Tacking with the Text:
The Interconnection of Text, Event, and Time on the Macro-level

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Analogy and Orientation. *Every four years since 1851 yachtsmen from around the world compete in the prestigious America's Cup, testing the design of their boats and skill in besting a tireless adversary, the wind. This sailing race proves not only the sheer speed of the boats but also challenges the ability of the crews to steer them on a prescribed course against the wind. This is accomplished by a technique called tacking, in which boats cross and re-cross the direction of the wind, but move inexorably forward at speed. Such is the nature of texts and time.*

In order to understand the chronology of the Genesis Flood within the larger linguistic context of temporal sequence in narrative in general (inside and outside the Bible), we must concentrate on the verbs (or verb phrases) in the text, considering the following factors pertaining to them: the order of verbs in the text (textual sequence); the individual verbs (or verb phrases) themselves with respect to the states or events the verbs depict (eventualities); the interactions among the verbs or verb phrases in a text (**coherence relations**); and the time/times in which said eventualities are located.

It is tempting to represent verbs in sequence, interacting with one another, with a chain-link model. This is in essence, a simple one: each link is a verb connected with the verb preceding it and following it. So far so good for a model of the verbal structure of a minimal text—fairly obvious. But what of the eventualities depicted by these three verbs? And what of the temporal dimension connected with each? The time links can be in a different order from the text links. So the chain-link model is too confining, too

rigid, and too inflexible to explain temporal sequencing adequately—as we will show below. The chronology of the Flood is more than a sum of the temporal sequence of the chain of eventualities represented by the chain of verbs in the Flood narrative, which is ascertained from the temporal sequence of each link. The text-time interaction is much more fluid and free and therefore more suitably represented by the analogy of sailing.

Temporal sequence in narrative in general—and in the Flood narrative in particular—is controlled by the eventualities represented by verbs and verb phrases, because each eventuality takes place at an instant or during an interval of time. The temporal sequence connected with the eventualities is a given (by which I mean that it is part of reality; and, hence, unalterable), but it is unknown to us except through the text. The textual order also is a given. And although only the verbs of a text are accessible to us, they so closely represent the eventualities that they seem to define the temporal sequence of a text. The verbs or the links between verbs, representing the eventualities and the eventuality sequence, respectively, do this by redirecting the reader in time, just as the wind affects the course of the boats competing for the cup. The ship is the reader moving through the text, windblown by the temporal vagaries of the eventualities he encounters and their interactions with each other. The wind can blow from astern, from ahead or from the side, moving the ship forward, backward or sideways, respectively. The reader must adjust the sails so as to hold a steady course, which is maintaining a correct understanding of the correspondences between text and time. It is easy to be blown off course if the reader is unaware of the direction of the wind. And yet with skillful seamanship the reader can move the ship forward as he encounters the wind in the text. So, as we move through a text, time can advance, stop or be displaced backward.

Thus, in order to ascertain the chronology of the Genesis Flood, or any other narrative for that matter, we must study the complicated nature of the interaction between the verbs of the text, the eventualities they represent, and the time in which the latter took place.

Abstract. Recognizing that *wayyiqtol* is the predominant verb form in biblical Hebrew narrative, and for all intents and purposes its presence is *necessary* to convey linear temporal sequence of simple past, but is *not sufficient* to indicate linear temporal progression in *wayyiqtol* chains, a better method of ascertaining temporal sequence is offered—which is to be coupled with the insight gained from the semantics at the ***micro-level*** (situation aspect, Akagi's **Chapter 11**)—namely, considering the semantic relations that obtain at the ***macro-level*** (that is the semantic relations between verbs or verb phrases), comprising: ***coherence relations***, which indicate that time advances with *wayyiqtol* in *Serialation* and *Result* but not in *Cause*, *Explanation*, *Elaboration (and similar relations)*, *Contrast* and *Background*; ***compatibility*** of states or events, the lack of which necessarily displaces them temporally (although not necessarily linearly); ***connectedness*** (attachments and detachments); and ***temporal continuity vs. discontinuity***.

Outline

- 1. Issues Pertaining to the Temporal Dimension of Texts: A Bird's Eye View
- 2. Issues Pertaining to the Semantic Relationships between Eventualities: A Closer Look
- 3. Issues Pertaining to Time
- 4. Issues Pertaining to Text, Event, and Time
- 5. Final Summation

Symbols

$\rightarrow$ implies
$\mapsto$ is sent to
$\neg$ not
$\wedge$ and
$\vee$ or
$\cap$ intersection
$\in$ element of
$\forall$ for all
$\exists$ there exists
$\emptyset$ empty set

1. Issues Pertaining to the Temporal Dimension of Texts: A Bird's Eye View

In **Chapter 4** above we proposed a heuristic set of **coherence relations**: Serialation, Result (and its polar opposites, Cause and the similar relation, Explanation), Elaboration (and its congeners, Summary and Restatement, etc.), Comparison/Contrast, and Background. This set of **coherence relations** pertains to only one of the four factors mentioned above—the interactions between proximate verbs/clauses. But curiously the study of **coherence relations** has not

been overly concerned—if at all—with **compatibility** versus **incompatibility**, which we showed above can be decisive. This is probably due to its obviousness as a factor in the temporal profile of texts. In any case, we hope to address this evident lacunae in a modest way below.

It is necessary therefore to expand our analysis to include this important factor and to add the issues of the arrangement of the states or events in the text, and the temporal attachment of states or events. All in all then we will look at six issues pertaining to the temporal dimension of texts: the arrangement of the states or events in the text, the advancement of time within them, the advancement of time between them,[1] the temporal displacement of them, the temporal attachment of them, and the possibility of temporal discontinuity of them.

[In order to explore and elucidate the sometimes recondite issues connected with verbs, eventualities and time in the biblical text, we will look at a series of contrived texts, involving the shenanigans of three fictional schoolboys, Al, Bob and Carl, on the playground, with A, B and C being the verbs depicting the escapades of these three, respectively, and the eventualities depicted by them. And then we will apply what we have learned from these heuristic texts to the biblical text. Also hereafter we will employ the term **eventualities** as inclusive of both states and events. The latter will only refer to dynamic eventualities in the balance of the chapter.]

- 1.1 Arrangement of VPs
- 1.2 Advancement within VPs
- 1.3 Advancement between VPs
- 1.4 Displacement of VPs
- 1.5 Attachment of VPs
- 1.6 Discontinuity of VPs

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[1] Obviously this is the purpose of this chapter. I will be unfolding this throughout the chapter, but the following are very helpful: (Asher and Vieu 2005); (Kehler 1999) and (Kehler 2004); (Seligman and ter Meulen 1995) and (ter Meulen 1995); (Stenning, Lascarides and Calder 2006); (Lascarides and Asher 1993); and (Lee 2004). In particular, Asher and Vieu offer four tests to determine whether a **coherence relation** is *coordinate* (temporal progression) or *subordinate* (progression is broken) (2004, 599–604). Also notable is Seligman and ter Meulen's temporal reasoning analysis of a Batman story, in which they look for changes of reference in a narrative (288–93). Or in other words: is the narrative continuing its description of a specific situation or has it gone on to refer to a new situation? For a further illustration of temporal reasoning see the semantic analysis of an original story, Winter Storm, in **Appendix B,** which uses a modified version of Seligman and ter Meulen's dynamic aspect tree (DAT) analysis. See Akagi's **Chapter 11** for specifics on DAT.

If a criticism can be leveled against the countless otherwise-excellent analyses of temporal sequence that are found in the literature, it would be that scholars tend to focus either on the *micro-level* of situational aspect (atelic states, etc.; activities, achievements, etc.) or on the *macr-level* of coherence relations. Few have integrated the two. Seligman and ter Meulen in collaboration and ter Meulen in her monograph and papers are notable exceptions, to whom can be added Hinrich's effort (1986). We will return to his analysis in **Section 4** below.

