lies within the Red Sea primary catchment.<sup>23</sup> The great advantage of the hydrological model is the provision of clear riverbed and watershed boundaries around and between the geopolitical regions. Once these boundaries are established, it is evident that the travel notices of Israel’s entries into, and exits from, the biblical regions proceed in the proper order among the stations. Moreover, the many puzzles regarding the territorial borders of the Transjordanian nations may be satisfactorily resolved, particularly those in relation to Ammon. The success of this investigation in distinguishing, identifying, and delineating the geographic regions of the Israelite journeys confirms the hypothesis on the weight of evidence and the balance of probability.

## 9.4 EGYPT-SINAI-NEGEV REGIONS: CONCLUSIONS

A hydrological model of the regions of Israel’s migration from Egypt to Canaan makes good sense of the geographic data in both text and terrain. All three stages of the journey can be summarised in terms of geomorphic and geopolitical regions. The biblical wildernesses and national territories can be matched with secondary catchments, that is, river systems and lake basins, while the geozones can be identified as large land formations according to general measures such as position, elevation, climate, and land-use. The ancient Land of Egypt, the first of many hydrological regions, is the water-catchment of the Nile River and Delta from the cataracts region of Sudan in the south to the Mediterranean Sea in the north.<sup>24</sup> The Land of Goshen as a subregion of Egypt is entirely contained within the Wadi Tumilat catchment flowing east from the ancient Pelusiatic branch of the eastern Nile Delta to Lake Timsah in the central

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<sup>22</sup> See 8.5 Land of Ammon; Appendix B.1 Heshbon.

<sup>23</sup> See 3.2 Primary Catchments; 7.5 Four Great Rivers.

<sup>24</sup> See 5.4 Land of Egypt.

Suez Isthmus.<sup>25</sup> As hydrological units, these regions are consistent with biblical descriptions of Egypt and Goshen, their distinct yet integrated relationship explaining how the Hebrew nation could live near the royal precinct while also inhabiting their own “land” with different ecological conditions to those in the Delta.

According to the hydrological model of biblical regions, the first stage of the Israelite migration—Goshen-to-Sinai—proceeds through contiguous water catchments of the Sinai Peninsula and Negev.<sup>26</sup> The water catchment adjoining Goshen to the south side is the Bitter Lakes basin while that on the east side is the Mediterranean coastal catchment, securely identified as the Wilderness of Shur.<sup>27</sup> As the first wilderness after Goshen, therefore, the Wilderness of Etham must be the Bitter Lakes basin (Num 33:8).<sup>28</sup> The el-Guisr and Serapeum watersheds across the Suez Isthmus host the Way of Shur and the Way of the Wilderness of the Red Sea respectively.<sup>29</sup> According to the narrative, Israel under Moses’ leadership took the latter route, pursued by Pharaoh’s army to the Red Sea in which the Egyptians drowned. Israel emerged from the crossing and travelled for three ‘dry’ days into the Wilderness of Shur *and* Etham, which must, therefore, be along the interface between the Mediterranean coastal catchment and the Bitter Lakes catchment in the Northern Sinai.<sup>30</sup> In all aspects, the exodus itinerary is consistent with the hydrological units of the Eastern Delta, Suez Isthmus, and Northern Sinai which together offer clear indications for identifying the location of the Red Sea crossing in the Bitter Lakes basin.<sup>31</sup>

Beyond the Wilderness of Etham/Shur, the geographic regions in order of passage through the Sinai-Negev are the Wilderness of the Red Sea (mentioned only in a road-name but deduced from travel notices),<sup>32</sup> the Wilderness of Sin,<sup>33</sup> the Wilderness of Paran (here

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<sup>25</sup> See 5.5 Land of Goshen.

<sup>26</sup> See 4.1.1 Regions: Goshen to Sinai.

<sup>27</sup> See 5.6 Wilderness of Shur.

<sup>28</sup> See 5.7 Wilderness of Etham.

<sup>29</sup> See 5.9 Wilderness of the Red Sea.

<sup>30</sup> See 5.6 Wilderness of Shur.

<sup>31</sup> See 5.8 Red Sea Crossing.

<sup>32</sup> See 5.9 Wilderness of the Red Sea.

<sup>33</sup> See 5.11 Wilderness of Sin.

unnamed), and the Wilderness of Sinai.<sup>34</sup> The Wilderness of Paran, often unnamed in the biblical records, lies between the wildernesses of Sin and Sinai. Its location and inclusion in the journey may be deduced from the three intervening stations—Dophkah, Alush, Rephidim—and the contiguity of the Paran and Sinai wildernesses in the subsequent journey from Sinai to Kadesh.<sup>35</sup> Each of these wildernesses readily corresponds to a water catchment of the Sinai-Negev: the Red Sea to the Suez Gulf coastal catchment; Sin to the Wadi Arish catchment of the Central Sinai; Paran to the Nahal Paran catchment of the Southern Negev; and Sinai to the Nahal Karkom catchment in the Central Negev Highlands. A hydrological model reveals the Southern Sinai region to be irrelevant to the Israelite journeys. The high granite massif is part of the Red Sea catchment, well outside of migration paths to Egypt and inhospitable to pastoral nomads. According to the hydrology of the biblical regions and the logic of the narrative, therefore, the most likely identity of Mount Sinai-Horeb is Har Karkom.<sup>36</sup>

After about a year's encampment in the Wilderness of Sinai, Israel undertakes the second stage of its migration to Canaan—Sinai-to-Kadesh.<sup>37</sup> The recent discovery of a greater paleo-Paran basin offers a geological explanation for how the Wilderness of Paran can include, by single references, both Mount Sinai (“Mount Paran”, Hab 3:3) and Kadesh (Num 13:26). From Kadesh Moses sends a spying mission northward into Canaan via the Wilderness of Zin and the Negeb geozone.<sup>38</sup> Soon after the spies' return, the Israelite men attempt an invasion of Southern Canaan northeastward via the southern Hill Country geozone.<sup>39</sup> Defeated by a Canaanite alliance, the Israelites make a circuitous tour of the Zin and Paran wildernesses and the Arabah geozone to the head of the Elath Gulf (Num 33:18-36).<sup>40</sup> After Israel's return to Kadesh in the Wilderness of Zin,<sup>41</sup> the texts offer no more geographic data until the final year of the wilderness

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<sup>34</sup> See 5.15 Wilderness of Sinai.

<sup>35</sup> See 5.13 The Wilderness Between; 5.14 Wilderness of Paran.

<sup>36</sup> See 5.17 Har Karkom–Mount Sinai.

<sup>37</sup> See 4.1.2 Regions: Sinai to Kadesh.

<sup>38</sup> See 6.10 The Negeb: Geozone.

<sup>39</sup> See 6.9 The Hill Country: Geozone.

<sup>40</sup> See 6.13 Wilderness of Zin; 6.14 Wanderings: Zin and Paran.

<sup>41</sup> See 6.6 Kadesh in Paran and Zin.

era.<sup>42</sup> The third stage of the Israelite migration—Kadesh-to-Jordan—crosses the Negev to the Rift Valley through the Wilderness of Paran (unnamed) in order to circumnavigate the geozone of Western Seir and avoid conflict with the nation of Edom.<sup>43</sup> After the pursuit of, and victory over, the king of Arad in the Negeb geozone, Israel enters the southern Arabah geozone at Jotbathah. For a summary in regional terms of the remainder of the third journey, see the next section.<sup>44</sup>

Throughout the Israelite migration thus far, the sequence of contiguous water catchments bears out the order of travel notices through the biblical wildernesses, national territories, and geozones to the west of the Rift Valley. The Har Karkom location for the biblical Mount Sinai seems to be supported by coherent and consistent results in applying the hydrological model to the biblical arena. From prior commitment to other Sinai candidates, readers may reject the Karkom-Sinai identity and discount the hydrological model for mapping the biblical wildernesses of the exodus and wanderings. Such a rejection for the use of the model in the Sinai-Negev, however, does not affect the case for its use in the Transjordan where the model does not involve the location of Mount Sinai. In the Transjordan, however, the hydrological model for identifying biblical regions concludes that Eusebius was wrong about the locations of biblical Heshbon, Jazer, and Mahanaim. Classical locations for these towns do not match biblical indications, and archaeology has not discovered any Amorite or early Israelite settlement at Tall Hisban. Hopefully, the simplicity and integrity of the hydrological model for defining the biblical regions of the Transjordan demonstrates to the reader that the locations of these three key towns must be reassessed.<sup>45</sup>

## 9.5 TRANSJORDAN REGIONS: CONCLUSIONS

A hydrological model of the biblical regions makes good sense of the geographic data of the Transjordan in both text and terrain. From the southern Arabah to the Argob the geozones

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<sup>42</sup> See 4.1 Biblical Data of the Israelite Journeys.

<sup>43</sup> See 6.12 Mount Seir (West): Geozone; See 6.14 Wanderings: Zin and Paran.

<sup>44</sup> See 9.5 Transjordan Regions: Conclusions.

<sup>45</sup> See Appendix B.1 Heshbon; B.2 Jazer; B.3 Mahanaim.

can be identified as large land formations, and the wildernesses and territories can be matched with secondary catchments, that is, river systems and lake basins.<sup>46</sup> However, the geographical conditions are considerably more complex on the east side of the Rift Valley than on the west. In addition to watersheds and riverbeds, there is an extra hydrological factor by which to determine the geopolitical regions, the 200 mm isohyet (rainfall line) dividing agricultural regions on the plateau from pastoral regions on the steppe.<sup>47</sup> Also, the number of regions in the Transjordan is almost double the number in the Sinai-Negev. Whereas most of the ten wildernesses of the Israelite journeys are in the Sinai and Negev, most of the ten national territories *and* ten geozones are in the Transjordan.<sup>48</sup> Moreover, before the Israelite conquest, the national territories of Moab and Ammon were considerably reduced in extent when the Amorite kings invaded and conquered about half the total area of the Transjordan.<sup>49</sup> These differences and changes greatly complicate analysis of the Transjordanian regions, but the outcome according to the hydrology model is nonetheless consistent and coherent with the biblical data and remarkably simple.

The Transjordan divides into four national territories corresponding to the four major river systems—Zered, Arnon, Jabbok, and Yarmuk.<sup>50</sup> All of these territories lie within the Dead Sea primary catchment, and each includes the section of the eastern Rift Valley catchment adjoining the river system which defines it. From north to south each national territory comprises:

1. Yarmuk catchment plus upper (northern) Jordan catchment (east)
2. Jabbok catchment plus middle (central) Jordan catchment (east)
3. Arnon catchment plus lower (southern) Jordan and Dead Sea catchments (east)
4. Zered catchment plus northern Arabah catchment.

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<sup>46</sup> See 7.4 Secondary Catchments: Transjordan.

<sup>47</sup> See 7.6 “The Desert from the Sown”.

<sup>48</sup> See 2.1 Regional Toponymy.

<sup>49</sup> See 8.10 Amorite and Israelite Territories.

<sup>50</sup> See 7.5 Four Great Rivers.

These greater national territories of the Transjordan are first inhabited by four indigenous peoples, from north to south, the Rephaim, Emim, Zamzummin, and Horim.<sup>51</sup> When Abrahamic nations take over the Central and Southern Transjordan, the same territories are inhabited by Rephaim, Ammonites, Moabites, and Edomites respectively. Then the Amorites invade the Northern and Central Transjordan: King Og takes the Yarmuk and eastern upper Jordan-Kinnereth catchments; King Sihon takes the outer Jabbok catchment including Jazer; the northern Arnon catchment; and the eastern half of the Jordan catchment. Lastly, the Israelites under Moses conquer the Amorites and apportion their territory to three Israelite tribes: the Yarmuk and eastern upper Jordan-Kinnereth catchments to half-Manasseh; the outer Jabbok and central Jordan catchment to Gad; and the northern Arnon, southern Jordan, and Dead Sea catchments to the tribe of Reuben.<sup>52</sup>

The four greater territories of the Transjordan also broadly correspond to the four biblical lifestyles—Farmer, Highlander, Shepherd, and Trader.<sup>53</sup> Each national territory has an associated wilderness within the same river catchment. The Arnon catchment divides into northern and southern halves, each with its eastern wilderness. These paired territories and wildernesses are, from south to north:

- Edom and the Wilderness of Edom within the Zered River catchment
- Southern Moab and the Wilderness of Moab within the southern Arnon River catchment
- Northern Moab and the Wilderness of Kedemoth within the northern Arnon River catchment
- Ammon and Jazer within the Jabbok River catchment.

Jazer is the wilderness of Ammon, a pastoral component to the agricultural facilities of the Gilead highlands and an economic asset on the Desert Highway (see below). The Bashan and the Argob are also an agricultural/pastoral pair but they are different water catchments, the Yarmuk

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<sup>51</sup> See 8.14 Indigenous Transjordan.

<sup>52</sup> See 8.10 Amorite and Israelite Territories.

<sup>53</sup> See 7.5 Four Great Rivers.

and upper Jordan-Kinnereth catchments respectively.<sup>54</sup> Declining rainfall or, in the case of the Argob, a steep gradient, makes the wildernesses of the Transjordan unsuitable for agricultural use while still supporting shrubs and wild grasses for the livelihood of pastoralists.

Special mention must be made of the clarity a hydrological model brings to understanding the changing territory of Ammon in the era described by the Pentateuch. Greater Ammon's identity as the entire Jabbok River catchment offers a simple solution to the enduring problems of Ammon's relationship with the Gilead and of its territorial extent after the Amorite and Israelite invasions.<sup>55</sup> Ammon as a hydrological unit overlies the Gilead as a morphological unit. The Land of Jazer is the catchment of Wadi Dhulayl, the main tributary of Wadi Zarqa (Jabbok) and Ammon's pastoral wilderness on the eastern steppe.<sup>56</sup> Before Israel arrived in the Transjordan, Amorites took the entire outer Jabbok catchment including the Land of Jazer, thereby reducing Ammon to the highland region circumscribed by the Jabbok riverbed and the Jabbok–Jordan watershed.<sup>57</sup> The conquering Israelites retained that reduction, taking possession of all Amorite regions with the exception of the outer Jabbok catchment along Ammon's southern border, a concession to Ammon's security. A hydrological understanding of Ammon's original and post-conquest borders makes the best sense of the biblical descriptions and supports suitable alternative locations for the border towns of Heshbon (between the Mishor and the Gilead) and Mahanaim (between the Gilead and the Bashan).<sup>58</sup>

Hydrological structure in place, we return to the summary account of the third stage of the Israelite migration in terms of geographic regions.<sup>59</sup> Having left Kadesh and crossed the Wilderness of Paran to the southern Arabah,<sup>60</sup> Moses changes his earlier plan to avoid Edom entirely.<sup>61</sup> Political conditions have shifted with Israel's recent conquest of Arad in the Negev

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<sup>54</sup> See 8.7 The Bashan: Geozone; 8.8 The Argob: Geozone.

<sup>55</sup> See 8.4 Land of Ammon.

<sup>56</sup> See Appendix B.2 Jazer.

<sup>57</sup> See 8.10 Amorite and Israelite Territories.

<sup>58</sup> See Appendix B.1 Heshbon; B.3 Mahanaim.

<sup>59</sup> See 9.4 Egypt-Sinai-Negev Regions: Conclusions.

<sup>60</sup> See 7.8 Southern Arabah.

<sup>61</sup> See 7.7 The Arabah: Geozone.

geozone so, instead of circumnavigating Eastern Seir to the south and east,<sup>62</sup> Moses leads Israel into the northern Arabah,<sup>63</sup> ascends the Edomite plateau, and passes through Edom and the Wilderness of Edom (unnamed) to the far side.<sup>64</sup> Crossing the upper Zered, the Israelites cut across the corner of the Land of Ar<sup>65</sup> to enter the Wilderness of Moab.<sup>66</sup> Passing northward along the eastern border of the Land of Moab through the Wilderness of Moab,<sup>67</sup> they arrive in the Wilderness of Kedemoth which extends some way southeast of the Arnon stem (Wadi Mujib).<sup>68</sup> The army goes ahead in the same wilderness to defeat Sihon's Amorites and take all his towns in the Mishor and the southern Jordan Valley.<sup>69</sup> The rest of the people enter and cross the Arnon ravine to inhabit the newly conquered towns of the Mishor.<sup>70</sup> Avoiding the Land of Ammon in the Gilead highlands, the Israelite army heads northeastward to conquer more Amorites in the Land of Jazer on the eastern steppe.<sup>71</sup> The army continues northward on the Desert Highway (the Way of the Bashan) to defeat Og's Amorites in the Bashan and the Argob,<sup>72</sup> but stop short of the lands of the Geshurites and Maacathites in the upper Jordan Valley.<sup>73</sup> Finally, the army returns to the Mishor, and the people make their way down through the Mountains of the Abarim<sup>74</sup> to the Plains of Moab in the southern Jordan Valley.<sup>75</sup>

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<sup>62</sup> See 7.13 Mount Seir (East): Geozone.

<sup>63</sup> See 7.10 Northern Arabah.

<sup>64</sup> See 7.11 Land of Edom; 7.12 Wilderness of Edom.

<sup>65</sup> See 7.17 Land of Ar.

<sup>66</sup> See 7.16 Wilderness of Moab.

<sup>67</sup> See 7.14 Land of Moab.

<sup>68</sup> See 7.15 Tertiary Catchments: Transjordan.

<sup>69</sup> See 8.2 Wilderness of Kedemoth.

<sup>70</sup> See 8.3 The Mishor: Geozone.

<sup>71</sup> See 8.6 Land of Jazer.

<sup>72</sup> See 8.7 The Bashan: Geozone; 8.8 The Argob: Geozone.

<sup>73</sup> See 8.9 Geshur and Maacah.

<sup>74</sup> See 8.11 The Mountains of the Abarim: Geozone.

<sup>75</sup> See 8.12 Plains of Moab.

## 9.6 RECOMMENDATIONS

The application of toponymical categories and a hydrological structure to the geographical data of the wilderness narratives has revealed a comprehensive system for defining biblical regions. By these insights, much information has been released from both text and terrain regarding the peripheral regions of the biblical arena. The author(s) of the Pentateuch apparently understood these regions very well. The historians and prophets of the later Israelite kingdom, on the other hand, seem to have largely lost touch with their hinterlands, referring only occasionally to the regions in the far south and east (Wilderness of Edom, 2 King 3:8; Paran, 1 King 11:18; Hab 3:3; Horeb, 1 King 19:8; Elath, 2 King 14:22; 16:6). With this hydrological investigation, a complete ancient geography comes to light, accurately preserved in Israel's origins stories. The nomenclature is simple, the principles are clear, the application is consistent, and the implications are significant. With Hoffmeier, therefore, I conclude that the quality of Pentateuchal geography is too good to support theories of late composition or significant textual redaction and corruption:

It seems to me easier to believe that the Bible accurately preserves an authentic picture of the travels and life in the Sinai wilderness than to suppose that authors six to seven hundred years later, writing in ignorance of the past and using creative imagination, got so much certifiably correct as this investigation has demonstrated.<sup>76</sup>

The scope of this investigation has been limited to the biblical regions of the Sinai, Negev, and Transjordan, leaving aside the regional divisions of Canaan/Israel. A hydrological approach might also provide a productive framework for investigating the tribal allocations in the Cisjordan. Although a smaller total land-area is divided among a greater number of tribes than in the Transjordan, their allocations may also be based on river-catchments, albeit at tertiary or quaternary levels (i.e. lesser tributaries). Naphtali's allocation, at least, appears to comprise the entire western half of the Upper Jordan-Kinnereth catchment.<sup>77</sup> Judah's allocation reaches southward to the Wilderness of Zin; whether to the Zin riverbed or watershed, both are

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<sup>76</sup> Hoffmeier, *Ancient Israel in Sinai*, 249.

<sup>77</sup> See 8.9 Geshur and Maacah.

hydrological borders.<sup>78</sup> Future investigations may find that the borders of the other tribal territories can also be traced along riverbeds and watersheds. Kallai mentions watersheds many times in his analysis of the tribal territories, but not in the context of a possible system of hydrological boundaries.<sup>79</sup> Perhaps a patchwork of water-catchments may be constructed that simplifies and refines the heretofore perplexing divisions of the Israelite tribal territories in the Promised Land.

The correspondence of the geopolitical regions to the major water catchments releases much new information and greatly increases understanding of the biblical context, not only for the Israelite migration era but also for the Israelite kingdom period, particularly for events in the Transjordan. The extensive explanatory power of the hydrological model verifies the hypothesis on the balance of probability and the weight of evidence. As noted in the Methodology section, a cumulative case is one that does not consist of a single or decisive argument but instead demonstrates that one hypothesis makes more sense than alternative hypotheses in light of all the available evidence.<sup>80</sup>

In the field of Historical Geography, an alternative hypothesis for organising the biblical regions of the Israelite journeys does not exist. As demonstrated in Chapters 5 and 6 (Egypt-Sinai-Negev chapters) and Chapters 7 and 8 (Transjordan chapters), a survey of Bible atlases shows that cartographers identify the geographic regions by labels oriented vaguely across the maps.<sup>81</sup> There is no system, whether topographical, ecological, or geological, for establishing the regions other than to deduce their general positions from biblical references and infer their bounds according to land-use or landmarks. Hence, there is scholarly confusion about some regions that seem to overlap—Edom and Seir,<sup>82</sup> Ammon and the Gilead,<sup>83</sup> the Bashan and the Argob<sup>84</sup>—but the problem is a lack of understanding about the difference between geomorphic

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<sup>78</sup> See 6.13 Wilderness of Zin.

<sup>79</sup> Kallai, *Historical Geography of the Bible*, 268 n. 355.

<sup>80</sup> See 1.4.3 Cumulative Case.

<sup>81</sup> See 5.2 Bible Atlases: Egypt-Sinai-Negev; 7.3 Bible Atlases: Transjordan.

<sup>82</sup> See 6.12 Mount Seir (West): Geozone.

<sup>83</sup> See 8.4 The Gilead: Geozone.

<sup>84</sup> See 8.7 The Bashan: Geozone.

and geopolitical regions.<sup>85</sup> In the absence of any alternative theory, and by Harman's principle of inference to the best explanation, the hydrological model of biblical regions takes the first (and only) place in analysing the geography of the Israelite journeys.

With this successful investigation of the geographic regions of the Israelite journeys, the possibility arises that the wilderness itinerary can also be successfully investigated. To date, no one has resolved the problems of the itinerary data which appear to be contradictory between texts and inconsistent between text and terrain. The situation has not changed since Aharoni's assessment in 1961:

To-day the problem of identifying the route of the Exodus and Mount Sinai itself is one of extraordinary difficulty, far more than any other problem of Palestinian Biblical topography.<sup>86</sup>

The introduction to this dissertation noted that the geographic regions of the Sinai, Negev, and Transjordan comprise the canvas on which the Israelite journeys are traced and the events portrayed.<sup>87</sup> With the foundational regions now located and delineated according to type, and with a double patchwork of geographic regions established and mapped also according to type (geopolitical and geomorphic), the data for the roads, stations, and towns can be re-examined. Thus, the chief recommendation arising from the hydrological model is for a new investigation of the wilderness itinerary. Perhaps it is now possible to locate the stations, roads, and towns mentioned in the Exodus narrative, the Numbers narrative and itinerary, and the Deuteronomy review, thereby further supporting the authenticity and historicity of the Pentateuchal texts.

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<sup>85</sup> See 2.4 Geozones: Sinai-Negev and Transjordan.

<sup>86</sup> Aharoni, "Kadesh-Barnea and Mount Sinai," 118.

<sup>87</sup> See 1.1 The Issue Under Investigation.

## BIBLIOGRAPHY

- ADAJ. "System of Transliteration from Arabic." *Annual of the Department of Antiquities of Jordan*, Annual, 39 (1995): 6.
- Aharoni, Yohanan. "Forerunners of the Limes: Iron Age Fortresses in the Negev." *Israel Exploration Journal* 17, no. 1 (1967): 1–17.
- . "Kadesh-Barnea and Mount Sinai." In *God's Wilderness: Discoveries in Sinai*, by Beno Rothenberg, 115–82. London: Thames & Hudson, 1961.
- . "Tamar and the Roads to Elath." *Israel Exploration Journal* 13, no. 1 (1963): 30–42.
- . *The Land of Israel in Bible Times (Hbw)*. First published 1949. Jerusalem: Bialik Institute, 1962.
- . *The Land of the Bible: A Historical Geography*. Translated by Anson F. Rainey. London: Burns & Oates, 1967.
- . *The Land of the Bible: A Historical Geography*. Translated by Anson F. Rainey. Revised and Enlarged Edition. Philadelphia, PA: Westminster, 1979.
- Aiken, Edwin J. *Scriptural Geography: Portraying the Holy Land*. Vol. 2. Tauris Historical Geography. London: I.B. Tauris, 2009.
- Albright, William F. "Exploring in the Sinai with the University of California African Expedition." *Bulletin of the American Schools of Oriental Research* 109 (1948): 5–20.
- Alter, Robert. *The Five Books of Moses: A Translation with Commentary*. New York, NY: W. W. Norton & Co, 2004.
- Anati, Emmanuel. *Har Karkom: Montagna Sacra Nel Deserto Dell'Esodo*. Milan: Jaca Book, 1984.
- . *Har Karkom: The Mountain of God*. New York, NY: Rizzoli, 1986.
- . "Has Mt. Sinai Been Found?" *Biblical Archaeology Review* 11, no. 4 (August 1985): 42–57.
- . *Is Har Karkom the Biblical Mount Sinai?* Capo di Ponte: Atelier, 2013.
- . *The Riddle of Mount Sinai: Archaeological Discoveries at Har Karkom*. 2nd Eng ed. Studi Camuni 21. Capo di Ponte: Atelier, 2017.
- Avi-Yonah, Michael. "Sinai." In *Encyclopedia Judaica*, 14:1593–96. Jerusalem: Keter, 1972.
- Avner, Uzi. "The Desert's Role in the Formation of Early Israel and the Origin of Yhwh." *Entangled Religions* 12, no. 2 (2021).
- Avni, Yoav, Yosef Bartov, Zvi Garfunkel, and Hanan Ginat. "Evolution of the Paran Drainage Basin and Its Relation to the Plio-Pleistocene History of the Arava Rift Western Margin, Israel." *Israel Journal of Earth Science* 49 (2000): 215–38.
- Axelsson, Lars Eric. *The Lord Rose up from Seir: Studies in the History and Traditions of the Negev and Southern Judah*. Translated by Frederick H. Cryer. Coniectanea Biblica: Old Testament Series 25. Stockholm: Almqvist & Wiksell International, 1987.
- Azaryahu, Maoz, and Arnon Golan. "(Re)Naming the Landscape: The Formation of the Hebrew Map of Israel 1949–1960." *Journal of Historical Geography* 27, no. 2 (April 1, 2001): 178–95.
- Baly, Denis. *Basic Biblical Geography*. Minneapolis, MN: Fortress, 1987.

- . *Geographical Companion to the Bible*. London: Lutterworth, 1963.
- . *The Geography of the Bible*. 2nd impression. London: Lutterworth, 1958.
- . *The Geography of the Bible*. New and Revised ed. New York, NY: Harper & Row, 1974.
- . “The Pitfalls of Biblical Geography in Relation to Jordan.” *Studies in the History and Archaeology of Jordan* 3 (1987): 123–24.
- Bartlett, John R. *Edom and the Edomites*. Edited by David J. A. Clines and Philip R. Davies. JSOT: Supplement Series 77. Sheffield: JSOT, 1989.
- . “Sihon and Og, Kings of the Amorites.” *Vetus Testamentum* 20 (1970): 257–77.
- . “The Edomite King-List of Genesis XXXVI. 31-39 and I Chron. I. 43—50.” *The Journal of Theological Studies* 16, no. 2 (1965): 301–14.
- . “The Land of Seir and the Brotherhood of Edom.” *Journal of Theological Studies* 20, no. 1 (1969): 1–20.
- . “The Representation of the Gulfs of Suez and Aqaba on Maps from Peutinger to the Survey of Sinai 1868-69.” *Palestine Exploration Quarterly* 141, no. 1 (2009): 27–66.
- . “The Wadi Arabah in the Hebrew Scriptures.” In *Crossing the Rift: Resources, Routes, Settlement Patterns, and Interactions in the Wadi Arabah*, edited by Piotr Bienkowski and Katharina Galor, 151–56. Levant Supplementary Series 3. Oxford: Oxbow, 2006.
- Bartlett, Samuel Colcord. *From Egypt to Palestine Through Sinai, the Wilderness and the South Country*. New York, NY: Harper, 1879.
- . “The Exodus of Israel.” *The North American Review* 131, no. 284 (1880): 26–43.
- Beit-Arieh, Itzhaq. “Fifteen Years in Sinai: Israeli Archaeologists Discover a New World.” *Biblical Archaeology Review* 10, no. 4 (1984): 27–54.
- Beitzel, Barry J. “Pre-Roman Roads and Highways.” In *Anchor Bible Dictionary*, edited by David Noel Freedman, 5:776–82. New York, NY: Doubleday, 1992.
- . *The New Moody Atlas of the Bible*. New Ed. Chicago, IL: Moody, 2009.
- . *Where Was the Biblical Red Sea? Examining the Ancient Evidence*. Bellingham, WA: Lexham, 2020.
- Beke, Charles T. *Mount Sinai a Volcano*. London: Tinsley Bros., 1873.
- . *Sinai in Arabia and of Midian*. London: Trübner, 1878.
- Bell, Gertrude. *The Desert and the Sown: Travels in Palestine and Syria*. Heinemann, 1907.
- Ben-Gad HaCohen, David. “Ar Moab.” The Torah, July 24, 2020. <https://www.thetorah.com/article/ar-moab>.
- . “Biblical Criticism from a Geographer’s Perspective: ‘Transjordan’ as a Test Case.” In *The Formation of the Pentateuch: Bridging the Academic Cultures of Europe, Israel, and North America*, edited by Jan C. Gertz, Bernard M. Levinson, Dalit Rom Shiloni, and Konrad Schmid, 687–709. FAT III. Tübingen: Mohr Siebeck, 2016.
- . “If Jacob Is Returning to Canaan, Why Send Messengers to Esau in Seir?” The Torah, December 12, 2019. <https://www.thetorah.com/article/if-jacob-is-returning-to-canaan-why-send-messengers-to-esau-in-seir>.