1.1 The Arrangement of the Eventualities: The Temporal Order of the Eventualities Represented by the Verbs

The first issue to be examined is the temporal order of the eventualities. Are they necessarily in the same order as the verbs? The answer is no, not always. In fact, in only one of the six possible distinguishable sequences of the eventualities depicted by a chain of just three verbs with the same morphology does their temporal order mirror the verb order.[2] Or we could look at it from the other side: do the verbs follow the sequence of eventualities? If they do, the text is said to be iconic.[3]

As way of an illustration consider the six texts in (1) below, which are the six ways of expressing the same sequence of three eventualities: A (Al pushed Bob), which caused B (Bob to fall down), and subsequently in response caused C (Carl ran off to tell the teacher).

(1) a. Al pushed Bob. He fell down. Carl told the teacher.
     b. Bob fell down. Al pushed him. Carl told the teacher.
     c. Al pushed Bob. Carl told the teacher. When he got to his
        feet, Bob punched Al.
     d. Bob fell down. Carl told the teacher. Al pushed Bob.
     e. Carl told the teacher. Al pushed Bob. He fell down.
     f. Carl told the teacher. Bob fell down. Al pushed him.

In (1a) the textual order of the verbs depicting the eventualities is ABC. Since the sequence of verbs in the text mirrors the sequence of eventualities, this text is iconic. (Incidentally, all the other texts in (1) are non-iconic, and the eventualities are said to be dischronologized.)

Symbolically, iconicity can be expressed as a pair of two inequalities as follows:

$$p(B) - p(A) > 0$$
$$t(B) - t(A) > 0$$

where p is the linear position in the text and t is the time of the eventuality depicted by the verb.

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[2] For three verbs a, b, c, we are looking at the possible orders abc, acb, bac, and so forth. The number of distinguishable sequences of n objects (in our case, verbs) taking m at a time is the permutations of n objects taking m of them at a time, which is $n!/(n-m)!$. For our case, it is the permutations of three objects taking three at a time, which is $3!/0!$, that is $3 \times 2 \times 1 = 6$.

[3] This is term introduced by Charles Sanders Peirce, a pioneer in the field of semiotics, for signs that look like what they signify. For example the Georgia-Pacific paper company at one time designing their logo so that "G" and "P" were juxtaposed to look like a tree. So when a text advances as time advances in the eventualities represented in the text, the text is *iconic*. For more on Peirce's seminal work see (Atkin 2010).

It might be helpful to visually depict what is meant by iconicity. Such a visualization is in **Figure 1** below. Notice that the sequence of four verbs is in line with the sequence of the four eventualities.
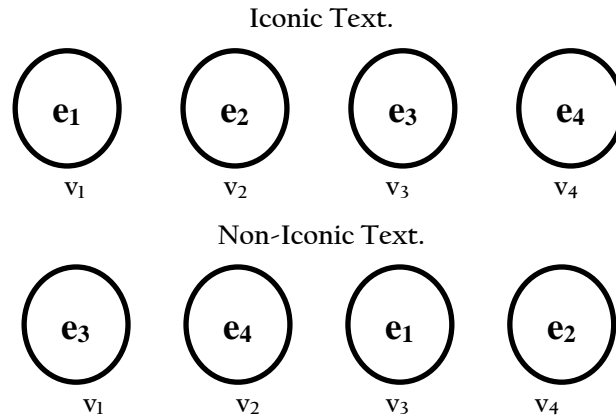
Iconic Text.

Non-Iconic Text.

Figure 1. A. Iconic Text versus B. Non-Iconic Text.

Now what does "time of the event" mean? In reality, the "pushing" and "falling" each took place over an interval of time, with the intervals being juxtaposed or overlapping. Consequently, the time from the beginning of the push until the end of the fall is the difference of the time of the end of the "falling" and the time of the beginning of the "pushing." If there is no overlap of the time intervals and their intersection is not the empty set, this difference is the sum of the two intervals. There is also the likely occurrence, that for at least part of the time the "pushing" and "falling" were simultaneous. And finally there is the possibility—although probably not in this case—that the intervals are separated from one another, such as the desired result in skeet shooting: Max shot the gun. The clay pigeon shattered, or perhaps an even better example because of the obvious time delay between verbs, After sizing up his thirty foot putt, the golfer carefully but smartly **stroked** the ball and it **fell** into the cup for a birdie to the evident approval of the gallery.

Furthermore, because the "pushing" caused the "falling" and the verb depicting the former precedes the verb depicting the latter, this text is a parade example of the **coherence relation** Result. Moreover, since presumably the combination provided the circumstances for the "telling"—Carl would not have tattled on Alan if the latter were innocent; that would have been a miscarriage of justice. Clearly he was provoked to action by the contumelious deed of the latter. Nevertheless, Carl was not compelled to act; his reporting was not unavoidable. Provocation was necessary but **not** sufficient.[4] So this is an example of Serialation.

Our starting point was the eventuality sequence. But what if we only have the text and are trying to ascertain the eventuality sequence? Result is still the most

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[4] For a more complete discussion of the important distinction between a *necessary* condition and a *sufficient* condition, see **Sub-subsection 2.2.2 Paragraph 1)** below.

likely **coherence relation** in (1a). Then what? Can we prove that a text with Result is iconic? By definition Result is A caused B, with A coming first in the textual sequence, that is $p(A) < p(B)$, or $p(B) - p(A) > 0$. Because of the nature of physical processes and the fact that Result requires the time of the cause to precede the time of the caused, $t(B) - t(A) > 0$. So, equation i) is satisfied, that is, the text is iconic.

On the other hand, In (1b) the order is BAC. A still caused B, but in the text the result is placed before the cause, that is $p(B) - p(A) < 0$. This creates a delay in the information supplied by the text: we do not know why Bob fell, but then we are told. The **coherence relation** evidenced here is variously termed Cause, Explanation. But were not the true order of eventualities known to us, we could have understood (1b) to be iconic, with the possible but improbable scenario that after Bob fell (for some unknown reason—perhaps he tripped over his shoelaces), Al pushed him out of the way of a careening, oncoming bicycle, and Carl reported Al's heroics to the teacher. A visualization, which contrasts both Result and Serialation with Cause is in **Figure 2** below.
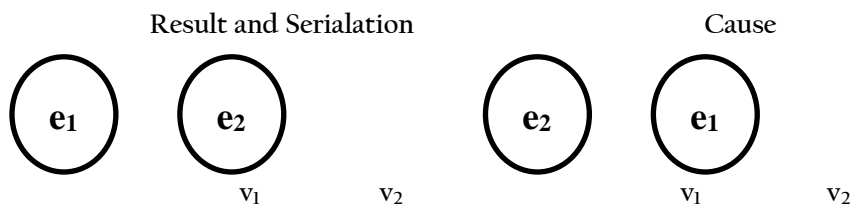

Figure 2. Contrast between Result and Cause.

In (1c) the order is ACB. The reader's first impression is that Carl's response was due to the "pushing." But "when he got to his feet" implies that Bob had been on the ground, and Bob's action against Al further implies that the latter was responsible for him being there. It is at this point that the reader knows that the "pushing" led to the "falling," and that Carl could have been responding to both.

(1d)'s textual order is BCA, with the cause of Bob's fall held in abeyance until the third sentence.

In (1e) it is CAB, and in (1f) CBA. In these last two what follows "Carl told the teacher" is essentially Carl's report.