- Ben-Yosef, Erez, and Aaron Greener. “Edom’s Copper Mines in Timna: Their Significance in the 10th Century.” *The Torah*, August 12, 2018. <https://thetorah.com/edoms-copper-mines-in-timna-their-significance-in-the-10th-century/>.
- Ben-Yosef, Erez, Brady Liss, Omri A. Yagel, Ofir Tirosh, Mohammad Najjar, and Thomas E. Levy. “Ancient Technology and Punctuated Change: Detecting the Emergence of the Edomite Kingdom in the Southern Levant.” *PLoS ONE* 14, no. 9 (September 18, 2019). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6750566/>.
- Bergman (Biran), Abraham. “The Israelite Occupation of Eastern Palestine in the Light of Territorial History.” *Journal of the American Oriental Society* 54, no. 2 (1934): 169–77.
- Bienkowski, Piotr. “The Wadi Arabah: Meanings in a Contested Landscape.” In *Crossing the Rift: Resources, Routes, Settlement Patterns, and Interactions in the Wadi Arabah*, edited by Piotr Bienkowski and Katharina Galor, 7–28. Levant Supplementary Series 3. Oxford: Oxbow, 2006.
- Bietak, Manfred. “Comments on the ‘Exodus.’” In *Egypt, Israel, Sinai: Archaeological and Historical Relationships in the Biblical World*, edited by Anson F. Rainey, 137–61. Tel Aviv: Tel Aviv University, 1987.
- . “On the Historicity of the Exodus: What Egyptology Today Can Contribute to Assessing the Sojourn in Egypt.” In *Israel’s Exodus in Transdisciplinary Perspective: Text, Archaeology, Culture, and Geoscience*, edited by Thomas E. Levy, Thomas Schneider, and William H. C. Propp, 17–36. Quantitative Methods in the Humanities and Social Sciences. Cham: Springer International, 2015.
- Bietak, Manfred, and Gary A. Rendsburg. “Egypt and the Exodus.” In *Ancient Israel, From Abraham to the Roman Destruction of the Temple*, edited by Hershel Shanks and John Merrill, Revised expanded edition., 342–51. Washington, D.C.: Biblical Archaeology Society, 2021.
- Blakesley, Joseph Williams. “M. de Lesseps and the Suez Canal.” Foreign and Commonwealth Office Collection, 1860.
- Blum, Howard. *The Gold of the Exodus: The Discovery of the True Mount Sinai*. New York, NY: Simon & Schuster, 1998.
- Borowski, Oded. “What Was Life Like in Biblical Times?” *The Torah*, November 6, 2019. <https://www.thetorah.com/article/what-was-life-like-in-biblical-times>.
- Bruins, Hendrik J. “Desert Environment and Geoarchaeology of the Wadi Arabah.” In *Crossing the Rift: Resources, Routes, Settlement Patterns, and Interactions in the Wadi Arabah*, edited by Piotr Bienkowski and Katharina Galor, 29–43. Levant Supplementary Series 3. Oxford: Oxbow, 2006.
- Bruins, Hendrik J., and Johannes van der Plicht. “Radiocarbon Dating the “Wilderness of Zin”.” *Radiocarbon* 49, no. 2 (2007): 481–97.
- Burckhardt, John Lewis. *Travels in Syria and the Holy Land*. London: John Murray, 1822.
- Caneva, Isabella, Mohammed Hatamleh, Zeidan Kafafi, Massimiliano Munzi, and Gaetano Palumbo. “The Wadi Az-Zarqa’/Wadi Ad-Dulayl Archaeological Project: Report on the 1997 and 1999 Fieldwork Seasons.” *Annual of the Department of Antiquities of Jordan* 45 (2001): 9–26.
- Castelló, Amanda. “On This Fourth-Century Map, All Roads Really Do Lead to Rome.” *National Geographic | History & Culture*, September 19, 2017. <https://www.nationalgeographic.com/history/magazine/2017/09-10/peutingner-table-map-fourth-century-rome/>.

- Chein, Rochel. "When Is the Jewish Month of Aviv?" Chabad. Accessed February 17, 2021.  
[https://www.chabad.org/holidays/passover/pesach\\_cdo/aid/1808461/jewish/When-is-the-Jewish-Month-of-Aviv.htm](https://www.chabad.org/holidays/passover/pesach_cdo/aid/1808461/jewish/When-is-the-Jewish-Month-of-Aviv.htm).
- Clark, Douglas R., and Kent Bramlett. "Madaba Plains Project: Excavations at Tall al-'Umayrī, 2010." *Annual of the Department of Antiquities of Jordan* 55 (2011): 391–408.
- Clines, David J. A. "Methods in Old Testament Study." In *Beginning Old Testament Study*, edited by J. W. Rogerson, New rev. ed., 25–48. London / St Louis: SPCK / Chalice, 1998.
- Coats, George W. "The Wilderness Itinerary." *The Catholic Biblical Quarterly* 34, no. 2 (April 1972): 135–52.
- Cohen, Rudolph. "Did I Excavate Kadesh-Barnea?" *Biblical Archaeology Review* 7, no. 3 (1981): 20–33.
- . "Negev." In *Oxford Encyclopedia of Archaeology in the Near East*, edited by Eric M. Meyers, 3:120–22. Oxford: Oxford University, 1997.
- . "The Iron Age Fortresses in the Central Negev." *Bulletin of the American Schools of Oriental Research*, no. 236 (1979): 61–79.
- Cohen, Rudolph, and William G. Dever. "Preliminary Report of the Pilot Season of the 'Central Negev Highlands Project.'" *Bulletin of the American Schools of Oriental Research* 232 (Autumn 1978): 29–45.
- Cole, Alan. *Exodus*. Tyndale Old Testament Commentaries. Leicester, UK: InterVarsity, 1973.
- Conder, Claude R. "The Exodus: I." *Palestine Exploration Quarterly* 15, no. 2 (April 1883): 79–89.
- Cornuke, Robert, and David Halbrook. *In Search of the Mountain of God: The Discovery of the Real Mount Sinai*. Nashville, TN: Broadman & Holman, 2000.
- Coughenour, Robert A. "A Search for Maḥanaim." *Bulletin of the American Schools of Oriental Research*, no. 273 (1989): 57–66.
- Currid, John D., and David P. Barrett. *Crossway ESV Bible Atlas*. Wheaton, IL: Crossway, 2010.
- Davies, Graham I. "Sinai, Mount (Place)." In *Anchor Bible Dictionary*, 6:47–49. New York, NY: Doubleday, 1992.
- . "The Significance of Deuteronomy 1.2 for the Location of Mount Horeb." *Palestine Exploration Quarterly* 111, no. 2 (1979): 87–101.
- . *The Way of the Wilderness: A Geographical Study of the Wilderness Itineraries in the Old Testament*. SOTS: Monograph Series 5. Cambridge: Cambridge University, 2009.
- . "The Wilderness Itineraries: A Comparative Study." *Tyndale Bulletin* 25 (1974): 46–81.
- . "The Wilderness Itineraries and Recent Archaeological Research." In *Studies in the Pentateuch*, edited by J. A. Emerton, 161–75. *Vetus Testamentum Supplement* 41. Leiden: Brill, 1990.
- Day, Timothy, and Harold Kincaid. "Putting Inference to the Best Explanation in Its Place." *Synthese* 98, no. 2 (1994): 271–95.
- Dearman, J. Andrew. "Edom, Edomites." In *New Interpreter's Dictionary of the Bible*, 2:188–91. Nashville, TN: Abingdon, 2007.
- . "The Levitical Cities of Reuben and Moabite Toponymy." *Bulletin of the American Schools of Oriental Research* 276 (1989): 55–66.

- Dever, William G. "Abel-Beth-Maacah: Northern Gateway of Ancient Israel." In *The Archaeology of Jordan and Other Studies. Presented to Siegfried H. Horn*, edited by Lawrence T. Geraty and Larry G. Herr, 207–23. Berrien Springs, MI: Andrews University, 1986.
- Dorsey, David A. *The Roads and Highways of Ancient Israel*. Baltimore, MD / London: John Hopkins University, 1991.
- Dozeman, Thomas B. "The Historical Geography of the Pentateuch and Archaeological Perspectives." In *The Formation of the Pentateuch: Bridging the Academic Cultures of Europe, Israel, and North America*, edited by Jan C. Gertz, Bernard M. Levinson, Dalit Rom Shiloni, and Konrad Schmid, 729–44. FAT III. Tübingen: Mohr Siebeck, 2016.
- Drews, Carl, and Weiqing Han. "Dynamics of Wind Setdown at Suez and the Eastern Nile Delta." *PLOS ONE* 5, no. 8 (August 30, 2010): e12481. <https://doi.org/10.1371/journal.pone.0012481>.
- Driver, Samuel Rolles. *The Book of Exodus*. Cambridge Bible for Schools and Colleges. Cambridge, 1911.
- Dumbrell, William J. "Midian – a Land or a League?" *Vetus Testamentum* 25, no. 3 (January 1, 1975): 323–37.
- Dvir, Uri. "מישור פארן ונחלים גדולים" (Map 19) [the Region of Paran and the Big Rivers Reserve (South of the Negev Heights and North of the Eilat Mountains)]. 1:50,000. מפות טיולים סימון שבילים [Map of Tours and Trails]. Tel Aviv: Israel Trail Committee, 1998.
- Ebers, Georg M. *Egypt: Descriptive, Historical and Picturesque 1*. Edited by Samuel Birch. Translated by Clara Bell. Vol. 1. London / New York: Cassell, Petter, Galpin, 1881.
- Edelman, Diana V. "Edom, a Historical Geography." In *You Shall Not Abhor an Edomite for He Is Your Brother: Edom and Seir in History and Tradition*, edited by D. V. Edelman, 1–11. Atlanta, GA: Scholars, 1995.
- Elitzur, Yoel. "Naḥal Zered in the Bible and the Baraita De-Tehumin." Translated by Dena Ordan. *Palestine Exploration Quarterly* 145, no. 2 (June 1, 2013): 108–18.
- . "Parashat Bo: The Land of Goshen." Text. Virtual Beit Midrash, January 20, 2015. <https://etzion.org.il/en/parashat-bo-land-goshen>.
- Eph'al, Israel. *The Ancient Arabs: Nomads on the Borders of the Fertile Crescent 9th–5th Centuries B.C.* Jerusalem / Leiden: Magnes, 1982.
- Erickson-Gini, Tali. "Mt. Karkom the Mountain of God? – Challenging the Southern Mount Sinai Hypothesis and the Identification and Dating of the Remains of the Israelite Sojourn." In *Lexham Geographic Commentary on the Pentateuch*, edited by Barry J. Beitzel. Bellingham, WA: Lexham, (prepub).
- Erickson-Gini, Tali, and Yigal Israel. "Excavating the Nabataean Incense Road." *Journal of Eastern Mediterranean Archaeology & Heritage Studies* 1, no. 1 (2013): 24–53.
- Eusebius of Caesaria. *The Onomasticon of Eusebius of Caesarea: Palestine in the Fourth Century A.D.* Translated by G. S. P. Freeman-Grenville. 1st Eng. ed. Jerusalem: Carta, 2003.
- Finkelstein, Israel. *Living on the Fringe: The Archaeology and History of the Negev, Sinai and Neighbouring Regions in the Bronze and Iron Ages*. Vol. 6. Monographs in Mediterranean Archaeology. Sheffield, UK: Sheffield Academic, 1995.
- . "Raider of the Lost Mountain—An Israeli Archaeologist Looks at the Most Recent Attempt to Locate Mt. Sinai." *Biblical Archaeology Review* 14, no. 4 (August 1988): 46–50.

- . “The Central Hill Country in the Intermediate Bronze Age.” *Israel Exploration Journal* 41, no. 1/3 (1991): 19–45.
- . “The Holy Land in the Tabula Peutingeriana: A Historical-Geographical Approach.” *Palestine Exploration Quarterly* 111 (1979): 27–34.
- Finkelstein, Israel, Ido Koch, and Oded Lipshits. “The Biblical Gilead: Observations on Identifications, Geographic Divisions and Territorial History.” *Ugarit Forschungen* 43 (2011): 131–59.
- Finkelstein, Israel, Oded Lipshits, and Omer Sergi. “Tell Er-Rumeith in Northern Jordan: Some Archaeological and Historical Observations.” *Semitica* 55 (2013): 7–23.
- Finkelstein, Israel, and Aviram Perevolotsky. “The Southern Sinai Exodus Route in Ecological Perspective.” *Biblical Archaeology Review* 11, no. 4 (August 1985): 26–35, 38–41.
- Finkelstein, Israel, and Thomas Römer. “Comments on the Historical Background of the Jacob Narrative in Genesis.” *Zeitschrift Für Die Alttestamentliche Wissenschaft* 126, no. 3 (January 1, 2014): 317–38.
- . “North Israelite Memories of the Transjordan and the Mesha Inscription.” The Torah, June 18, 2018. <https://thetorah.com/north-israelite-memories-of-the-transjordan-and-the-mesha-inscription/>.
- Fisher, James Roger. “Ammon in the Hebrew Bible: A Textual Analysis and Archaeological Context of Selected References to the Ammonites of Transjordan.” Andrews University, 1998. <https://digitalcommons.andrews.edu/dissertations/50/>.
- Fritz, Glen A. *The Exodus Mysteries of Midian, Sinai, & Jabal al-Lawz*. Vero Beach, FA: GeoTech, 2019.
- Garfunkel, Zvi. “Geology: Dramatic Upheavals.” In *Sinai: Pharaohs, Miners, Pilgrims, and Soldiers*, edited by Beno Rothenberg, translated by Ewald Osers, 1st Eng. ed., 61–76. Berne: Kümmerly & Frey, 1979.
- Jewish Virtual Library. “Geography of Israel: Hula Valley.” Accessed March 5, 2020. <https://www.jewishvirtuallibrary.org/hula-valley>.
- Geraty, Lawrence T. “Heshbon.” In *The New Encyclopedia of Archaeological Excavations in the Holy Land*, edited by Ephraim Stern, Ayelet Lewinson-Gilboa, and Joseph Aviram, 2:626–30. Jerusalem: Israel Exploration Society / Carta, 1993.
- . “Heshbon: The First Casualty in the Israelite Quest for the Kingdom of God.” In *The Quest for the Kingdom of God: Studies in Honor of George E. Mendenhall*, edited by H. B. Huffmon, F. A. Spina, and A. R. W. Green, 239–48. Winona Lake, IN: Eisenbrauns, 1983.
- Geraty, Lawrence T., Larry G. Herr, Øystein S. LaBianca, James R. Battenfield, Gary L. Christopherson, Douglas R. Clark, Jon A. Cole, et al. “The Madaba Plains Project: The 1987 Season at Tell El-’Umeiri and Vicinity.” *Annual of the Department of Antiquities of Jordan* 31 (1989): 145–76.
- Glueck, Nelson. “Archaeological Exploration of the Negev in 1959.” *Bulletin of the American Schools of Oriental Research*, no. 159 (October 1960): 3–14.
- . “Explorations in Eastern Palestine, I.” In *Annual of the American Schools of Oriental Research*, 14:1–113. New Haven, CT: ASOR, 1934.
- . “Explorations in Eastern Palestine, III.” In *Annual of the American Schools of Oriental Research*, 18–19:ix–1, 149–51, 161–63, 202. New Haven, CT: American Schools of Oriental Research, 1939.