Nevertheless, in most cases texts are iconic, due to narrative's tendency for temporal linerarity.[5]

1.2 Temporal Advancement within Eventualities: The Lexical Semantics of Individual Verbs

A second factor in the temporal sequence of eventualities is the type of verbs sequenced, with the focus being on the temporal profile within the verb phrase. This is known variously as semantic aspect, situation aspect, lexical aspect and

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[5] See footnote 22 below for details.

lexical semantics. Akagi has discussed this in detail in **Chapter 11** above; but, for the sake of looking at all the factors, consider the following narrative:

(2) a. Al sat daydreaming.
    b. Bob waved his hand in front of his face.
    c. Carl just walked away.

The verb in (2a) fits in the eventuality category of transitory state. In these verbs time is at a standstill. Bob's waving in (2b) could have occurred at the beginning of Al's daydreaming, in the middle or at the end. The same could be said about Carl's walking away in (2c). In terms of time, Bob and Carl's actions occurred during the time interval when Al was staring vacuously into space.

Besides verbs representing states, there are those representing activities, achievements, accomplishments, and semelfactives. An example of each of these is in (3), in the given order:

(3) a. Al climbed.
    b. Bob lost his grip on the top bar of the swing set.
    c. Carl built a fort out of discarded boxes.
    d. Al sneezed extra loud as soon as the teacher started her lesson.

1.3 The Advancement of Time between Eventualities: The Nature of Time Advance in Texts

The third factor to be considered is time advance between the eventualities represented by consecutive verb phrases. This takes us to the next level of the temporal property of texts. I want to introduce at this point an important concept, which I call necessary temporal advance (NTA). NTA is present if an eventuality sequence demands that time move forward, that is for two eventualities A and B, represented by two verbs, if $p(B) - p(A) > 0$ then $t(B) - t(A) > 0$. So, an iconic text exhibits NTA.

Let me illustrate using Al, Bob and Carl again. In the three non-state eventualities, arranged in six different orders in (1), time either advances or retreats but does not stand still. Consider, however, the following text in which it does:

(4) a. Al climbed to the top of the monkey bars.
    b. Bob and Carl helped him.

In this case Bob and Carl's actions neither preceded nor followed Al's, but rather overlapped with his.[6] So time does not advance in the second sentence. And

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[6] This example introduces two of the binary relations that occur between eventualities: *precedence* and *overlap*. For a discussion of their properties see (van Benthem 1984), (van Benthem 1991); (Dünges 1998); and **Sub-subsection 3.4.2 Paragraph 2)** and **Sub-subsection 3.4.3 Paragraph 3)** below.

in terms of the text, the second sentence elaborates on the first.[7] This can only obtain if the eventuality represented by the first verb took place over a time interval rather than at a point of time.

A second scenario, which exhibits temporal stasis is illustrated in (5) and (6) below:

(5) a. Al climbed the monkey bars.
   b. Bob swung on the swings.
   c. Carl balanced himself on the see-saw.
   d. The boys played hard at recess.

(6) a. The boys played hard at recess.
   b. Al climbed the monkey bars.
   c. Bob swung on the swings.
   d. Carl balanced himself on the see-saw.

(5d) is a summary of the three sentences, (5a), (5b) and (5c). In this case the text goes from the specific to the general. Moreover, the first three eventualities of (5) occurred during a time interval, which is best described as the minimum temporal superset, which contains the three temporal intervals, corresponding to the three eventualities. It does not matter if these intervals overlap or not. In addition, this temporal superset is itself identical to or a subset of the temporal interval "recess."

(6a) is what I call an introductory encapsulation of the eventualities specified in (6b), (6c) and (6d).[8] Here the text goes from general to specific. In terms of time, this is similar to (5), but in reverse. (6a) is the starting time interval, "recess," when the boys played. All the last three eventualities in (6) occurred during this interval. Again it does not matter if the intervals in which these eventualities took place overlap or not. Two types of Elaboration, Summary and Introductory Encapsulation can be seen in Figure 3 below.

Summary

e_{enc}

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[7] The **coherence relation** *Elaboration* and its congeners, *Restatement* and *Summary*, are discussed below in **Sub-subsection 2.2.2 Paragraph 4)**.

[8] Kamp and Rohrer give an example of climbing a mountain: so and so climbed a certain mountain in the Alps, which is followed by a description of the stages of that climb (1983). Lascarides and Asher offer the example of I. Guy had a wonderful evening; II. He had a fantastic meal; III. He ate salmon; IV. He consumed a lot of cheese; V. He won a dancing competition (1993, 439). Obviously, II and V are subsumed under I; and III and IV are subsumed under II. Asher and Vieu use the same example with some slight changes (2005). They also cogently observe that this phenomenon is like paragraph structure, in which a topic sentence followed by developmental details (592). Seligman and ter Meulen discuss the phrase "The Dark Knight . . . patrolled the dark night" as follows: "This event will likely take some time; presumably we are going to be told more about what happened while Batman patrolled the streets" (1995). The story does so: describing all the eventualities that occurred during that patrolling period (291).
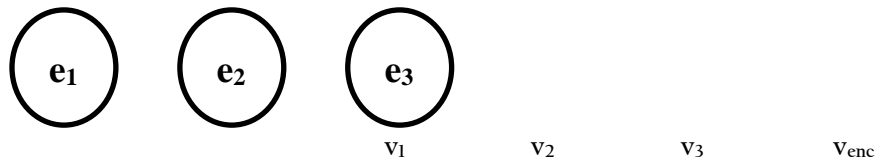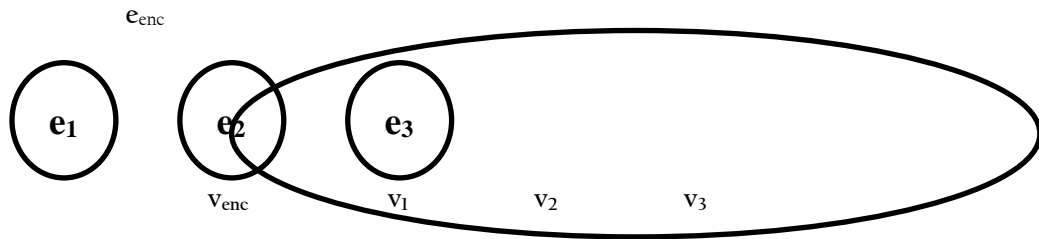
Introductory Encapsulation

Figure 3. Elaboration Types Contrasted. e_{enc} is the encapsulating eventuality.

A. *Summary*. The encapsulating verb, v_{enc}, follows the encapsulated verbs, as in (5) above. Note that 1,2, and 3 are a, b, and c, respectively.
B. *Introductory Encapsulation*. The encapsulating verb precedes the encapsulated verbs, as in (6) above. Note that 1, 2, and 3 are b, c, and d, respectively.

For a third scenario in which time does not advance, consider the following texts:

(7) a. Bob and Carl went to recess as usual.
    b. Al had to stay in the classroom for misbehavior.

It is obvious that the relation for these texts is *Contrast*,[9] because Bob and Carl were at recess; whereas, Al was not. In addition, these texts show us that time does not advance in *Contrast*: Bob and Carl were at recess while Al was not at recess. It could be argued that examples like (5a) and (5b) (reproduced here as (8) for convenience) also evince *Contrast*. (5c) could be added, but it is not necessary, because the reasoning would be the same.

(8) a. Al climbed the monkey bars.
    b. Bob swung on the swings.

But this differs from (7), in that the ***coherence relation*** between (8a) and (8b) is not *necessarily Contrast*.

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[9] Discussed below in **Sub-subsection 2.2.2 Paragraph 3)**.

And finally consider the following situation involving two of the boys riding on a see-saw:

(9) a. Bob went slowly down.
　　b. Carl went slowly up.

These sentences represent simultaneous eventualities, but the linear constraint of text requires that the sentences be sequential.

1.4 *The Temporal Displacement of Eventualities: Incompatibility, The Preventer of Simultaneity of Eventualities*

A fourth factor comprises ***incompatibility*** (or ***compatibility***, its opposite) and the prevention of simultaneity effected by the former, which leads to the temporal displacement of eventualities.[10] Exploiting our three friends again, consider (5a), (5b) and (5c), which is repeated here as (10) for convenience:

(10) a. Al climbed the monkey bars.
　　 b. Bob rode on the swings.
　　 c. Carl balanced himself on the see-saw.

These verbs are either connected or not. The text could be iconic: Al's climbing followed by Bob's swinging and finished up by Carl's teeter-tottering. Or not: although Bob could have swung after Al climbed, he could have swung while Al climbed. Similarly with Carl's activity: he could ride on the see-saw after Bob swung or while Bob swung; after Al climbed or while he climbed. The reason for these different possibilities is that the three actions performed by three individuals are not mutually exclusive. They can occur simultaneously; they can occur sequentially. But if a text contained these same three verbs in sequence, with only one of the boys doing all three, as in (11) below, temporal sequence is a necessity.

(11) a. Al climbed the monkey bars.
　　 b. Al swung on the swings.
　　 c. Al balanced himself on the see-saw.

With other verbs one referent performing three actions simultaneously is not a problem, as in (12) below:

(12) a. Al ran.
　　 b. Al pumped his arms.
　　 c. Al whistled.

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[10] Discussed below in **Subsection 2.3**.

In these three sentences above simultaneity is not only possible but probable. The decisive factor is ***compatibility*** of verbal actions.

1.5 *The Temporal Attachment of Eventualities Represented by the Verbs in a Text*

A fifth factor influencing temporal sequence is the temporal attachment of a given verb in a chain to others.[11] Consider the quite instructive, more extensive text of six sentences in (13):

(13) a. The boys played hard during recess.
    b. They climbed the monkey bars.
    c. They swung on the swing set.
    d. They rode the see-saw.
    e. They trudged back to their classroom.
    f. They ran home eagerly.

What we note here first is that the sentences (13b), (13c) and (13d) are an elaboration of (13a), as in (6) above, and therefore, that the eventualities took place within the interval of time in which (13a) occurred, known as "recess." We note, second, that they are not necessarily in temporal order. "They" could refer to a collective idea: the boys moving as a group from one playground apparatus to another. But it could just as easily refer to a scenario such as in (3a) and (4d), with the boys taking turns on the equipment. A third observation is that the sentences temporally connect with one another at different levels. (13e) is not part of the elaboration of (13a). And so instead of time not moving past the end of recess, it resumes its advance at this point. So (13e) is attached to (13a) temporally, albeit not by textual juxtaposition. And by the same reasoning, we can see, fourth, that (13f) temporally and textually follows (13e). A fifth observation is that neither (13b), (13c), nor (13d) could follow (13e) and produce a coherent text—monkey bars, swings and see-saws are not in the classroom!

1.6 *The Possibility of Temporal Discontinuities in Text*

The sixth and final factor is the potential presence of temporal discontinuities in texts, in the form of breaks or even lacunae.[12] Imagine our three friends as a team of successful lawyers, Alwyn, Robert and Carlton, reminiscing about their boyhood days, as in (14) below:

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[11] See **Subsection 2.4** below for complete discussion.

[12] For discussion and biblical examples, see **Subsection 2.5** below. Anderson in **Chapter 14** below identifies potential locations of temporal discontinuity in the Flood narrative, employing methodology developed by Floor in his 2004 dissertation. Also see Stroup's **Chapters 10** above and **13** below for more examples of such dischronologizations and a discussion of the possible reasons for them.

(14) "'Al pushed Bob and he fell' were the exact words Carl told the teacher," Al chuckled. "I can still remember how much trouble I got into because Carl tattled to the teacher." Carl pretended to look insulted. "But Carl didn't see me slug you when I got up," Bob laughed. Carl feigned shock, "I can't imagine you doing such a thing."

Anderson will be exposing the possible locations of temporal discontinuities in the Flood narrative in **Chapter 14** below, in which he discusses the issues involved in the segmentation of texts into narratives, episodes, scenes and thematic paragraphs.

SYNOPSIS: Above we introduced in a more or less cursory fashion the six factors which influence the flow of time in narrative. The first concerns the arrangement of the verb phrases in the text, recognizing that although the eventualities could have been reported in different orders from the temporal sequence in which they happened, the order in a text is a *given*. Nevertheless, our goal is always to get to the correspondence between the sequence of eventualities and the order in the text. The second comprises the semantic characteristics of *individual* verbs, what we term the ***micro-level***. The third, fourth, fifth are the semantic relationships *between* verbs, what we term the ***macro-level***, defined by ***coherence relations***; the possibility, or not, of simultaneity, which is controlled by compatibility; and the place of attachment of verbs to one another, respectively. And the sixth concerns the possible presence, or not, of chronological discontinuities, and the purposes of the larger narrative, which might cause this.

Factor one need not be further explored, because the word order is a given in a text. Moreover, inasmuch as factor two, the temporal profile of individual verbs or VPs, was the subject of a careful study by Akagi in **Chapter 11** above, we do not need to go into it any further either. But the rest of the factors require a careful perusal to see how they determine temporal progression in real texts. To that end in our discussion below we will furnish precise definitions, present biblical Hebrew (BH) texts, which evidence these factors at work, and analyze the same for their temporal profile.

2. Issues Pertaining to the Semantic Relationships between Verbs/Eventualities: A Closer Look

- 2.1 Coherence relations in Discourse
- 2.2 Compatibility/Incompatibility and Temporal Displacement
- 2.3 Attachment and Temporal Dislocation
- 2.4 Textual Breaks and Temporal Discontinuity
- 2.5 Concluding Summary

2.1 Introduction

As stated above, there are six factors which affect temporal sequence in texts. The focus of this chapter is chiefly on the careful elucidation of the theoretical aspects and application to BH texts of the third, fourth, and fifth of these, on what we have called above, the ***macro-level***, which comprises the relationships between verbs/clauses. We will also look at the sixth, which we call the ***mega-level***, but only as far as the presence of temporal discontinuities are concerned. Stroup will explore the motivations for these and take up this subject in general in much greater detail in **Chapter 13** below.

2.2 Coherence relations in Discourse

In order to understand temporal sequence effected at this level, we must first define and illustrate *coherence relations* in general, which occur between verbs/clauses, and then propose, define and illustrate the set of ***coherence relations***, which we will employ for our analysis of biblical texts.

- 2.2.1 Coherence relations Defined
- 2.2.2 Coherence relations Proposed

2.2.1 Coherence relations Defined
The concept of ***coherence relations*** stems from the assumption that texts are coherent and cohesive. We assume texts are coherent and try to explain the connections between proximate portions of text accordingly. Before we can explore the concept of discourse coherence, we must understand its distinction from textual cohesion.

This sub sub-section breaks down as follows:

- Cohesion versus Coherence: Distinguished
- Cohesion versus Coherence: Differences Illustrated

(1) Cohesion versus Coherence: Distinguished Both *cohesion* and *coherence* are important properties of discourse.[13] And although they are usually interrelated and interdependent, they need not be so (as we will show below): both can exist without the other. As a starting point for our discussion, consider how the two are clearly distinguished by Louwerse and Graesser (2005): the term *cohesion* applies "to the **surface structure** of the text"; *coherence* "to the **concepts** and relations underlying its meaning."[14] They also refer to *cohesion* as "continuity in **word and sentence** structure"; but, *coherence* as "continuity in **meaning** and context." A third way they differentiate the two is "discourse-as-

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[13] Both are widely discussed in the literature; and from disparate disciplines: linguistics, artificial intelligence, mathematic logic, language acquisition, etc. The following is just a sampling: (Louwerse, McCarthy, McNamara and Graesser 2004); (Graesser, McNamara, and Louwerse 2003); (Hobbs 2004); (Kehler 1999) and (Kehler 2004); (Graesser, McNamara, Louwerse, and Cai 2004).