- . “Further Explorations in the Negev.” *Bulletin of the American Schools of Oriental Research* 179 (October 1965): 6–29.
- . “Ramoath-Gilead.” *Bulletin of the American Schools of Oriental Research* 92, no. 1 (1943): 10–16.
- . *Rivers in the Desert: A History of the Negev*. Vol. 5. Evergreen Encyclopedia. New York, NY: Grove, 1959.
- . “The Civilization of the Moabites.” *American Journal of Archaeology* 38, no. 2 (1934): 212–18.
- . “The Jordan.” *The Biblical Archaeologist* 6, no. 4 (December 1943): 62–67.
- . *The Other Side of the Jordan*. New Haven, CT: American Schools of Oriental Research, 1940.
- . “Transjordan.” *Biblical Archaeologist* 9, no. 3 (September 1946): 45–61.
- Graetz, Heinrich. “Die Lage des Sinai oder Horeb.” *Monatsschrift für die Geschichte und Wissenschaft des Judenthums* 27 (1878): 337–60.
- Gray, George Buchanan. *A Critical and Exegetical Commentary on Numbers*. 1986 impression. Edinburgh: T&T Clark, 1903.
- Gray, John. *Joshua, Judges, Ruth*. Edited by Ronald E. Clements and Matthew Black. The New Century Bible. London: Nelson, 1986.
- Griffiths, J. Gwyn. “Hecataeus and Herodotus on ‘A Gift of the River.’” *Journal of Near Eastern Studies* 25, no. 1 (1966): 57–61.
- Hadley, Judith M. *The Cult of Asherah in Ancient Israel and Judah: Evidence for a Hebrew Goddess*. New York, NY: Cambridge University, 2000.
- Haiman, Mordechai. “Early Bronze Age IV Settlement Pattern of the Negev and Sinai Deserts: View from Small Marginal Temporary Sites.” *Bulletin of the American Schools of Oriental Research* 303 (August 1996): 1–32.
- . “The ‘K-Line’ at Har Romem in Light of the Survey of the Map of Har Ramon (203).” *’Atiqot* 39 (2000): 21–29.
- Hamza, Mamdouh. “Construction of the Suez Canal.” In *Momentous Projects*, 2311–73. Istanbul: ISSMGE, 2001. [https://www.issmge.org/uploads/publications/1/30/2001\\_03\\_0140.pdf](https://www.issmge.org/uploads/publications/1/30/2001_03_0140.pdf).
- Har-El, Menashe. “The Pride of the Jordan: The Jungle of the Jordan.” *Biblical Archaeologist* 41, no. 2 (1978).
- . *The Sinai Journeys: The Route of the Exodus*. New (English) and Revised Edition. San Diego, CA: Ridgefield, 1983.
- . *Understanding the Geography of the Bible: An Introductory Atlas*. Edited by Paul H. Wright. Jerusalem: Carta, 2015.
- Harman, Gilbert H. “The Inference to the Best Explanation.” *The Philosophical Review* 74, no. 1 (1965): 88–95.
- Herodotus. “An Account of Egypt: Being the Second Book of His Histories Called Euterpe.” Translated by G. C. Macaulay. Gutenberg. Accessed November 22, 2020. <https://www.gutenberg.org/files/2707/2707-h/2707-h.htm>.
- Herr, Larry G. “Finally After Thirty Years.” *Adventist Review*, December 24, 1998, 24–27.
- . “Tall Al-’Umayri in the Early and Middle Bronze Ages, and the Late Iron I, Iron II, Late Iron II/Persian, Hellenistic, Early Roman, Byzantine, and Islamic Periods.” In *The Madaba Plains*

- Project: Forty Years of Archaeological Research into Jordan's Past*, edited by Douglas R. Clark, Larry G. Herr, Øystein S. LaBianca, and Randall W. Younker. London / New York: Routledge, 2011.
- . “The Search for Biblical Heshbon.” *Biblical Archaeology Review* 19, no. 6 (1993): 36–37, 68.
- Herr, Larry G., Douglas R. Clark, and Kent Bramlett. “From the Stone Age to the Middle Ages in Jordan: Digging up Tall al-’Umayri.” *Near Eastern Archaeology* 72, no. 2 (2009): 68–97.
- Hoffman, Mark V., and Robert A. Mullins. *Atlas of the Biblical World*. Minneapolis, MN: Fortress, 2019.
- Hoffmeier, James K. *Ancient Israel in Sinai: The Evidence for the Authenticity of the Wilderness Tradition*. Oxford: Oxford University, 2005.
- . “Sinai in Egyptian, Levantine and Hebrew (Biblical) Perspectives.” In *The History of the Peoples of the Eastern Desert*, edited by Hans Barnard and Kim Duistermaat, 105–24. Cotsen Institute of Archaeology Monograph 73. Los Angeles, CA: UCLA, 2012.
- Hopkins, David C. *The Highlands of Canaan*. The Social World of Biblical Antiquity Series 3. Decatur, GA: Almond, 1985.
- Houghton, Lord. “Opening of the Suez Canal.” In *Proceedings of the Royal Geographical Society of London*, 14:88–105, 1869.
- Humphreys, Colin J. *The Miracles of the Exodus: A Scientist's Discovery of the Extraordinary Natural Causes of the Biblical Stories*. London / New York, NY: Continuum, 2003.
- Hutton, Jeremy M. “Mahanaim, Penuel, and Transhumance Routes: Observations on Genesis 32–33 and Judges 8.” *Journal of Near Eastern Studies* 65, no. 3 (July 1, 2006): 161–78.
- Ibach, Robert. *Hesban 5: The Regional Survey*. Berrien Springs, MI: Andrews University, 1987.
- Israel: Road Atlas (Hbw)*. Azor, Israel: Mapa, 2018.
- Jacobovici, Simcha. “Mount Sinai Has Been Located.” *The Jerusalem Post*, September 25, 2013.
- . “The Real Mount Sinai.” In *Session III: (Re)Locating Mount Sinai: A Survey of Alternative Theories*. Mizpe Ramon, 2013.
- Jarvis, Claude S. *Yesterday and Today in Sinai*. London: W. Blackwood and Sons, 1938.
- Jasmin, Michael. “The Emergence and First Development of the Arabian Trade Across the Wadi Arabah.” In *Crossing the Rift: Resources, Routes, Settlement Patterns, and Interactions in the Wadi Arabah*, edited by Piotr Bienkowski and Katharina Galor, 143–50. Levant Supplementary Series 3. Oxford: Oxbow, 2006.
- Kallai, Zecharia. “Conquest and Settlement of Trans-Jordan: A Historiographical Study.” *Zeitschrift Des Deutschen Palästina-Vereins*, no. 99 (1983): 110–18.
- . *Historical Geography of the Bible: The Tribal Territories of Israel*. Jerusalem / Leiden: Magnes / Brill, 1986.
- . “The Campaign of Chedorlaomer and Biblical Historiography.” In *Biblical Historiography and Historical Geography: Collection of Studies*, 218–42. Beiträge Zur Erforschung Des Alten Testaments Und Des Antiken Judentums, Band 44. Frankfurt am Main: Peter Lang, 1998.
- Kaplan, Joseph. “The Identification of Abel-Beth-Maachah and Janoah.” *Israel Exploration Journal* 28, no. 3 (1978): 157–60.
- Kennedy, David. “Roman Roads and Routes in North-East Jordan.” *Levant* XXIX (1997): 71–93.
- Kerkeslager, Allen. “Mt. Sinai—in Arabia?” *Biblical Review* 16, no. 2 (April 2000): 32–39, 52.

- Khayyam, Omar. "The Rubaiyat." Translated by Edward Fitzgerald. The Internet Classics Archive, Trans. 1859 1120. <http://classics.mit.edu/Khayyam/rubaiyat.html>.
- Kitchen, Kenneth A. "Exodus, The." In *Anchor Bible Dictionary*, edited by David Noel Freedman, 2:700–708. New York, NY: Doubleday, 1992.
- . *On the Reliability of the Old Testament*. Grand Rapids, MI / Cambridge, U.K.: Eerdmans, 2003.
- . "Wilderness." In *Illustrated Bible Dictionary*, 3:1643–47. Leicester, UK: InterVarsity, 1980.
- Kittel, Rudolf. *Geschichte Des Volkes Israel*. (Not in Eng. trans). Vol. 1. 2 vols. Stuttgart: Gotha, 1916.
- Kloner, Amos, and Chaim Ben David. "Mesillot on the Arnon: An Iron Age (Pre-Roman) Road in Moab." *Bulletin of the American Schools of Oriental Research* 330 (May 2003): 65–81.
- Koehler, Ludwig, and Walter Baumgartner. *Lexicon in Veteris Testamenti Libros*. Leiden: Brill, 1985.
- Koucky, F. L. "The Regional Environment." In *The Roman Frontier in Central Jordan: Interim Report on the Limes Arabicus Project, 1980-1985. Volume 1*, edited by S. Thomas Parker. BAR International Series 340. Oxford: Oxford University, 1987.
- Kuhn, Thomas S. *The Structure of Scientific Revolutions*. 3rd ed. Chicago/London: Chicago University, 1996.
- Lee, S. Noah. "The Use of the Definite Article in the Development of Some Biblical Toponyms." *Vetus Testamentum* 52, no. 3 (2002): 334–49.
- Lees, G. Robinson. "Across Southern Bashan." *The Geographical Journal* 5, no. 1 (January 1, 1895): 1–27.
- Lennart Möller. *The Exodus Case: New Discoveries Confirm the Historical Exodus*. 3rd ext. ed. Copenhagen, Denmark: Casscom Media / Scandinavia Publishing, 2008.
- Levin, Yigal. "'From Goshen to Gibeon' (Joshua 10:41): The Southern Frontier of the Early Monarchy." *Maarav* 10 (2003): 195–220.
- . "The Jordan River in Biblical Geography: From Boundary to Allegory." *ARAM* 29, no. 1/2 (2017): 221–34.
- Lipiński, Edward. *The Aramaeans: Their Ancient History, Culture, Religion*. Vol. 100. Orientalia Lovaniensia Analecta. Louvain: Peeters, 2000.
- Lucas, Alfred. *The Route of the Exodus of the Israelites from Egypt*. London: E. Arnold, 1938.
- MacDonald, Burton. "*East of the Jordan*": *Territories and Sites of the Hebrew Scriptures*. ASOR Books 6. Boston, MA: American Schools of Oriental Research, 2000.
- . *The Southern Transjordan Edomite Plateau and the Dead Sea Rift Valley: The Bronze Age to the Islamic Period (3800/3700 BC–AD 1917)*. Oxford: Oxbow, 2015.
- MacDonald, Burton, and Randall W. Younker, eds. *Ancient Ammon*. Vol. 17. Studies in the History and Culture of the Ancient Near East. Leiden: Brill, 1999.
- MacDonald, Nathan. "The Book of Numbers." In *A Theological Introduction to the Pentateuch: Interpreting the Torah as Christian Scripture*, edited by Richard S. Briggs and Joel N. Lohr, 113–44. Grand Rapids, MI: Baker Academic, 2012.
- Maeir, Aren M. "Exodus as a Mnemo-Narrative: An Archaeological Perspective." In *Israel's Exodus in Transdisciplinary Perspective: Text, Archaeology, Culture, and Geoscience*, edited by Thomas E. Levy, Thomas Schneider, and William H. C. Propp, 409–18. Quantitative Methods in the Humanities and Social Sciences. Cham: Springer International, 2015.

- Magness, Jodi. *The Archaeology of the Early Islamic Settlement in Palestine, Volume 1*. Winona Lake, IN: Eisenbrauns, 2003.
- Maiberger, Paul. "Sinai." In *Theological Dictionary of the Old Testament TDOT*, edited by G. Johannes Botterweck, Helmer Ringgren, and Heinz-Josef Fabry, translated by Douglas W. Stott, X:216–35. Grand Rapids, MI: Eerdmans, 1999.
- Mattingly, Gerald L. "A New Agenda for Research on Ancient Moab." *The Biblical Archaeologist* 60, no. 4 (1997): 214–21.
- . "Ar (Place)." In *Anchor Bible Dictionary*, edited by David Noel Freedman, 1:321–22. New York, NY: Doubleday, 1992.
- . "The King's Highway, The Desert Highway, and Central Jordan's Kerak Plateau." *ARAM* 8 (1996): 89–99.
- Mayerson, Philip. "The Clysma-Phara-Haila Road on the Peutinger Table." In *Coins, Culture and History of the Ancient World: Numismatic and Other Studies in Honor of Bluma L. Trell*, 167–76. Detroit, MI: Wayne State University, 1981.
- Mayes, Andrew D. H. *Deuteronomy*. New Century Bible Commentary. London: Marshall, Morgan and Scott, 1979.
- Mazar, Benjamin. "Geshur and Maacah." *Journal of Biblical Literature* 80, no. 1 (1961): 16–28.
- Mazar, Eilat. "Did I Find King David's Palace?" *Biblical Archaeology Review* 32, no. 1 (2006): 16–21, 23–27, 70.
- McKinny, Chris. "Maskhuta, Tell El-." In *Encyclopedia of the Bible and Its Reception*, edited by Sebastian Fuhrmann, Gary S. Helft, and Anne-Kathrin Runte, 14:1260–63. Berlin / Boston: De Gruyter, 2016.
- Merrill, Selah. *East of the Jordan: A Record of Travel and Observation in the Countries of Moab, Gilead, and Bashan*. London: R. Bentley, 1881.
- Meshel, Ze'ev. "Kuntillet 'Ajrud." In *Oxford Encyclopedia of Archaeology in the Near East*, edited by Eric M. Meyers, 3:310–12. Oxford: Oxford University, 1997.
- . *Kuntillet 'Ajrud: A Religious Centre from the Time of the Judaeen Monarchy on the Border of Sinai*. Jerusalem: The Israel Museum, 1978.
- . "The 'Aharoni Fortress' Near Quseima and the 'Israelite Fortresses' in the Negev." *Bulletin of the American Schools of Oriental Research* 294 (May 1994): 39–67.
- Meshel, Ze'ev, Shmuel Ahituv, Liora Freud, and John Tresman. *Kuntillet 'Ajrud [Horvat Teman]: An Iron Age II Religious Site on the Judah-Sinai Border*. Jerusalem: Israel Exploration Society, 2012.
- Millard, Alan R. "Jazer." In *Illustrated Bible Dictionary*, 2:736. Leicester, UK: InterVarsity, 1980.
- Miller, J. Maxwell. "Site Identification: A Problem Area in Contemporary Biblical Scholarship." *Zeitschrift Des Deutschen Palästina-Vereins (1953-)* 99 (1983): 119–29.
- . "The Israelite Journey Through (Around) Moab and Moabite Toponymy." *Journal of Biblical Literature* 108, no. 4 (Winter 1989): 577–95.
- Monson, James M., and Steven P. Lancaster. *Geobasics Study Guide: Map Studies in the Geography of the Land of the Bible: Part One—Northern Arena*. Version 4.2. Geobasics Study Guide: Map Studies in the Geography of the Land of the Bible. Rockford, IL: Biblical Backgrounds, Inc., 2010.

- . *Geobasics Study Guide: Map Studies in the Geography of the Land of the Bible: Part Three—Southern Arena*. Version 4.3. Geobasics Study Guide: Map Studies in the Geography of the Land of the Bible. Rockford, IL: Biblical Backgrounds, Inc., 2011.
- . *Geobasics Study Guide: Map Studies in the Geography of the Land of the Bible: Part Two—Central Arena*. Version 4.3. Geobasics Study Guide: Map Studies in the Geography of the Land of the Bible. Rockford, IL: Biblical Backgrounds, Inc., 2011.
- Moster, David Z. “The Tribe of Manasseh and the Jordan River: Geography, Society, History, and Biblical Memory.” Doctoral dissertation, Bar Ilan University, 2017.
- Musil, Aloïs. *Arabia Petraea. Moab: Topographischer Reisebericht*. Vol. 1. 3 vols. Vienna: Alfred Hölder, 1907.
- . *The Northern Hejaz*. New York: American Geographic Society, 1926.
- Naville, Édouard H. *The Store-City of Pithom and the Route of the Exodus*. 4th ed. Memoir of the Egyptian Exploration Fund 1. London: Egypt Exploration Fund, 1903.
- NET Bible. “Exodus 13.” bible.org. Accessed December 4, 2020. <https://netbible.org/bible/Exodus+13>.
- Nielsen, Ditlef. *The Site of the Biblical Mount Sinai: A Claim for Petra*. Paris: Paul Geuthner, 1928.
- Noth, Martin. *The Old Testament World*. Translated by Victor I. Gruhn. London: Adam & Charles Black, 1966.
- Oblath, Michael D. *The Exodus Itinerary Sites: Their Locations from the Perspective of the Biblical Studies*. Studies in Biblical Literature 55. New York, NY: Peter Lang, 2004.
- Orni, Efraim, and Elisha Efrat. *Geography of Israel*. 3rd rev. ed. Jerusalem: Israel Universities Press, 1971.
- Palmer, Edward H. *The Desert of the Exodus [Vol 1]: Journeys on Foot in the Wilderness of the Forty Years’ Wanderings: Undertaken in Connexion with the Ordnance Survey of Sinai, and the Palestine Exploration Fund*. Vol. Part I. Cambridge: Deighton, Bell, and Co., 1871.
- . *The Desert of the Exodus [Vol 2]: Journeys on Foot in the Wilderness of the Forty Years’ Wanderings: Undertaken in Connexion with the Ordnance Survey of Sinai, and the Palestine Exploration Fund*. Vol. Part II. Cambridge: Deighton, Bell, and Co., 1871.
- . “The Desert of the Tih and the Country of Moab: Vol III.” *Palestine Exploration Quarterly* 3, no. 1 (1871): 3–76.
- Pauly, August, Georg Wissowa, and Wilhelm Kroll. *Realencyclopädie der classischen Altertumswissenschaft*. Stuttgart: Metzler, 2013.
- Payne, Elizabeth J. “The Midianite Arc in Joshua and Judges.” In *Midian, Moab, and Edom: The History and Archaeology of Late Bronze and Iron Age Jordan and North-West Arabia*, edited by John F. A Sawyer and David J. A. Clines, 24:163–72. Journal for the Study of the Old Testament Supplement Series. Sheffield, UK: JSOTS, 1983.
- Petrie, W. M. Flinders. *Researches in Sinai*. New York: Dutton, 1906.
- Philby, Harry St. John B. *The Land of Midian*. London: Ernest Benn, 1957.
- Piggin, Jean-Baptiste. “Flaws in the Tabula Peutingeriana: 8,4:1 Sinai.” Blog. *Flaws in the Tabula Peutingeriana* (blog), 2018. <http://peutinger.blogspot.com/2018/08/841-sinai.html>.
- Pratico, Gary D., and Miles V. Van Pelt. *Basics of Biblical Hebrew Grammar*. 2nd ed. Grand Rapids, MI: Zondervan, 2014.

- Pritchard, James B., ed. *Ancient Near Eastern Texts Relating to the Old Testament*. 3rd ed. with supplement. Princeton, NJ: Princeton University, 1974.
- Rabinowitz, Louis Isaac. "Ammon, Ammonites." Encyclopedia.com. Accessed January 28, 2020. <https://www.encyclopedia.com/religion/encyclopedias-almanacs-transcripts-and-maps/ammon-ammonites>.
- Rainey, Anson F. "Historical Geography." In *Benchmarks in Time and Culture: An Introduction to Palestinian Archaeology*, edited by J. F. J. Drinkard, G. L. Mattingly, and J. M. Miller, 353–68. Atlanta, GA: Scholars, 1988.
- . "The Toponymics of Eretz-Israel." *Bulletin of the American Schools of Oriental Research*, no. 231 (1978): 1–17.
- Rainey, Anson F., and R. Steven Notley, eds. *The Sacred Bridge: Carta's Atlas of the Biblical World*. Jerusalem: Carta, 2006.
- Redmount, Carol A. "The Wadi Tumulat and the 'Canal of the Pharaohs.'" *Journal of Near Eastern Studies* 54, no. 2 (1995): 127–35.
- Richardson, Joel. *Mount Sinai in Arabia: The True Location Revealed*. WinePress Media, 2018.
- Robinson, Edward. *Biblical Researches in Palestine, and in the Adjacent Regions: A Journal of Travels in the Year 1838*. 11th ed. (1st ed. 1856). Vol. II. Boston, MA: Crocker & Brewster, 1874.
- . *Biblical Researches in Palestine, Mount Sinai, and Arabia Petraea: A Journal of Travels in the Year 1838*. Vol. I. London: John Murray, 1841.
- . *Later Biblical Researches in Palestine, and in the Adjacent Regions: A Journal of Travels in the Year 1852*. 2nd ed. (1st ed. 1856). Boston, MA: Crocker & Brewster, 1857.
- Robinson, George L. "The Ancient 'Circuit of Argob.'" *The Biblical World* 20, no. 4 (1902): 248–59.
- Rosen, Steve A. "The Desert and the Pastoralist: An Archaeological Perspective on Human-Landscape Interaction in the Negev over the Millennia." *Annals of Arid Zone* 50, no. 3 & 4 (2011): 1–15.
- Roskop, Angela R. *The Wilderness Itineraries: Genre, Geography, and the Growth of Torah*. History, Archaeology, and Culture of the Levant 3. Winona Lake, IN: Eisenbrauns, 2011.
- Roskop Erisman, Angela. "For the Border of the Ammonites Was... Where? Historical Geography and Biblical Interpretation in Numbers 21." In *The Formation of the Pentateuch: Bridging the Academic Cultures of Europe, Israel, and North America*, edited by Jan C. Gertz, Bernard M. Levinson, Dalit Rom Shiloni, and Konrad Schmid, 761–66. FAT III. Tübingen: Mohr Siebeck, 2016.
- . "Navigating the Torah's Rough Narrative Terrain into the Land." *The Torah*, July 12, 2019. <https://www.thetorah.com/article/navigating-the-torahs-rough-narrative-terrain-into-the-land>.
- Rothenberg, Beno. "An Archaeological Survey of South Sinai: First Season 1967/1968, Preliminary Report." *Palestine Exploration Quarterly* 102, no. 1 (June 1970): 4–29.
- . "Badiet El Tih, the Desert of the Wandering: Archaeology of Central Sinai." In *Sinai: Pharaohs, Miners, Pilgrims, and Soldiers*, edited by Beno Rothenberg, translated by Ewald Osers, 1st Eng. ed., 109–36. Berne: Kümmerly & Frey, 1979.
- . *God's Wilderness: Discoveries in Sinai*. London: Thames & Hudson, 1961.
- . "Turquoise, Copper, and Pilgrims: Archaeology of Southern Sinai." In *Sinai: Pharaohs, Miners, Pilgrims, and Soldiers*, edited by Beno Rothenberg, translated by Ewald Osers, 1st Eng. ed., 137–80. Berne: Kümmerly & Frey, 1979.

- Routledge, Bruce. *Moab in the Iron Age: Hegemony, Polity, and Archaeology*. Philadelphia, PA: Pennsylvania University, 2004.
- Rowlands, John. "Letter." In *The Holy City*, by G. Williams, 463–68. London: John W. Parker, 1845.
- Rüppell, Eduard. *Reisen in Nubien, Kordofan, Und Dem Petraischen Arabien*. Frankfurt am Main: Friedrich Wilmans, 1829.
- Schmidt, Nathaniel. "Kadesh Barnea." *Journal of Biblical Literature* 29, no. 1 (1910): 61–76.
- Seetzen, Ulrich Jasper. *Reisen durch Syrien, Palästina, Phönicien, die Transjordan-länder, Arabia Petraea und Unter-Aegypten*. Vol. 3. Berlin: G. Reimer, 1855.
- Shanks, Hershel. *Frank Moore Cross: Conversations With a Bible Scholar*. Washington, D.C.: Biblical Archaeology Society, 1994.
- . "Respondent's Remarks." In *Session III: (Re)Locating Mount Sinai: A Survey of Alternative Theories*. Mizpe Ramon, 2013.
- Shea, William H. "Leaving Egypt: The Starting Point." *Adventist Review* 3 (May 11, 1990). <https://www.biblia.work/sermons/leavingegypt/>.
- Simons, Jan J. *The Geographical and Topographical Texts of the Old Testament: A Concise Commentary in XXXII Chapters*. Leiden: Brill, 1959.
- . "Two Connected Problems Relating to the Israelite Settlement in Transjordan I." *Palestine Exploration Quarterly* 79, no. 1 (January 1947): 27–39.
- . "Two Connected Problems Relating to the Israelite Settlement in Transjordan II." *Palestine Exploration Quarterly* 79, no. 2 (July 1947): 87–101.
- Skipwith, Grey Hubert. "Pi-Hahiroth, 'the Mouth of the Canals.'" *Palestine Exploration Quarterly* 45 (1913): 94–95.
- Smith, William G. "Red Sea, Passage Of." In *A Dictionary Of The Bible, Comprising Its Antiquities, Biography, Geography, and Natural History*. Vol. 3. Boston, MA: Little, Brown, & Company, 1863.
- Stanley, Arthur Penrhyn. *Sinai and Palestine: In Connection with Their History*. London: John Murray, 1856.
- Steele, Lawrence E. "The Exodus and the Egyptologist." *The Irish Church Quarterly* 1, no. 2 (April 1, 1908): 123–40.
- Talbert, Richard J. A. "Peutinger Map Seamless Whole, in Color, with Overlaid Layers." Cambridge University Press, 2010. <http://peutinger.atlantides.org/map-a/>.
- . "TP Place 449 | Name: [ - ? - ]++ia [Medeia]." Cambridge University Press, 2010. <https://www.cambridge.org/us/talbert/talbertdatabase/TPPlace449.html>.
- Thiel, Winfried. "Joram (Person)." In *Anchor Bible Dictionary*, edited by David Noel Freedman, 3:949–53. New York, NY: Doubleday, 1992.
- Tigay, Jeffrey H. *Deuteronomy: The Traditional Hebrew Text with the New JPS Translation*. JPS Torah Commentary. Philadelphia, PA / Jerusalem: Jewish Publication Society, 1996.
- Tobalina, Eva. "Ancient Jerash Was a Jewel in the Roman Empire." *National Geographic | History Magazine*, September 18, 2019. <https://www.nationalgeographic.com/history/magazine/2019/09-10/jerash-ancient-city-of-jordan/>.

- Trumbull, H. Clay. "A Visit to 'Ain Qadis: The Supposed Site of Kadesh-Barnea." *Palestine Exploration Quarterly* 13, no. 3 (July 1881): 208–12.
- . *Kadesh-Barnea – Its Importance and Probable Site: Including Studies of the Route of the Exodus and the Southern Boundary of the Holy Land*. London: Hodder & Stoughton, 1884.
- Van Seters, John. "The Geography of the Exodus." In *The Land That I Will Show You: Essays on the History and Archaeology of the Ancient Near East in Honor of J. Maxwell Miller*, edited by M. Patrick Graham and J. Andrew Dearman, 255–76. Sheffield, UK: Sheffield Academic, 2001.
- Von Raumer, Karl Georg. *Palästina: mit einem Plan von Jerusalem zur Zeit der Zerstörung durch Titus*. Leipzig: F. U. Brodhaus, 1931.
- Walser, Gerold. "Battlefields and Roads: From Romano-Byzantine Days to the Present." In *Sinai: Pharaohs, Miners, Pilgrims, and Soldiers*, edited by Beno Rothenberg, translated by Ewald Osers, 1st Eng. ed., 221–37. Berne: Kümmerly & Frey, 1979.
- "Watershed, Definition." In *Merriam-Webster Dictionary*. Accessed September 2, 2021. <https://www.merriam-webster.com/dictionary/watershed>.
- "Watershed Definition and Meaning." In *Collins English Dictionary*. Accessed September 2, 2021. <https://www.collinsdictionary.com/dictionary/english/watershed>.
- Wearne, Gareth James. "The Plaster Texts from Kuntillet 'Ajrud and Deir 'Alla: An Inductive Approach to the Emergence of Northwest Semitic Literary Texts in the First Millennium B.C.E." Doctor of Philosophy, Macquarie University, 2015.
- Wiegand, Theodor. *Sinai*. Vol. 1. Wissenschaftliche Veröffentlichungen Des Deutsch-Türkischen Denkmalschutz-Kommandos. Berlin / Leipzig: De Gruyter, 1920.
- Williams, Larry R. *The Mountain of Moses: The Discovery of Mount Sinai*. New York, NY: Wynwood, 1990.
- Wilson, John A. "Buto and Hierakonpolis in the Geography of Egypt." *Journal of Near Eastern Studies* 14, no. 4 (1955): 209–36.
- Woolley, C. Leonard, and T. E. Lawrence. *The Wilderness Of Zin (Archaeological Report)*. Vol. 1914–1915. Annual. London: Palestine Exploration Fund, 1914.
- Wright, Paul H. "Introduction to Historical Geography." In *Behind the Scenes of the Old Testament: Cultural, Social, and Historical Contexts*, edited by Jonathan S. Greer, John W. Hilber, and John H. Walton, 5–11. Grand Rapids, MI: Baker Academic, 2018.
- Wyper, G. "Quail." In *The International Standard Bible Encyclopedia*, edited by Geoffrey W. Bromiley, 4:4–5. Grand Rapids, MI: Eerdmans, 1988.
- Yunker, Randall W. "Ammonite Material Culture." Doctoral dissertation, Andrews University, Institute of Archaeology, 1996.
- Yunker, Randall W., and Øystein S. LaBianca. "The Kingdoms of Ammon, Moab and Edom: The Archaeology of Society in Late Bronze/Iron Age Transjordan (ca. 1400-500 BCE)." In *The Archaeology of Society in the Holy Land*, edited by Thomas E. Levy, 399–415. London: Leicester University, 1995.

## APPENDICES

### APPENDIX A: MOUNT SINAI CANDIDATES BY REGION

For the first two stages of the wilderness itinerary (Goshen-to-Sinai; Sinai-to-Kadesh), proposed locations for the geographic regions depend largely upon scholars' preferred candidates for Mount Sinai (Fig. 23). There are so many mountain candidates with varying credentials and, in many instances, inadequate literature that it is not possible to properly and fairly compare them. As Shanks observes:

More than twenty sites in the Sinai Peninsula have been identified as Mount Sinai, all based on Exodus routes referred to in the Bible or late traditions or early traveler accounts.... There is not even a single site that draws the majority of scholars. On the contrary, some (or many) of the sites identified as Mount Sinai are one-person proposals. None of the identifications has gained any traction.<sup>1</sup>

In an investigation dedicated to the geographic regions of the exodus and wanderings, therefore, it is better to group and consider the candidates by region. Menashe Har-El takes such an approach in his 1968 investigation of exodus geography, representing and critiquing the views of representative scholars who variously locate Mount Sinai in:

1. the southern Sinai Peninsula
2. the northern Sinai Peninsula
3. Midian (by which he means northwest Saudi Arabia)
4. Edom (now southern Jordan).<sup>2</sup>

Hoffmeier and Beitzel also classify the Mount Sinai candidates by region but combine into one group all candidates to the east of the Rift Valley (the Arabah and Aqaba Gulf).<sup>3</sup>

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<sup>1</sup> Hershel Shanks, "Respondent's Remarks," in *Session III: (Re)Locating Mount Sinai: A Survey of Alternative Theories* (Mount Sinai–Mount Karkom?, Mizpe Ramon, 2013).

<sup>2</sup> Har-El, *Sinai Journeys*, 175–284.

<sup>3</sup> Hoffmeier, *Ancient Israel in Sinai*, 125–48; Beitzel, *New Moody Bible Atlas*, 109–13.



Figure 23 MOUNT SINAI-HOREB CANDIDATES

### A.1 MOUNT SINAI IN THE SOUTHERN SINAI PENINSULA

The tradition that Mount Sinai lies in the southern Sinai Peninsula arose from biblical indications that a great distance lies between Mount Sinai-Horeb and Kadesh-barnea. The Deuteronomy foreword seems to situate Mount Horeb at eleven days' walking distance from Kadesh-barnea (Deut 1:1-2, cf. v. 19),<sup>4</sup> while the Numbers itinerary lists some twenty stations between these terminals (Num 33:16-36).<sup>5</sup> The prophet Elijah, having travelled a day's journey past Beersheba into the wilderness, then went a further forty days without food on his pilgrimage to Mount Horeb (1 Kgs 19:3-8). Kadesh-barnea, known to lie on the southern border of Judah

<sup>4</sup> See 6.5 "Eleven days from Horeb".

<sup>5</sup> See 6.14 Wanderings: Zin and Paran.

(Num 34:4; Josh 15:1-4), was eventually identified at Ayn Qudayrat<sup>6</sup> some three or four days' walk southwest from Beersheba (78 linear km) on a trajectory towards the southern Sinai.

Explorers who support the traditional location of Mount Sinai at Jebel Musa or other peaks in southern Sinai include Burckhardt,<sup>7</sup> Rüppell,<sup>8</sup> Robinson,<sup>9</sup> Palmer,<sup>10</sup> Bartlett,<sup>11</sup> and Petrie.<sup>12</sup> Later scholars supporting a southern Mount Sinai include Aharoni,<sup>13</sup> Finkelstein,<sup>14</sup> Kitchen,<sup>15</sup> Hoffmeier,<sup>16</sup> Rainey,<sup>17</sup> and Beitzel.<sup>18</sup>

## A.2 MOUNT SINAI IN THE NORTHERN SINAI PENINSULA

The proposal that Mount Sinai lies in the northern Sinai Peninsula also arose from biblical indicators. First, Moses' request of Pharaoh to let the Hebrew slaves go three days' journey into the wilderness to worship God (Exod 5:3; cf. 3:18; 8:27) together with the detail that their ultimate destination was Mount Sinai (19:1-4) may suggest that Mount Sinai lies three days' journey from Goshen. Second, flocks of quail arrived at the Israelite camp after the people left the Red Sea coast and again after leaving Mount Sinai for Kadesh (Exod 16:13; Num 11:31-32). Quail are commonly netted in northern Sinai during their annual migration between southern

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<sup>6</sup> Woolley and Lawrence, *Wilderness of Zin*, 1914–1915:6.

<sup>7</sup> Jebel Serbal. Burckhardt, *Travels in Syria*.