[14] The following discussion on the distinction between these draws on (Louwerse and Graesser 2005).

product" (cohesion) vis-à-vis "discourse-as-process" (coherence). They expand on this contrast as follows:

> *Coherence* can be reserved for the **conceptual** relationships that comprehenders use to construct a coherent mental representation accommodated by what is said in the discourse. *Cohesion* is limited to the **linguistic markers** that cue the comprehender on how to build such coherent representations [bold-face emphasis is mine].[15]

The difference then between the two is clear and is reminiscent of the distinction between lower order and higher order held by medieval rabbis in their analyses of biblical Hebrew poetry. *Cohesion* is the former; concerned with the surface features of discourse. *Coherence* is the latter; concerned with concepts and deeper levels of meaning.

Both cohesion and coherence can occur locally (our ***macro-level***) and globally (our ***mega-level***). The former concerns both types of relations between adjacent sentences; the latter—those on the scene, episode or even the entire narrative level.

Also both can be evinced in grammar (syntax, morphology and atypicalities (to bring out emphases)) and semantics. Commenting on this aspect of the interrelatedness of cohesion and coherence, Louwerse and Graesser state, "… cohesion cues activate vocabulary-driven (pre-grammatical, knowledge-based) and grammar-driven (syntax-based) coherence" (2005).

At a finer level there are three markers of textual cohesion, to which we can objectively appeal to measure the cohesiveness of a text. We must further distinguish those that are *exophoric* (the expressions refer to the world outside the text), those that are *endophoric* (the connections are inside the text alone), and those that are both. The first marker is the presence of conjunctions. These work on the local level, between adjacent sentences, and are strictly *endophoric*. They are further broken down into sub-classes, which are either extensive or adversative: additive, temporal and causal.

The second marker is co-reference, which occurs when words or groups of words point to the same extra-linguistic referent; thus, making them more or less equivalents of each other; and, thus, substitutes of each other. Moreover, because they refer to the outside world, they are *exophoric*; but, in addition, because they refer to each other inside the text, they are *endophoric* as well.

The most common "co-referencers" are personal pronouns, which can either look backward to an antecedent (anaphoric) or look forward to a post-cedent (cataphoric). Other substitutes are articles, demonstratives, repetitions, restatements, paraphrases, summaries, synonyms, hypernyms, hyponyms, antonyms, and even ellipsis.

The third marker is the presence of comparisons (or superlatives).

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[15] Ibid.

Now that we have explained the difference between cohesion and coherence by examining their respective definitions, we will further clarify their distinctions through the series of illustrations which follow.

(2) Cohesion versus Coherence: Differences Illustrated That connection (or set of connections), which allows a minimal discourse (two verb clauses) to be sensible on a conceptual level, constitutes the ***coherence relation*** in such a two-sentence text. Consider the following two-sentence discourse: *The reading lamp went on in the corner of the room. Al sat down with his book.*

Apart from additional information we can only speculate as to what caused the lamp to turn on. In fact, we do not necessarily need to know the cause of its illumination. On the other hand, we must resolve the connection between the lamp going on and Al sitting down to read if we understand this mini-discourse to be coherent.

The most likely explanation of the sequence of eventualities concerning Al is that he turned on the lamp so that he could read his book. Another likely possibility in this fictional world is that Zelda, Al's wife, saw him with a book in his hand heading for his favorite chair and turned the light on for him. A third plausible, but less likely, scenario is that the lamp has a proximity detector or timer, which went on automatically. On the other hand if the second sentence had been, *Al went outside to mow the lawn*, we have to work a lot harder to produce a cogent reading; nevertheless, we instinctively do so: introducing an unseen character and unheard dialogue—perhaps Zelda reminding him that work (mowing the lawn) comes before pleasure (reading his book); or imagining that the lamp's going on was some kind of signal for him to begin his chores. In any case, we can come up with a reasonable relationship between the two utterances. But, if the second sentence had been *Al wanted to show off to Zelda the plain-looking rocks in his collection vibrantly fluorescing under the black-light he was carrying*, we might despair of understanding the connection. Why would Al deliberately *minimize* the visual effect of the glowing stones, by having a reading lamp on, if his purpose is to boast about the display? As a matter of fact we would expect Al to turn off the lamp to *maximize* the effect. Consequently, we might pronounce such a text incoherent.

Notwithstanding our final pair of utterances above, it is difficult *not* to establish coherence. Even incohesiveness does not preclude it. As Toolan (2011) observes, a discourse need not be cohesive to be coherent.[16] Arguably, according

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[16] Toolan comments on the two important studies of (Halliday and Hasan 1976) and (De Beaugrande and Dressler 1981). On the former he says: "Halliday & Hasan's (1976) study of cohesion in English is often cited as a pioneering enquiry into the key resources in a language for underpinning textual coherence, indeed for the creation of genuine text. They look chiefly at inter-sentential grammatical mechanisms (e.g. means of co-reference via personal and indefinite pronouns, projecting of relatedness via retrievable ellipsis, use of sense-conveying sentential conjunctions), and they also comment, less systematically, on how texts display coherence by elaborate means of lexical collocation and association" (2011).

On the latter he observes: "De Beaugrande & Dressler (1981) remains an important and still influential overview of text structure which delineates seven standards of "textuality": (a) **cohesion** (mutually connected elements of the surface text); (b) **coherence** (the configuration of concepts and relations which underlie the surface text); (c) **intentionality** (instrumentalizing of cohesion

to our discussion above, all the discourses above are lacking in cohesion if not entirely devoid of it. Add to these two more. First, Brown and Yule's (1983) parade example of the dialogue a couple has after the doorbell rings. One says, "There is the bell." The other replies, "I'm in the bath." This exchange is clearly incohesive: there are no syntactic, lexical or even anaphoric connections between the two utterances. But, just as clearly, it is coherent. As competent speakers of English we understand that the first utterance is intended to mean "There is someone at the door. You need to answer the door." The second person, realizing this, responds, conveying that she cannot answer the door by stating the circumstances preventing her from doing so, without explicitly stating that she cannot do so.

And the following anecdotal example is of a similar stripe. A man asked his wife, "Why is the chandelier so bright?" Her reply: "I had a hole in my sweater." On the one hand, these two utterances are obviously, entirely incohesive. But, on the other hand, they form a coherent whole, because it just so happens that the chandelier has a dimmer switch, which she turned up to give her more light so that she could darn her sweater.

We can extract more from the first example. Can we change the second utterance to make the discourse cohesive but incoherent? Yes, but we have to work hard at it. If she were to say, "Then ring it," there would be lexical cohesion and pronominal anaphora with respect to the locutionary meaning of his utterance, at the expense of its illocutionary meaning. What about incohesive and incoherent? If she were to say, "Then paint it," there is only pronominal anaphora. But if she were to say, "Andrew Johnson was the first President to be impeached" even the anaphora is removed, thereby rendering the discourse both incohesive and incoherent.

Having—hopefully—clearly delineated cohesion vis-à-vis coherence, we may now turn to propose the set of ***coherence relations***, which we will use for the balance of this study.

2.2.2 Coherence relations Proposed

Numerous theories have been advanced to explain the semantic relationships within texts, which make them coherent.[17] Moreover, the number of ***coherence relations*** that have been proposed to explain all texts varies widely.[18] In addition,

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and coherence according to the producer's intention); (d) **acceptability** (use or relevance of the cohesive and coherent text to the receiver); (e) **informativity** (degree to which the occurrences of the text are (un)expected or (un)known); (f) **situationality** (relevance of a text to a situation); (g) **intertextuality** (presupposed knowledge of one or more previous texts)" (2011) [The emphasis is mine].

[17] The three major theories are *Rhetorical Structure Theory* (Mann and Thompson 1986) and (Mann and Thompson 1988); *Discourse Representation Theory* (Kamp 1981) and (Kamp and Reyle 1993); and *Segmented Discourse Representation Theory* (Lascarides and Asher 1993).These last two have collaborated together and with others on a number of papers on this subject.

[18] Hovey and Maier catalogued all the various different efforts to define the set of discourse relations up to that time (1992). They noted that sets of *coherence relations* widely ranged from zero to thirty members; hence "parsimonious to profligate" in the title of their paper. Two

which ***coherence relations*** are required for coherence and their definitions is debated.[19] Even their labeling has not reached a consensus.[20]

In spite of the variegated and uncertain state of this discipline, the ***coherence relations*** that obtain between verbs/clauses remain an essential factor in any analysis of temporal sequence. The set of **coherence relations** we proffer here—as stated in **Chapter 4** above—is neither minimalist nor maximalist. Nor do we claim that it can explain all possible interactions between verbs; however, it bears resemblance to other sets and will be more than adequate for our purposes. Each of these needs to be defined, explained, qualified and illustrated with biblical texts (and where necessary with contrived texts), and related to temporal sequentiality, a task to which we now turn. The heuristic set we will use and is discussed in the sub sub-section below is as follows:[21]

- Serialation

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appendices consist of an index of all the ***coherence relations*** and the proponents for each and a list of scholars with the set of relations for each.

[19] Since (Hovey and Maier 1992), there have been no shortage of new taxonomies of ***coherence relations*** proposed. (Lascarides and Asher 1993) build on the relations of (Hobbs 1985), employing a system of defeasible logic with the creative inference names "defeasible modus ponens," "the penguin principle," "the Nixon diamond" and "Dudley Doorite." Moser and Moore argue that the intentionality theory (Grosz and Sidner 1986) and Rhetorical Structure Theory (Mann and Thompson 1988) are "essentially similar in what they say about how speakers' intentions determine a structure of their discourse" (1996, 409). Knott propose a very large taxonomy (1996). Knott and Mellish discuss the following properties of relations from this taxonomy: semantic and pragmatic; positive and negative polarity; conditionality; unilateral vs. bi-lateral; causal and inductive; cause and result-driven; anchor-based and counterpart-based; presupposed and non-presupposed; hypothetical and actual (1996). Marcu and Echihabi have contrast, cause-explanation-evidence, condition, and elaboration (2002, 3). (Kehler 2004) built his understanding on Hume's "*Resemblance*, *Contiguity* in time or place, and *Cause* or *Effect* (1748). Kehler credits (Hobbs 1990) with this idea. (Hobbs 2004, 734) said that the relations are causal, similarity, or figure-ground relations. (Mann and Taboada 2006, 14–16) support the thirty relations advocated by the latest offering of Mann from the RST website (2005), an expansion from the twenty-four proposed by (Mann and Thompson 1988). Similarly, (Taboada 2006, 26). Soria has three: additive, consequential, and contrastive, with a thorough discussion of each (n.d., 1–4). Sporleder and Lascarides use contrast, result, summary, continuation, explanation (2006, 8, 11, 12). Sporleder has the same set (2007, 3–5). Blair-Goldensohn, McKeown, and Rambow model cause and contrast (2007). Pitler, Raghupathy, Mehta, Nenkova, Lee, and Joshi 2008 propose expansion, comparison, contingency, and temporal (2008). Subba and di Eugenio have causal, elaboration, similarity, temporal, other (2009). Asher and Vieu look at elaboration, narration, explanation, and result (2005).

[20] Others refer to ***coherence relations*** as *rhetorical relations*, *discourse relations*, or *conjunctive relations*. They are different labels for the same text-linguistic semantic relations. Hovy and Maier refer to these all in general as *intersegmental relations* (1992, 4).

[21] I will not be discussing *Background* below, because the three states, the atelic state, the point state, and the transitory state, have been thoroughly covered by Akagi in **Chapter 11** above. Furthermore, since *Backgound* is a state, it is non-dynamic, either atelic or telic, and either durative or not. Thus, it corresponds with all the event types except for its non-dynamicity, which is not a factor in temporal sequence. When it is an atelic state, it is atelic and durative: the same as an **activity**. When it is a point state, it is telic and non-durative: the same as an **achievement**. And when it is a transitory state, it is telic and durative: the same as an **accomplishment**. In terms of temporal progression, therefore, states behave as events and thus do not need to be treated separately. See **Sub-subsection 4.2.2** below for the differences between states and events with respect to the instants or intervals in which they occur.

- Result/Clause (Explanation)
- Contrast/Comparison
- Elaboration

(1) Serialation. This is a term I have coined for the most common *coherence relation* in narrative. Called elsewhere *occasion*, *continuation*, *contiguity*, *consequential*, and even *narrative*, this relation obtains where the state that exists after (because of?) the first verbal action *provides the **circumstances*** for the second verbal action to take place but ***not the sufficient cause,*** that is, the first action does not compel the second action. Following this idea a bit further, we can look at this **coherence relation** in terms of *necessary* and *sufficient* conditions, which we will now define.

Suppose that *c(ause)* causes *e(ffect)* in same way or another. *Necessary cause* is defined as follows: *c* is a *necessary cause* of *e* if the presence of *e* requires *c*, but the presence of *c* does not require *e*. For example in the paired sentences, *John turned off the lamp; The room became dark,* the darkness of the room requires that the lamp be off, but the lamp being off does not necessarily mean that the room will be dark; it could be daylight with the windows open. More generally, a *necessary* relationship between one eventuality and the next obtains when an *e(ffect)* cannot occur unless *c(ause)* has occurred; but, the converse, if *c* has occurred, then *e will* occur, is *not* the case.

Sufficient cause occurs when the presence of *c* ensures *e*, but the presence of *e* does not require *c*. Consider the following sentences: *Mugford (a dog) bumped the table. The coffee spilled from the cup filled to the brim.* The jostling of the table by the dog was enough to cause the coffee to spill, but other happenings could have caused this—an earthquake, for instance.

A *necessary and sufficient* cause is one in which the presence of *c* requires *e* and vice-versa. An example would be: *The temperature dropped precipitously far below zero. The surface of the pond quickly froze,* because freezing requires cold temperatures and cold temperatures freeze standing water. Or in other words, the only way to quickly freeze water is to rapidly lower the temperature below freezing.

It is important that the difference between *necessary* and *sufficient* be clearly understood. Let me explain it in an entirely different context: in terms of the difference between a rectangle and a square. It is *necessary* that a quadrilateral (a four-sided figure) have four right angles to be a square, but that is not enough to *guarantee*—this is the meaning of *sufficient*—that it will be a square, because all rectangles have four right angles, but not all are squares. The figure must meet the additional requirement that all of its sides are the same length for it to be a square. Similarly, the condition that a quadrilateral have four equal sides is *necessary* for it be a square, but not *sufficient*, because a rhombus has four equal sides but its opposing angles are either obtuse (greater than a right angle) or acute (less than a right angle). We must add the requirement that the quadrilateral have right angles or equal angles to ensure that it is a square. Thus, we can state the following necessary and sufficient condition for a quadrilateral to be a square: *a*

*quadrilateral is a square if and only if (*iff*) it has equal sides and equal angles.* In fact, extending these ideas beyond quadrilaterals allows us to define any regular polygon (a multi-sided figure) as follows: *a polygon will be regular* iff *it has equal sides and equal angles.*

Serialation exhibits the following causal character: in a two eventuality chain, the occurrence of the first is *necessary* for the second to happen, but it is not *sufficient* to guarantee that the second will happen. On the one hand *Serialation* is a **necessary only** relation. On the other hand *cause-and-effect*—what we will call *Result* below—is a **necessary and sufficient** relation.