<sup>8</sup> Jebel Serbal. Eduard Rüppell, *Reisen in Nubien, Kordofan, Und Dem Petraischen Arabien* (Frankfurt am Main: Friedrich Wilmans, 1829).

<sup>9</sup> Jebel Musa. Robinson, *Biblical Researches*, I:87–213.

<sup>10</sup> Ras Safsafa. Palmer, *The Desert of the Exodus*, Part I:1–145.

<sup>11</sup> Jebel Serbal. Bartlett, *From Egypt to Palestine*, 238–84.

<sup>12</sup> Jebel Serbal. Petrie, *Researches in Sinai*, 206, 247–54 Petrie's assistant, Charles T. Currelly, wrote the last four chapters about Mount Sinai and the southern regions.

<sup>13</sup> Unspecified peak. Yohanan Aharoni, *The Land of Israel in Bible Times (Hbw)*, First published 1949 (Jerusalem: Bialik Institute, 1962), 169–73.

<sup>14</sup> Unspecified peak. Finkelstein and Perevolotsky, "Southern Sinai Exodus Route," 26–35, 38–41.

<sup>15</sup> Jebel Musa. Kenneth A. Kitchen, *On the Reliability of the Old Testament* (Grand Rapids, MI / Cambridge, U.K.: Eerdmans, 2003), 170.

<sup>16</sup> Ras Safsafa or Jebel Serbal. Hoffmeier, *Ancient Israel in Sinai*, 140–48.

<sup>17</sup> Unspecified peak. Rainey and Notley, *The Sacred Bridge*, 120.

<sup>18</sup> Prefers Jebel Musa. Beitzel, *New Moody Bible Atlas*, 112–13.

Europe and Arabia or West Africa.<sup>19</sup> Third, Amalekite encounters with Israel during the journey from Goshen to Mount Sinai (Deut 25:17-18; Exod 17:8-13; 19:1-2) favour a route through the central or northern peninsula where Amalekites were otherwise active (Num 13:29; 14:25; Judg 1:16; cf. 1 Sam 15:6). Fourth, certain biblical poetic passages associate Sinai with Seir, Edom, Paran, Teman, and Midian (Deut 33:2; Judg 5:4; Hab 3:3, 7). According to other biblical and historical mentions in context, these regions lie on either side of the Arabah far from the southern Sinai Peninsula.<sup>20</sup>

Explorers and scholars who propose locations in the northern Sinai Peninsula include Graetz,<sup>21</sup> Kittel,<sup>22</sup> Jarvis,<sup>23</sup> Wiegand,<sup>24</sup> and Har-El, the latter offering a mountain candidate in west-central Sinai near the ancient cross-Sinai road.<sup>25</sup> Both Hebrew and English editions of Har-El's investigation were published before Anati publicised his candidate, Har Karkom, so a review of Negev candidates does not appear.<sup>26</sup> Nonetheless, some of the arguments for and against candidates in the north of the peninsula are applicable.<sup>27</sup> Jacobovici offers another candidate in the Negev, also near the ancient cross-Sinai road, by triangulating a fourteen-days' distance from Elim on the Suez coast (Exod 16:1-2; cf. 19:1) with an eleven-days' distance from Kadesh (Deut 1:2) and "grazing distance" from the homeland of the Kenite clan (Exod 3:1) which he locates at Timna in the Southern Arabah.<sup>28</sup>

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<sup>19</sup> G. Wyper, "Quail," in *The International Standard Bible Encyclopedia*, ed. Geoffrey W. Bromiley (Grand Rapids, MI: Eerdmans, 1988), 4.

<sup>20</sup> See 6.12 Mount Seir (West): Geozone; 5.14 Wilderness of Paran; 7.8 Southern Arabah; 7.9 Land of Midian.

<sup>21</sup> Jebel Araif en-Naqa. Heinrich Graetz, "Die Lage des Sinai oder Horeb," *Monatsschrift für die Geschichte und Wissenschaft des Judenthums* 27 (1878): 337–60.

<sup>22</sup> Jebel Araif en-Naqa. Rudolf Kittel, *Geschichte Des Volkes Israel*, (not in Eng. trans), vol. 1, 2 vols. (Stuttgart: Gotha, 1916).

<sup>23</sup> Jebel Hallal. Jarvis, *Yesterday and Today in Sinai*, 165–84.

<sup>24</sup> Jebel Yelleq. Theodor Wiegand, *Sinai*, vol. 1, *Wissenschaftliche Veröffentlichungen Des Deutsch-Türkischen Denkmalschutz-Kommandos* (Berlin / Leipzig: De Gruyter, 1920), 53.

<sup>25</sup> Jebel Sinn Bishr. Har-El, *Sinai Journeys*, 415–30.

<sup>26</sup> Anati, *Har Karkom: Montagna Sacra*; Anati, "Has Mt. Sinai Been Found?," 42–57.

<sup>27</sup> See 5.17 Har Karkom–Mount Sinai.

<sup>28</sup> Hashem al-Tarif. Simcha Jacobovici, "The Real Mount Sinai," in *Session III: (Re)Locating Mount Sinai: A Survey of Alternative Theories* (Mount Sinai–Mount Karkom?, Mizpe Ramon, 2013); Simcha Jacobovici, "Mount Sinai Has Been Located," *The Jerusalem Post*, September 25, 2013.

### A.3 MOUNT SINAI IN ARABIA

The proposal that Mount Sinai lies in Arabia or southern Transjordan also rose from biblical indicators. First, when Moses fled from Pharaoh, he settled in the land of Midian and married a woman of the Kenite clan (Exod 2:15-16, 21; cf. Judg 1:16). His divine calling while leading sheep occurred at “the mount of God, Horeb” located “beyond the wilderness” in or near Midian (Exod 3:1-2). Midian is commonly supposed to lie beyond the Aqaba Gulf because Abraham sent Midian and five other sons by Keturah “eastward to the east country” (Gen 25:1-6) and also because Classical and Arab historians locate Midian to the east of the Gulf of Aqaba.<sup>29</sup> Second, naturalistic explanations for biblical miracles suggest that the terrifying display on Mount Sinai at the giving of the Sinaitic Covenant describes volcanic activity (Exod 24:17; Deut 4:11-12; 5:22-26; 9:10, 15; 10:4; Judg 5:5; Psa 68:8; Hag 2:6)<sup>30</sup> in a region where the only volcanoes lie to the east of the Rift Valley.<sup>31</sup> Third, the apostle Paul explicitly locates Mount Sinai in Arabia (Gal 4:25), a region suggested by some to be limited to the country east of the Jordan.<sup>32</sup>

Explorers who propose locations in Arabia and Transjordan include Beke,<sup>33</sup> Musil,<sup>34</sup> and Philby.<sup>35</sup> Later scholars who support Mount Sinai candidates in Arabia include Nielsen,<sup>36</sup>

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<sup>29</sup> Davies, *The Way of the Wilderness*, 52, 64 citing Yakut 3.557 and Marasid 2.214 and citing von Wissman’s discussion of Ptolemy’s *Geography* and Josephus’ *Antiquities* (2.257) in; August Pauly, Georg Wissowa, and Wilhelm Kroll, *Realencyclopädie der classischen Altertumswissenschaft* (Stuttgart: Metzler, 2013), 525–52, 544–45.

<sup>30</sup> Charles T. Beke, *Mount Sinai a Volcano* (London: Tinsley Bros., 1873).

<sup>31</sup> Hoffmeier, *Ancient Israel in Sinai*, 131.

<sup>32</sup> Beke, *Sinai in Arabia*, 4; Cornuke and Halbhook, *In Search of the Mountain of God*, 170–71.

<sup>33</sup> Jebel Baghir/Ithm. Beke, *Sinai in Arabia*.

<sup>34</sup> Seib al-Hrob (Jebel Harb). Alois Musil, *The Northern Hejaz* (New York: American Geographic Society, 1926), 263–64.

<sup>35</sup> Jebel Manifa. Harry St. John B. Philby, *The Land of Midian* (London: Ernest Benn, 1957).

<sup>36</sup> Jebel al-Madhbah. Ditlef Nielsen, *The Site of the Biblical Mount Sinai: A Claim for Petra* (Paris: Paul Geuthner, 1928).

Lucas,<sup>37</sup> Moore Cross,<sup>38</sup> Kerkeslager,<sup>39</sup> Humphreys (physicist),<sup>40</sup> and Fritz (geographer).<sup>41</sup> Other proponents and defenders of the popular Jebel al-Lawz option are Williams<sup>42</sup> and Cornuke,<sup>43</sup> Blum,<sup>44</sup> Möller,<sup>45</sup> and Richardson.<sup>46</sup>

It is not the task of this investigation to interrogate the claims for all Mount Sinai candidates. In any case, the debate on the identity of the mountain seems to have largely settled on a representative mountain for each region—Jebel Musa in Southern Sinai, Har Karkom in Northern Sinai, and Jebel al-Lawz in Arabia. The arguments for these three front-runners are by now so polarised and the parties so entrenched that the issue can no longer be addressed head-on with a pros-and-cons style approach. There is another way to determine the best Mount Sinai candidate—not by its features or traditions but by its location relative to the regions of the wilderness journeys. The one that makes the best geographical sense should claim first place.

#### **A.4 MOUNT SINAI AND THE EXODUS JOURNEY**

The three general regions for locating Mount Sinai candidates—southern Sinai Peninsula, northern Sinai Peninsula, and Arabia (territories east of the Rift Valley)—have implications for

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<sup>37</sup> Jebel Baghir. Alfred Lucas, *The Route of the Exodus of the Israelites from Egypt* (London: E. Arnold, 1938).

<sup>38</sup> Jebel al-Lawz. Hershel Shanks, *Frank Moore Cross: Conversations With a Bible Scholar* (Washington, D.C.: Biblical Archaeology Society, 1994).

<sup>39</sup> Jebel al-Lawz. Kerkeslager, “Mt. Sinai—in Arabia?,” 23–39, 52.

<sup>40</sup> Hala al-Badr. Humphreys, *Miracles of the Exodus*.

<sup>41</sup> Jebel al-Lawz. Glen A. Fritz, *The Exodus Mysteries of Midian, Sinai, & Jabal al-Lawz* (Vero Beach, FL: GeoTech, 2019).

<sup>42</sup> Larry R. Williams, *The Mountain of Moses: The Discovery of Mount Sinai* (New York, NY: Wynwood, 1990).

<sup>43</sup> Cornuke and Halbrook, *In Search of the Mountain of God*.

<sup>44</sup> Howard Blum, *The Gold of the Exodus: The Discovery of the True Mount Sinai* (New York, NY: Simon & Schuster, 1998).

<sup>45</sup> In company with Jim and Penny Caldwell. Lennart Möller, *The Exodus Case: New Discoveries Confirm the Historical Exodus*, 3rd ext. ed. (Copenhagen, Denmark: Casscom Media / Scandinavia Publishing, 2008).

<sup>46</sup> Richardson, *Mount Sinai*.

the site of the Red Sea crossing, the direction and extent of the exodus route, and the locations of the wildernesses, as follows:

- **Southern Sinai candidates** (including Jebel Musa) limit the Red Sea crossing to somewhere in the Suez Isthmus,<sup>47</sup> require a journey southeast towards the granite interior of southern Sinai, and confine the wildernesses of the exodus journey to the western side of the Sinai Peninsula.
- **Northern Sinai–Southern Negev candidates** (including Har Karkom) limit the Red Sea crossing to somewhere in the Suez Isthmus or along the Mediterranean coast, require a journey eastward across central or northern Sinai, and confine the wildernesses of the exodus journey to the central and northern Sinai Peninsula.
- **Arabia-Transjordan candidates** for Mount Sinai (including Jebel al-Lawz) require a journey eastward across the central Sinai, locate the Red Sea crossing somewhere in the Aqaba Gulf (with few exceptions), and confine the wildernesses of the exodus journey to the area around the Aqaba Gulf and the eastern side of the Rift Valley.

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<sup>47</sup> The shallow valley between Egypt and the Sinai Peninsula running some 100 km between the Mediterranean Sea in the north and the Red Sea in south.

## APPENDIX B: KEY TOWNS TRANSJORDAN

### B.1 HESHBON

An investigation of the geographic regions of the Sinai, Negev, and Transjordan sometimes requires site-locations in order to make or defend the case for a regional identity.<sup>48</sup> Three towns are important to an analysis of the Transjordanian regions—Heshbon, Jazer, and Mahanaim.<sup>49</sup> The location of Heshbon is central to the post-conquest division of Amorite territory among the Israelite tribes who remained in the Transjordan.<sup>50</sup> According to biblical references, Heshbon was first a Moabite town (Num 21:26), then Sihon’s Amorite capital (Deut 2:24), and then an Israelite town attributed to both Reuben and Gad (Josh 13:17; cf. v. 26). For historical and toponymic reasons Heshbon is commonly identified with Tall Hisban on the northwestern edge of the Mishor about 25 linear km (15.5 miles) east of the Jordan River.<sup>51</sup> Classical-era remains confirm the tell’s status as the Esbonitis of Josephus (*A.J.* 12.234; 13.397; 15.295) and the Esbous of Eusebius who connects it with biblical “Essebon... in the mountains lying opposite Jericho, about twenty [Roman] milestones away from the Jordan” (29.5 km or 18.5 miles by road).<sup>52</sup> Extensive excavations, however, have uncovered no evidence of settlement on the site before the Iron Age,<sup>53</sup> a finding which disqualifies Tall Hisban as the location of Sihon’s Heshbon in the Bronze Age (Num 21:26, Deut 1:4).<sup>54</sup>

It is difficult to imagine how a conclusively identified town could be missing its foundational archaeological strata according to the biblical story. MacDonald engages the dilemma:

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<sup>48</sup> See 1.2 Research Question.

<sup>49</sup> See Appendix B.2 Jazer; B.3 Mahanaim.

<sup>50</sup> See 8.10 Amorite and Israelite Territories.

<sup>51</sup> Simons, *Geographical and Topographical Texts*, 117 §298, 121 §300; Aharoni, *Land of the Bible*, 1979, 436.

<sup>52</sup> Eusebius of Caesaria, *Onomasticon*, 50 sec. 84.1.

<sup>53</sup> Lawrence T. Geraty, “Heshbon,” in *The New Encyclopedia of Archaeological Excavations in the Holy Land*, ed. Ephraim Stern, Ayelet Lewinson-Gilboa, and Joseph Aviram (Jerusalem: Israel Exploration Society / Carta, 1993), 626.

<sup>54</sup> MacDonald, *East of the Jordan*, 93.

From a toponymic point of view, there is no doubt that the modern village and associated tell of Hisban... bear the biblical name. The question is whether the biblical name has remained at the same site down through the centuries or migrated to modern Tall Hisban from some nearby or even distant location.<sup>55</sup>

The last option (a distant location) is doubtful in light of the fact that biblical names are not known to migrate so far.<sup>56</sup> Recognising this problem, Geraty surveys and critiques other explanations which include the literary-critical position regarding the complexity of biblical traditions and the proposal that King Sihon's Amorites may not have been sedentary despite biblical references to their towns and villages (e.g. Num 21:25-6).<sup>57</sup> He also considers an explanation that accepts Tall Hisban as both Iron Age Heshbon and Greco-Roman Esbous, but suggests Amorite Heshbon lay elsewhere and the tribe of Reuben transferred the name to the present site when they "rebuilt" the town (Num 32:37-38). My variation on this explanation proposes that the name Heshbon underwent similar purposeful (rather than accidental) relocation but at a later period in order to meet the expectations of post-exilic settlers. This could conceivably happen if Heshbon's location was forgotten during a period of depopulation in the Mishor and later misidentified by a resurgent Jewish population in the Transjordan or by scholars in Judaea eager to claim their biblical heritage. Thus, the name Heshbon could have been mistakenly attributed to the present location and then preserved through the succession of empires in the Levant until modern times.

From 1976, the excavators of Tall Hisban investigated other tells on the Mishor with archaeological profiles more suitable for the Amorite capital.<sup>58</sup> The few possibilities included Tall Jalul in the centre of the Mishor about 10 km southeast of Tall Hisban<sup>59</sup>—Jalul being also a

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<sup>55</sup> MacDonald, 92.