For clarification consider the following example: *John went to the grocery store. He bought some milk.* In the eventualities referred to in this pair of sentences, going to the grocery store does not cause the buying of milk. John could have gone to the grocery store and bought bread instead, or, for that matter, nothing. But being at the grocery store provided the necessary circumstances for the milk to be bought. In fact, all other things being equal, John could not have bought milk unless he went to the grocery store, because according to our experience, milk normally cannot be bought any other way (although it can be purchased directly from dairy farmers and used to be from the milkman). Had John gone to the hardware store, he could not have purchased milk there; thus, the juxtaposition with "bought some milk," is likely incoherent. The coherence of the discourse could be rescued by the understanding that the buying of the milk happened at a later time at another place or he happened to run into the milkman there. Conversely, if the first sentence remains unaltered and the second sentence is changed to *He bought a pneumatic nailer*, the new pair might or might not be incoherent—coherence is salvageable in a way similar to the previous example.

With *Serialation* the eventualities depicted by the verbs are in the same order as the verbs. With respect to time, the start of the second eventuality follows the start of the first eventuality. We must couch temporal sequence in these terms, because the first verb could be the initiation of a state that continues past the second event, such as in *Ned fell asleep. Kara tiptoed across the floor so as not to wake him.*

Biblical Hebrew narrative is characterized, and can even be identified, by the prevalence of the *wayyiqtol* verb forms, which often occur in chains, with no other finite verb forms between sequential *wayyiqtols* in one link. Moreover, it is undeniable that in biblical Hebrew, the text is frequently *iconic*: text and time (that is the time-line of the eventualities depicted in the text) have the same linear sequence. But does the mere *linking* of the *wayyiqtols*, that is, their *syntactic* relationship, determine their *temporal* relationship? The answer is: no. As Stroup has shown in **Chapter 10** above, sequential *wayyiqtols* do not necessarily represent temporally sequential eventualities. Consequently, temporal sequence must be determined semantically. This concurs with general linguistic theory, that, temporal sequence is to be ascertained semantically, not syntactically (that is, by verb order).

What then is the explanation for the frequent occurrence of textual iconicity in BH narrative? It is two-fold. First, it is because the nature of narrative is to

trace the main story line,[22] moving forward through time, and, as is well known, the chain of *wayyiqtols* forms this "backbone" for BH narrative. And, second, *Serialation* is a common **coherence relation** in BH narrative—although the other **coherence relations** occur as well.

To demonstrate how *Serialation* works in *wayyiqtol* chains we will look at Genesis 12:7-9a, in which there are eight *wayyiqtol* independent clauses in a row. This text's *wayyiqtol* chain furnishes seven fine examples of potential *Serialation*. In the following analysis and hereafter in this chapter we will engage in what Alice ter Meulen refers to as "temporal reasoning."[23]

[Please note: in this and all subsequent examples in the chapter, *wayyiqtols* are bold-face in the text and the translation, and are supplied with superscripted letters for convenience in the translation, so that the reader can easily identify the verb referred to in the commentary. The layout of the examples are text, followed by translation, then commentary.]

GENESIS 12:7-9

⁷ וַיֵּרָ֤א יְהוָה֙ אֶל־אַבְרָ֔ם וַיֹּ֕אמֶר לְזַ֨רְעֲךָ֔ אֶתֵּ֖ן אֶת־הָאָ֣רֶץ הַזֹּ֑את וַיִּ֤בֶן שָׁם֙ מִזְבֵּ֔חַ
לַיהוָ֖ה הַנִּרְאֶ֥ה אֵלָֽיו:
⁸ וַיַּעְתֵּ֨ק מִשָּׁ֜ם הָהָ֗רָה מִקֶּ֛דֶם לְבֵֽית־אֵ֖ל וַיֵּ֣ט אָהֳלֹ֑ה בֵּֽית־אֵ֤ל מִיָּם֙ וְהָעַ֣י מִקֶּ֔דֶם
וַיִּֽבֶן־שָׁ֤ם מִזְבֵּ֨חַ֙ לַֽיהוָ֔ה וַיִּקְרָ֖א בְּשֵׁ֥ם יְהוָֽה:
⁹ וַיִּסַּ֣ע אַבְרָ֔ם הָל֥וֹךְ וְנָס֖וֹעַ הַנֶּֽגְבָּה:

YHWH ᵃ**appeared** to Abram and ᵇ**said** to him, "To your seed I will give this land." He ᶜ**built** there an altar to YHWH, who had appeared to him. He ᵈ**moved** from there to the mountains east of Bethel. He ᵉ**pitched** his tent with Bethel on the west and Ai on the east. He ᶠ**built** there an altar to YHWH. He ᵍ**called** on the Name of YHWH. Abram ʰ**journeyed** continually toward the Negev.

The question that must be asked to establish *Serialation* is: does the first verb provide the occasion for the second, that is, it is *necessary* cause, without being its *sufficient* cause? Verbs **(a)** and **(b)** appear to be in this category: YHWH's

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[22] Paul Ricoeur—as usual—has a pithy comment to the point: "My first working hypothesis is that ***narrativity and temporality are closely related***-as closely as, in Wittgenstein's terms, a language game and a form of life. Indeed, ***I take temporality to be that structure of existence that reaches language in narrativity and narrativity to be the language structure that has temporality as its ultimate referent. Their relationship is therefore reciprocal***" (1980, 169) [emphasis mine].

In addition, Zwaan, Madden, and Stanfield cogently observe: "Comprehenders assume that the order in which events are reported in language matches their chronological order. This is known as the iconicity assumption (Dowty, 1986, Fleischman, 1990). Narrative deviations from chronological order are possible only because a default order exists; the default serving as a baseline from which all else can be compared and understood."

For further details see (Fleischman 1990); (Kehler 1999); (Lee 2004).

[23] Personal communication.

appearing certainly provides the occasion for Him to speak but does not constrain Him to do so. On the other hand, the relation between verbs **(b)** and **(c)** is not so clear cut: it could be *Serialation,* but perhaps *Cause/Result* would be a better analysis, because YHWH's speech to Abram likely motivated him to build an altar and offer a sacrifice of thanksgiving and devotion. **(c)** and **(d)** exhibit *Serialation.* "From there" makes that plain. **(d)** and **(e)** exhibit the same coherence relation. Abram cannot pitch his tent in another place until he moves to that place. Moving to that place however does not cause him to *pitch his tent* there, although in a sense it does cause him to pitch his tent *there.* With **(e)** and **(f)** the case is the same only more so: why would pitching his tent cause him to build an altar, except indirectly—it was his custom to build an altar, thereby sanctifying the place and devoting himself, after he established his presence at a place. The same obtains for **(f)** and **(g)**. The altar that resulted from his building of it allowed him to offer sacrifices of devotion on it, which in turn permitted him to call upon the Name of YHWH, but did not *cause* him to do so. And finally let us consider the ***coherence relation*** evinced between **(g)** and **(h)**. It is not immediately obvious in what way Abram's calling upon the Name of YHWH occasioned, let alone, caused, his further journeying. We might engage in some creative historiography, that at the time Abram had called on YHWH, He had revealed to him that he should journey toward the Negev, but this is not in the text and remains what it is: *plausible* speculation, but speculation nevertheless. A better approach is to abandon trying to link **(h)** with **(g)** and instead link it to the complex of eventualities that occurred after Abram's move to the location between Bethel and Ai: tent pitching, altar building and calling upon YHWH. Once he had accomplished what he wanted to do at this location it was time for him to journey on. Understood this way **(h)**'s relationship is with the state effected by **(e)**. Thus, *Serialation* obtains in this case. Moreover, this last pairing is instructive as to the temporal sequence in *Serialation.* Finally, by connecting **(h)** to **(e)** rather than the immediately preceding verb, **(g)**, we have serendipitously considered the concept of attachment, which will be the topic of **Subsection 2.4** below.