<sup>56</sup> J. Maxwell Miller, "Site Identification: A Problem Area in Contemporary Biblical Scholarship," *Zeitschrift Des Deutschen Palästina-Vereins (1953-)* 99 (1983): 124–25.

<sup>57</sup> Lawrence T. Geraty, "Heshbon: The First Casualty in the Israelite Quest for the Kingdom of God," in *The Quest for the Kingdom of God: Studies in Honor of George E. Mendenhall*, ed. H. B. Huffmon, F. A. Spina, and A. R. W. Green (Winona Lake, IN: Eisenbrauns, 1983), 243–47.

<sup>58</sup> Larry G. Herr, "The Search for Biblical Heshbon," *Biblical Archaeology Review* 19, no. 6 (1993): 37; "Finally After Thirty Years," *Adventist Review*, December 24, 1998, 24–25.

<sup>59</sup> Geraty, "Heshbon," 1983, 247.

candidate for Bezer<sup>60</sup>—and Tall Umayri near the Amman National Park about 10 km (6 miles) northeast of Tall Hisban. Ibach of the Hesban Project was the first to suggest Umayri as a candidate for Sihon’s Heshbon.<sup>61</sup> The site has several favorable features:

The excavations show that the site was occupied by twenty-one separate settlements (strata) stretching from Early Bronze Age I to the Islamic era, but the primary periods of occupation were the Bronze and Iron Ages.<sup>62</sup>

Until recently, a natural spring at the northern foot of the site was the only natural water source between Ras al-’Ayn (Amman) and Madaba. It was undoubtedly the reason for the settlement at the location.<sup>63</sup>

A comprehensive strata chart for Tall Umayri shows an occupational hiatus in the Iron Age II B/C.<sup>64</sup> This period could allow for the identity of Sihon’s Heshbon to be lost to local knowledge in time for a new location to be proposed and established by the time of the Classical historians.

A location for Sihon’s Heshbon at Tall Umayri on the northern edge of the Mishor is consistent with the biblical descriptions of the extent of Israel’s conquest of Amorite towns throughout the Mishor:

*So their posterity perished from Heshbon to Dibon, and we laid waste until fire spread to Medeba. (Num 21:30)*

*From Aroer on the edge of the Wadi Arnon (including the town that is in the wadi itself) as far as Gilead, there was no citadel too high for us. (Deut 2:36)*

*They occupied all the territory of the Amorites from the Arnon to the Jabbok and from the wilderness to the Jordan. (Judg 11:22)*

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<sup>60</sup> See 8.2 Wilderness of Kedemoth.

<sup>61</sup> Geraty et al., “MPP: The 1987 Season at Tell El-’Umeiri and Vicinity,” 187; citing Robert Ibach, *Hesban 5: The Regional Survey* (Berrien Springs, MI: Andrews University, 1987).

<sup>62</sup> Larry G. Herr, Douglas R. Clark, and Kent Bramlett, “From the Stone Age to the Middle Ages in Jordan: Digging up Tall al-’Umayri,” *Near Eastern Archaeology* 72, no. 2 (2009): 70–71; Douglas R. Clark and Kent Bramlett, “Madaba Plains Project: Excavations at Tall al-’Umayri, 2010,” *Annual of the Department of Antiquities of Jordan* 55 (2011): 394 fig. 4.

<sup>63</sup> Larry G. Herr, “Tall Al-’Umayri in the Early and Middle Bronze Ages, and the Late Iron I, Iron II, Late Iron II/Persian, Hellenistic, Early Roman, Byzantine, and Islamic Periods,” in *The Madaba Plains Project: Forty Years of Archaeological Research into Jordan’s Past*, ed. Douglas R. Clark et al. (London / New York: Routledge, 2011), 28.

<sup>64</sup> Clark and Bramlett, “Tall Al-’Umayri, 2010,” 394.

The north-south vector “from Heshbon to Dibon” is comparable (in reverse direction) to the vectors “from the Arnon to the Jabbok” and “from Aroer on the edge of the Wadi Arnon... as far as [the] Gilead”. By these texts together, Heshbon is framed as the most northern town on the Mishor, close to the Jabbok River and the Gilead. The east-west vector “to Medeba” is comparable to the vector “from the wilderness to the Jordan” (as above). Both phrases allude to Israel’s initial victory at Jahaz in the eastern wilderness (Num 21:23)<sup>65</sup> whence the army fanned out westward to conquer all the Amorite towns of the Mishor, including Heshbon in the north and Dibon in the south.

Tall Umayri’s northern location at the interface of the Mishor with the Gilead helps to explain Heshbon’s dual affiliation with the Israelite tribes of Reuben and Gad (Reuben, Josh 13:17; Gad, v. 25).<sup>66</sup> Reuben’s territory with “all the towns on the Mishor” meets its northernmost limit at Heshbon (Josh 13:17), while Gad’s territory with “all the towns of [the] Gilead” meets its southernmost limit at Heshbon (v. 25). Gad’s four Levitic centres—Ramoath, Mahanaim, Heshbon, and Jazer (Josh 21:38-39)—all lie within the Gilead geozone while Reuben’s four Levitic centres—Bezer, Jahzah (Jahaz), Kedemoth, and Mephaath (vv. 36-37)—all lie within the Mishor geozone (Fig. 2).<sup>67</sup> As a matter of curiosity arising from the hydrological model, the three towns of refuge for the Transjordan—Bezer, Ramoth, and Golan—one for each of the geozones—the Mishor, the Gilead, and the Bashan—all lie on the north-south profile of the Transjordan, that is, on the eastern Jordan watershed (Fig. 12).<sup>68</sup> This pattern provides a rationale for their choice over other notable towns in the same regions such as Heshbon, Mahanaim, and Ashteroth which are not so strategically positioned.<sup>69</sup>

According to the conquest narrative and Jephthah’s summary, Heshbon is representative of the towns of the Mishor:

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<sup>65</sup> See 8.2 Wilderness of Kedemoth.

<sup>66</sup> See 8.10 Amorite and Israelite Territories.

<sup>67</sup> See 8.2 Wilderness of Kedemoth.

<sup>68</sup> Thus, it seems likely the three towns of refuge for the Cisjordan—Kedesh, Shechem, and Kiryat-arba (Hebron)—also lie on the north-south profile of the Cisjordan, that is, the western Jordan watershed (Josh 20:7). These towns represent the Hill Country geozones of Naphtali, Ephraim, and Judah respectively. See 6.9 The Hill Country: Geozone.

<sup>69</sup> See Appendix B.3 Mahanaim; 8.8 The Argob: Geozone; 8.2 Wilderness of Kedemoth.

*Israel took all these towns, and Israel settled in all the towns of the Amorites, in Heshbon, and in all its villages. (Num 21:25)*

*While Israel lived in Heshbon and its villages, and in Aroer and its villages, and in all the towns that are along the Arnon, three hundred years, why did you [Ammon] not recover them within that time? (Judg 11:26)*

Both candidates for Heshbon, however—Tall Hisban and Tall Umayri—are peripheral to the Mishor; neither can claim centrality (Fig. 18). Tall Umayri's position just 4 km (2.5 miles) south of the Jabbok–Arnon watershed puts it in political juxtaposition to the Ammonite capital Rabbah on the upper Jabbok riverbed some 6 linear km (3.5 miles) north of the Jabbok–Arnon watershed. The space between the watershed and the riverbed is the “hand” of the Jabbok which Israel avoided out of respect for Ammon's security (Deut 2:37).<sup>70</sup> Israel's voluntary exclusion zone between Heshbon and Rabbah includes the regions of the convergence and passage of the two north-south highways, the King's Highway continuing northward from Rabbah through the heart of the Gilead highlands, and the Desert Highway branching NNE towards Jazer whence it becomes the Way of the Bashan to Edrei and Ashtaroth (Num 21:32; Deut 3:1). For the northern campaigns, we may deduce that Israel accessed the Desert Highway outside the Jabbok–Arnon watershed in order to avoid coming close to Rabbah (Fig. 19). The path thus required seems overly cautious; perhaps the Israelites could have avoided Ammon without staying entirely beyond the watershed.

Heshbon features prominently as the first town in a list that seems to describe an arc through Gad's tribal allocation in Gilead and Jazer:

*Moses gave an inheritance also to the tribe of the Gadites, according to their families. Their territory was Jazer, and all the towns of Gilead, and half the land of the Ammonites, to Aroer, which is east of Rabbah, and from Heshbon to Ramath-mizpeh and Betonim, and from Mahanaim to the territory of Debir (Josh 13:24-26).*

Gad's “Jazer, and all the towns of Gilead” (Josh 13:25-26) is a general description of a territorial arc around Ammon that ‘shadows’ the curve of the Jabbok riverbed to the east and north sides. The term “half the land of the Ammonites” is a specific description of Jazer as the Dhulayl catchment which does indeed amount to half of Greater Ammon, not ‘later’ Ammon, with the

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<sup>70</sup> See 8.5 Land of Ammon.

eastern Aroer on the eastern side of the middle Jabbok. There follows a list of towns that seem to mark the perimeter of Gad’s territory: “from X to Y” etc. From Heshbon at Tall Umayri, the perimeter passes northeast through Jazer in the Wadi Dhulayl catchment ( “half the land of the Ammonites”),<sup>71</sup> swings northwest to Ramath-mizpeh on the Jabbok–Yarmuk watershed, connects through Betonim (unknown, possibly Bithron of 2 Sam 2:29) to Mahanaim on or below the Jabbok–Yarmuk watershed,<sup>72</sup> and descends westward to the central Jordan Valley via “the territory [גְּבוּל] *gevul* of Debir” (Lo-debar, 2 Sam 9:4-5; 17:27). The latter town probably lies on the north side of the Jabbok ravine approaching the central Jordan Valley, for it is followed by the names of towns in the valley floor (Beth-haram, Beth-nimrah, Succoth, and Zaphon, Josh 13:27).

Thus, according to Gad’s town-list (Josh 13:24-26), Ammon after the Israelite conquest is delimited by the Jabbok riverbed and surrounded by Gad’s territory on three sides: to the south as far as the Jabbok–Arnon watershed, to the east as far as the Jabbok–Arabia watershed, and to the north as far as the Jabbok–Yarmuk watershed. Ammon’s perimeter is completed to the west and southwest by the Jabbok–Jordan watershed beyond which lies Reuben’s territory defined by the towns around the eastern side of the southern Jordan Valley—Bamoth-baal, Beth-baal-meon, Beth-peor, Pisgah, and Beth-jeshimoth (Jos 13:17-20). Reuben’s and Gad’s town-lists together demonstrate that the Amorites have reduced Greater Ammon to the area enclosed by the Jabbok riverbed and the Jabbok–Jordan watershed. The outer Jabbok catchment including the section of Gilead on the north side of the lower Jabbok riverbed was taken by the Amorites, a conclusion supported by a literal translation of Joshua 12:2:

*Sihon king of the Amorites, who dwelt in Heshbon, and ruled from Aroer, which is on the edge of the valley of Arnon, and the middle of the valley, and half Gilead, even unto the river Jabbok, the border of the children of Ammon (JPS).*

If the Gilead is divided into northern and southern halves along the Yarmuk–Jabbok watershed not the Jabbok riverbed, then Sihon’s “half Gilead” included the outer Jabbok catchment on the north side of the lower Jabbok riverbed, that is, the 12-14 km (7.5–8.7 miles) of highland country

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<sup>71</sup> See 8.6 Land of Jazer.

<sup>72</sup> See Appendix B.3 Mahanaim.

from the Jabbok–Yarmuk watershed southward “even unto the river Jabbok”.<sup>73</sup> By this understanding, the Land of Ammon is an enclave within Sihon’s half-the-Gilead, surrounded on nearly all sides by the Jabbok ravine, and remains an enclave under Israelite possession of the Gilead.

## B.2 JAZER

The case for Jazer’s location on the eastern steppe denies other suggested locations in the Gilead highlands based on the *Onomasticon* listings.<sup>74</sup> Eusebius and Jerome locate Jazer (“Azor” or “Jazer”) as a town “ten [or eight] milestones [12-15 km by road] west of Philadelphia” (Amman) and “fifteen milestones [22 km by road] away from Essebon” (Heshbon, commonly identified with Tall Hisban), adding that “from it a very large river rises and falls into the Jordan.”<sup>75</sup> Jazer is also mentioned in 1 Maccabees 5:8 and Josephus’ *Antiquities* 12.329 as an Ammonite city conquered by Judas Maccabeus. Several tells in the western Gilead have been suggested but “many of these sites are not serious candidates for the location of biblical Jazer” owing to logical or archaeological inadequacies.<sup>76</sup> The two leading candidates are both tells in the southern Jordan catchment: Khirbat Sar in Wadi Sir and Khirbat Jazzir in Wadi Shuayb (Fig. 18). Sar lies 10 linear km (7.5 miles) west of Amman and 16 linear km (10 miles) NNE from Tall Hisban, thus approximating the *Onomasticon* distances by road, but has no remains earlier than the Iron Age.<sup>77</sup> Jazzir’s Arabic name suggests a toponymical connection to Jazer but the tell lies significantly farther by road—20 linear km (12.5 miles) WNW of Amman and 25 linear km (15.5 miles) NNE of Tall Hisban.

Like many other regional toponyms of the wilderness itinerary, Jazer is represented as both a land (Num 21:32; Josh 13:25; 21:39) and a town (Num 32:3, 35).<sup>78</sup> Support for Jazer’s location east of Ammon is found in the list of towns claimed and rebuilt by Gad and Reuben

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<sup>73</sup> See 8.4 The Gilead: Geozone.

<sup>74</sup> See 8.6 Land of Jazer.

<sup>75</sup> Eusebius of Caesaria, *Onomasticon*, 16 sec. 12.1, 60 sec. 104.5.

<sup>76</sup> MacDonald, *East of the Jordan*, 106–8.

<sup>77</sup> Kallai, *Historical Geography of the Bible*, 268–70 n. 356.

<sup>78</sup> See 2.1 Regional Toponymy.

soon after the Israelite conquest (Num 32:34-38). Gad's town-building projects are grouped into three regions, with Jazer among towns on the "caravan route" to the east:

1. southern Mishor: Dibon, Ataroth, and Aroer on the Arnon (v. 34)
2. eastern steppe: Atroth-shophan, Jazer, Jogbehah (v. 35; cf. Judg 8:11)
3. central Jordan Valley: Beth-nimrah, Beth-haran (v. 36; cf. Josh 13:27 Beth-haram).

Like Reuben's four Levitic centres in the eastern Mishor (Josh 21:36-37),<sup>79</sup> Gad's four Levitic centres—Ramoth in Gilead, Mahanaim, Heshbon, and Jazer—all have "pasture lands" (Josh 21:38; 1 Chron 6:80-81) indicating open country. Other towns listed by Reuben and Gad as good for livestock—Ataroth, Dibon, Nimrah, Heshbon, Elealeh, Sebam, Nebo, and Beon [Baal-meon] (v. 3)—lie on the Mishor and in the southern Jordan Valley (Josh 13:27). Western Gilead, heavily forested in ancient times (2 Sam 17:26. cf. 18:8),<sup>80</sup> was not as suitable for large herds as the steppe (Num 32:1) and is too steep for a "sea" (Jer 48:32). Neither can western Gilead fulfil Jazer's biblical status as both separate from the Gilead ("the land of Jazer and the land of Gilead", Num 32:1) and part of the Gilead ("Jazer of Gilead", 1 Chron 26:31 JPS). By contrast, all biblical requirements for Jazer are met in the Hashamiyah district (Wadi Dhulayl catchment) where run-off water collects on the level steppe yet the area is still a מִדְבָּר *midbar* "wilderness" (Isa 16:8).<sup>81</sup>

An eastern identity for Jazer is further supported by a 'hidden' occurrence of the toponym in the account of the conflict with Sihon:

*Israel put him to the sword, and took possession of his land from the Arnon to the Jabbok, as far as to the Ammonites; for the boundary of the Ammonites was strong. (Num 21:24)*

The LXX interprets אַז *az* "strong" as an abbreviated form of יַעְזֵר *yazer* Jazer, thus rendering the final phrase אֶזְבֹּגֶל בְּנֵי עַמּוֹן *ki az gevul bene-ammon* "for אַז [Jazer] is Ammon's territory/boundary" (see RSV, NASV, LXX Brenton's English translation). Kallai allows the "Jazer" translation but questions the sense:

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<sup>79</sup> See 8.2 Wilderness of Kedemoth.

<sup>80</sup> Baly, *Geography*, 1974, 81–82.

<sup>81</sup> See 8.6 Land of Jazer.

If the LXX version is preferred, the wording is somewhat unusual, since Jazer is Amorite not Ammonite.... it should also be asked why was Jazer specifically mentioned in the general delimitation.<sup>82</sup>

Simons disputes the LXX translation based on Eusebius' location for Jazer in western Gilead:

The usually accepted emendation... (יַזְרָאִי instead of יַזְרָאִי) really makes no sense. How can the principality of Yazer... constitute a boundary of Ammon and what may be the purpose of mentioning a common boundary of Yazer and Ammon in this context?<sup>83</sup>

If the biblical Land of Jazer is, in fact, to the east of Ammon, then the LXX translation is supported. Jazer of Gilead, formerly part of Greater Ammon, defines the northeastern limit of Israel's conquest of the Mishor until Moses decides to push northward and conquer the Bashan (Num 21:32-33).

In conclusion, locating biblical Heshbon at the northern edge of the Mishor<sup>84</sup> and locating biblical Jazer on the eastern steppe greatly simplifies the territorial allocations to Reuben and Gad. Reuben's territory lies to the south and west of Ammon while Gad's territory lies to the east and north of Ammon (Fig. 21). Gad's auxiliary territory in the southern Mishor along the border of Moab does not significantly complicate the scenario (Num 32:34; MI line 10). Except for the 'shared' town of Heshbon near their mutual border on the Jabbok–Arnon watershed (Josh 13:17, 26), Reuben's territory is entirely separate from Gad's territory. From Heshbon in the northern Mishor, Gad's principal towns describe a circuit around the east and north sides of Ammon through Jazer and Mahanaim (Josh 13:26; cf. 21:38). This circuit is reflected in the path later taken by David's census officials (2 Sam 24:5-6) following a line representing the perimeter of the inhabited regions of the Transjordan:

*They... began from Aroer [on the Arnon]... toward Gad and on to Jazer. Then they came to [the] Gilead". (2 Sam 24:5-6)*

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<sup>82</sup> Zecharia Kallai, "Conquest and Settlement of Trans-Jordan: A Historiographical Study," *Zeitschrift Des Deutschen Palästina-Vereins*, no. 99 (1983): 112–13.

<sup>83</sup> Simons, "Two Connected Problems II," 98 n. 1.

<sup>84</sup> See Appendix B.1 Heshbon

This successful application of the hydrological model, first to Sihon's kingdom and then to Reuben's and Gad's tribal territories, highlights the geographical consistency of the biblical data.

### B.3 MAHANAIM

Mahanaim appears in the Genesis account of Jacob's return to Canaan from upper Mesopotamia (Gen 31:20-21). His first named camp in the Transjordan is Mizpah in the "mount of the Gilead" (lit.) הַר־הַגִּלְעָד *har ha-gilad* (vv. 25, 54), followed by Mahanaim (32:1-2), and then Penuel at the Jabbok River crossing site (vv. 31-32). Some generations later at the time of the Israelite conquest of the Transjordan, Mahanaim marks King Og's and then half-Manasseh's southern border:

*Their [half-Manasseh's] territory extended from Mahanaim, through all Bashan, the whole kingdom of King Og of Bashan, and all the settlements of Jair, which are in Bashan, sixty towns, and half of [the] Gilead, and Ashtaroth, and Edrei, the towns of the kingdom of Og in [the] Bashan (Josh 13:30-31).*

Just as Heshbon is the only town mentioned as belonging to both Gad and Reuben (13:15-17, 24-26), Mahanaim is the only town mentioned as belonging to both Manasseh and Gad (Josh 13:24-26, 29-30). In the grouping of Levitic centres, however, both Mahanaim and Heshbon belong to Gad along with Ramoth-in-the-Gilead and Jazer:

*Out of the tribe of Gad: Ramoth in [the] Gilead with its pasture lands, the city of refuge for the slayer, Mahanaim with its pasture lands, Heshbon with its pasture lands, Jazer with its pasture lands—four towns in all. (Josh 21:38-39)*

These biblical data together indicate that Mahanaim and Heshbon function as border towns between Gad and its neighbouring tribes, Heshbon on the border with Reuben in the Mishor to the south and Mahanaim on the border with half-Manasseh in the Bashan to the north. Both towns lie within the Gilead highlands, however, so they are accounted together as Gad's Levitic centres.

For Heshbon to be associated with both Reuben and Gad, it must lie on or near the Arnon–Jabbok watershed. Likewise, for Mahanaim to be associated with both Gad and Manasseh, it must lie on or near the Jabbok–Yarmuk watershed. If Heshbon is located at Tall

Umayri (not at Tall Hisban), it lies just 4 km (2.5 miles) south of the Arnon–Jabbok watershed.<sup>85</sup> While not exactly *on* the watershed border between Gad’s and Reuben’s territories, it forms the nearest anchor-point for Gad’s perimeter town-list which starts at the interface of the Mishor with the Gilead and passes around Ammon on the east, north, and west sides to the central Jordan Valley:

*Moses gave an inheritance also to the tribe of the Gadites, according to their families. Their territory was Jazer, and all the towns of [the] Gilead, and half the land of the Ammonites, to Aroer, which is east of Rabbah, and from Heshbon to Ramath-mizpeh and Betonim, and from Mahanaim to the territory of Debir, and in the valley Beth-haram, Beth-nimrah, Succoth, and Zaphon, the rest of the kingdom of King Sihon of Heshbon, the Jordan and its banks, as far as the lower end of the Sea of Chinnereth, eastward beyond the Jordan. (Josh 13:24-27)*

According to a hydrological model of the geopolitical regions, “half the land of the Ammonites” is Jazer, the catchment of Wadi Dhulayl the main tributary of the Jabbok, a region already ‘deducted’ from Greater Ammon by the Amorites (Num 21:32).<sup>86</sup> Gad’s town-list begins at Heshbon on the northern Mishor and shadows the Jabbok riverbed anticlockwise through the outer Jabbok catchment between the riverbed and the watershed (Fig. 21).

Of the towns listed in Gad’s inheritance in the Gilead (text above), the identity of Mahanaim is disputed, along with those of Ramath-mizpeh, Betonim, and Debir.<sup>87</sup> In the light of a hydrological approach to biblical regions, the search for Mahanaim has been hampered chiefly because geographers sought a site near the Jabbok riverbed not the Jabbok–Yarmuk watershed.<sup>88</sup> The description “Mahanaim, with its pasturelands” suggests that the town is not within the lower Jabbok ravine but rather on the plateau with an open aspect (Josh 13:38, see above). The story of Jacob’s journey from Haran indicates a site on the ancient King’s Highway (approximating the

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<sup>85</sup> See Appendix B.1 Heshbon.

<sup>86</sup> See 8.5 Land of Ammon; 8.6 Land of Jazer.

<sup>87</sup> Finkelstein, Koch, and Lipshits, “Biblical Gilead,” 131.

<sup>88</sup> Robert A. Coughenour, “A Search for Mahanaim,” *Bulletin of the American Schools of Oriental Research*, no. 273 (1989): 59; Jeremy M. Hutton, “Mahanaim, Penuel, and Transhumance Routes: Observations on Genesis 32–33 and Judges 8,” *Journal of Near Eastern Studies* 65, no. 3 (July 1, 2006): 162–63.

present Jordanian Highway, no. 35) approaching the Jabbok River from the north.<sup>89</sup> By the same road his brother Esau would naturally come to meet him from Seir in the far south (Gen 32:3; 33:1).

The ‘obvious’ site on the King’s Highway about 5 km (3 miles) south of the Yarmuk–Jabbok watershed is the multi-era city of Jarash (Jerash),<sup>90</sup> a worthy candidate for a place mentioned so often in the biblical texts:<sup>91</sup> the Jacob narrative (Gen 32:3); the tribal allotments (Josh 13:26, 30; 21:38); the Saul and David narratives (2 Sam 2:8,12, 29; 17:24, 27; 19:32), and the Solomonic district administration (1 King 4:14). If Mahanaim is at Jarash, it lies about the same distance (fewer than 5 km, 3 miles) south of the Yarmuk–Jabbok watershed in Gad’s territory as Heshbon at Tall Umayri lies to the south of the Jabbok–Arnon watershed in Reuben’s territory, and as Aroer “in the middle of the valley” of the Arnon River lies to the south of Reuben’s territory (Josh 13:15-16). Thus, the divisions and descriptions in Joshua 13 of the three Israelite tribes of the Central and Northern Transjordan seem to follow a geographical formula: a list of premier towns (for Gad it is a perimeter description) starting with a ‘anchor’ town slightly to the south of the southern border, interspersed with an enumeration of districts and a summary of the territorial succession from the Amorite kings (Fig. 21). Jarash has a year-round supply of water, while its altitude of 500 m (1640 ft) gives it a temperate climate and excellent visibility over the surrounding areas. Wadi Suf literally cuts the settlement into halves east and west, providing an alternative etymology for the name Mahanaim, “two camps” (Gen 32:1-2).

The other towns in Gad’s perimeter list may be inferred from their order in the circuit through the outer Jabbok catchment.<sup>92</sup> Mahanaim’s new location near the Jabbok–Yarmuk watershed has implications for Mizpah, the site in the hill country of Gilead where Laban overtook Jacob and together they made a covenant “on the mount” (Gen 31:23, 25, 48-49, 54). Mizpah is probably one and the same as Gad’s Ramath-mizpeh רַמַּת הַמִּצְפֶּה *ramat ha-mitspeh* lit.

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<sup>89</sup> David Ben-Gad HaCohen, “If Jacob Is Returning to Canaan, Why Send Messengers to Esau in Seir?,” *The Torah*, December 12, 2019, <https://www.thetorah.com/article/if-jacob-is-returning-to-canaan-why-send-messengers-to-esau-in-seir>.

<sup>90</sup> With the new Jordanian spelling for Arabic transliterated to English, Jerash is Jarash. See 0.3 Foreword.

<sup>91</sup> Eva Tobalina, “Ancient Jerash Was a Jewel in the Roman Empire,” *National Geographic | History Magazine*, September 18, 2019, <https://www.nationalgeographic.com/history/magazine/2019/09-10/jerash-ancient-city-of-jordan/>.

<sup>92</sup> See Appendix B.1 Heshbon.

“height of the lookout” (Josh 13:26); also the same as Gad’s Levitic centre and city of refuge “Ramoth in the Gilead”, (Deut 4:41-43; Josh 20:8; 21:38; 1 Chron 6:80) and “Mizpah of the Gilead” in the Jephthah stories (Judg 10:17; 11:29).<sup>93</sup>

From the stories of Jacob, Jephthah, and David, we may deduce that Mizpah/Ramoth is on the heights of the Gilead beside the ancient King’s Highway about 12 km (7.5 miles) north of the Jabbok riverbed:<sup>94</sup>

1. On his journey south from Aram (Syria), Jacob עָבַר *avar* “crosses” [the Yarmuk–Jabbok watershed] from Mizpah to Mahanaim before reaching the Jabbok River (Gen 31:18, 48-49; 32:2; cf. vv. 22-23).
2. Jephthah, approaching Ammon from “Mizpah of Gilead”, עָבַר *avar* “crosses” [the Jabbok riverbed] to fight the Ammonites (Judg 11:29, 32). This detail also supports the thesis that Ammon’s core territory lies within the curve of the Jabbok riverbed.<sup>95</sup>
3. David and his men stay at Mahanaim throughout his exile during Absalom’s insurrection (2 Sam 17:24; 19:32), the site evidently elevated for strategic advantage (2 Sam 18:24).

Despite an apparent toponymic connection at Tall ar-Rumayth and the nearby modern town of Ramtha some 20 km (12.5 miles) north of the Jabbok–Yarmuk watershed,<sup>96</sup> Ramoth/Mizpah, a town of Gad in the Gilead cannot be located in the Bashan of half-Manasseh. All biblical and hydrological indications for Ramath-mizpeh suggest an elevated site on the Jabbok-Yarmuk watershed. Tall al-Masfa, some 2 km north of the modern town of Suf and 7 km northwest of Jarash, is reasonably identified by Finkelstein as Mizpah of the Gilead:

The small site, which may preserve the ancient name, is located in a commanding spot – it is one of the highest mounds in the Levant (ca. 1100 m

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<sup>93</sup> Aharoni conflates these toponyms. Aharoni, *Land of the Bible*, 1967, 243; Glueck and Finkelstein distinguish them. Nelson Glueck, “Ramoth-Gilead,” *Bulletin of the American Schools of Oriental Research* 92, no. 1 (1943): 13; Finkelstein, Koch, and Lipshits, “Biblical Gilead,” 141–42.

<sup>94</sup> See 8.4 The Gilead: Geozone.

<sup>95</sup> See 8.5 Land of Ammon.

<sup>96</sup> Israel Finkelstein, Oded Lipshits, and Omer Sergi, “Tell Er-Rumeith in Northern Jordan: Some Archaeological and Historical Observations,” *Semitica* 55 (2013): 142.

above sea level). This fits the name (a place overlooking its surroundings), as well as the idea of a place which can be seen from afar and hence serves as a territorial marker.<sup>97</sup>

In mentioning half-the-Gilead along with the Bashan in King Og's and half-Manasseh's territorial descriptions (above), the biblical author recognises that the Gilead geozone extends over several secondary catchments—Yarmuk (Bashan), Jabbok (Ammon), and Arnon (Moab)—and only half of it is in the Yarmuk catchment.<sup>98</sup> Amorite King Og possessed the northern half-the-Gilead (Josh 12:4-5) from the Jabbok–Yarmuk watershed northward. Amorite King Sihon possessed the southern half-the-Gilead (Josh 12:2-3) from the same watershed southward *minus* Ammon's enclave within the circuit of the Jabbok riverbed and the Jabbok–Jordan watershed.<sup>99</sup> This division of the Gilead into northern and southern halves along the Yarmuk–Jabbok watershed explains how the tribe of Gad, inheriting Sihon's hill-country holdings, could include Ramath-mizpeh (Ramoth in Gilead) and Mahanaim among its towns although these lie north of the line commonly supposed to bisect the Gilead, the Jabbok riverbed (Josh 13:24-26).<sup>100</sup>

The Gilead highlands descend into the Jordan catchment along the length of the Jordan Valley. King Sihon possessed the valley floor all the way from Lake Kinnereth to the Dead Sea (Josh 12:3). After the Israelite conquest, the valley was divided between the tribes of Gad and Reuben (Josh 13:20, 23, 27; Deut 3:16-17): Gad took the valley to the north of the Jabbok–Jordan river junction (Greater Ammon's section of the Rift Valley) and Reuben took the valley to the south of the same point (Greater Moab's section of the Rift Valley).<sup>101</sup> Sihon and then Reuben also possessed the Mountains of the Abarim between the southern Jordan Valley floor and the Mishor (Josh 13:15-23); thus, by this pattern, it is likely that Og and then half-Manasseh possessed the slopes of the western Gilead between the central Jordan Valley floor and the Gilead plateau as part of their half-the-Gilead (Josh 13:30-31).

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<sup>97</sup> Israel Finkelstein and Thomas Römer, "Comments on the Historical Background of the Jacob Narrative in Genesis," *Zeitschrift Für Die Alttestamentliche Wissenschaft* 126, no. 3 (January 1, 2014): 324.

<sup>98</sup> See 8.4 The Gilead: Geozone.

<sup>99</sup> See 8.5 Land of Ammon; 8.10 Amorite and Israelite Territories.

<sup>100</sup> Bartlett, "Sihon and Og," 264.

<sup>101</sup> See 7.5 Four Great Rivers.