Having considered the ***coherence relation*** which manifests the ***necessary only*** condition, we now move on to the ***coherence relation*** which adds the ***sufficient*** condition, *Result*.

(2) Result/Cause. This is a relation in which the second verb or clause is the result /cause of the first verb. *Cause* is different from *Explanation* (also called *Solutionhood*).[24] The former answers the question *what*? The latter answers *why*? Nevertheless, they are not necessarily mutually exclusive, as the following example illustrates: "As for them, they did not know that Joseph was hearing [and understanding], because an interpreter was between them" (Gn 42:23). Why did Joseph's brothers not know that he was hearing their belated confessions? Only because they assumed he could not understand them. Why did they assume this? Because he was using an interpreter. But also it could be said that the presence of the interpreter caused Joseph's brothers to think that he could not understand them. Therefore they spoke in an unguarded manner.

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[24] (Hovey and Maier 1992) and (Taboada 2006).

Result is illustrated by "John turned off the light. It was pitch black." The first sentence implies that the light originally was on and the initial state therefore could not be darkness. The darkness was the state that ensued when and because the light was turned off. This is quite different from the relation *Background,* as in the following: "The basement was dark. John cautiously descended the stairs," in which the initial state persists during the second action.

 Because of the complexity of this part of the sub sub-section, we supply the following outline to assist the reader:

- Historical Survey
- Current Theories
- Cause versus Serialation in *Wayyiqtol* Chains

(a) Toward a Definition of Cause: Historical Survey. For the examples above, we employed *commonsense judgment* to ascertain whether *Result* or *Cause* obtained or not. But ideally we would prefer a rigorous methodology to do this. To that end we need to survey the history of the study of the concept of causation more closely.[25] We start with *Plato*: ". . . everything that becomes or changes must do so owing to some cause; for nothing can come to be without a cause" (Timaeus 28a). But by "cause" he means *formal* cause, that is, the eternal, changeless forms which effect the realization of accidents. *Aristotle* understood three additional types: material, efficient and final. We can elucidate their distinctiveness by considering Moses' theme from the soundtrack of *The Ten Commandments.* The material cause is the sonic frequencies, represented by the musical notes on the score. The efficient cause is who or what is responsible for the theme, the composer who wrote the music, Elmer Bernstein. The final cause is the purpose for which he wrote the theme, to musically reinforce Moses' presence on the screen. Only the second of these, efficient cause, was developed in the intellectual history of causation.

The *Stoics* introduced to the understanding of causation the ideas of regularity and necessity: that every eventuality had a cause and every event, invariably, effected the same result given the same circumstances.

In the Middle Ages the *Scholastics* divided efficient cause into primary and secondary, God, the originator of being and created persons or things, and the originators of change or motion, respectively. *Thomas Aquinas* further divides secondary into "tight" and "loose," depending on whether or not the circumstances of the cause are a factor in necessitating the effect. Moreover, he said, "For, as nature is, so is its action; hence, given the existence of the cause, the effect must necessarily follow" (SCG II: 35.4). And, ". . . the power of every agent which acts by natural necessity is determined to one effect; that is why all natural things happen in the same way, unless there be an obstacle; while voluntary things do not" (SCG II: 23.2). By this, Thomas meant "that things belonging to the same type act similarly in similar causal circumstances." By "relating efficient causality

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[25] The following is based on Hulswit's own online abridgment of chapter one of his book (2002). The undesignated quotations are his words of analysis.

to natural necessity, and natural necessity to law-like behavior, Aquinas would have a major impact on the development of the modern conception of causality." But Aquinas—as did other Scholastics—maintained that efficient causation was the transmission of form: "the natural thing necessarily tends to its end in accordance with the power of its form." For example fire transfers its form to wood, so that the wood becomes fire.

The ***metaphysical and empirical philosophers***, who post-dated the Renaissance, rejected the Aristotelian and Scholastic four-fold concept of causation and understood causation in a mechanical sense. Among the former ***René Descartes*** argued: "Let another, if he likes, imagine in this piece of wood the Form of fire, the Quality of heat, and the Action which burns it as things altogether diverse; for my part I, who fear I shall go astray if I suppose there to be more in it than I see must needs be there, am content to conceive in it the movement of its parts." To him efficient causes were particularizations of the general laws of nature.

For ***Thomas Hobbes*** all effects came from causes, "all the effects that have been, or shall be produced, have their necessity in things antecedent" (1655); and what is more, causes necessitate effects, "it cannot be conceived but that the effect will follow" (1655).

Baruch Spinoza refined the concept of causation, introducing the idea of *logical* necessity, that effects logically necessitate causes and causes logically necessitate effects: "From a given determinate cause an effect necessarily follows; and, on the other hand, if no determinate cause be given it is impossible that an effect can follow" (1677).[26]

Among the empiricists both ***John Locke*** and ***Sir Isaac Newton*** developed unusual concepts of causation, which did not contribute to our modern understanding. In fact the latter asserted that the law-like behavior of bodies in motion and causation were mutually exclusive. But ***David Hume*** articulated the concept of causation, upon which modern theories are based or against which modern theories adversely react.

Hume summarized the state of knowledge of causation of his day as comprising three factors, contiguity, priority and necessity; and then, challenged the last of these, which he considered the most important. He argues that it cannot be conclusively established, but is only reasoned inductively because of the string of previous instantiations without exception, in which a particular cause produced an effect (for instance, a burning match igniting paper to which it is touched), "There are no objects, which by the mere survey, without consulting experience, we can determine to be the causes of any other; and no objects, which we can certainly determine in the same manner not to be the causes" (Hume 1748). According to Hume two things are involved: the constant conjunction of the putative cause and putative effect and the connection that is made between them in our minds because of these exceptionless pairings. In modern theory the first of these is considered to be a necessary condition for causation to be inferred. On the

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[26] It is interesting to note that the second half of Spinoza's comment resembles the counterfactual understanding of causation that is dominant today.

other hand, his ideas that constant conjunction is a sufficient condition for causation to be inferred, is not correct: correlation does not imply causation.

Immanuel Kant recognized that Hume's concept of causation was devastating[27] and argued that cause and effect was an *a priori* concept connected with reason:

> If we thought to escape these toilsome enquiries by saying that experience continually presents examples of such regularity among experiences and so affords abundant opportunity of abstracting the concept of cause, and at the same time of verifying the objective validity of such a concept, we should be overlooking the fact that the concept of cause can never arise in this manner. *It must either be grounded completely a priori in the understanding, or must be entirely given up as a mere phantom of the brain.* For this concept makes strict demand that something, A, should be such that something else, B, follows from it necessarily and in accordance with an absolutely universal rule. Appearances do indeed present cases from which a rule can be obtained according to which something usually happens, but they never prove the sequence to be necessary. To the synthesis of cause and effect there belongs a dignity which cannot be empirically expressed, namely, that the effect not only succeeds upon the cause, but that it is posited through it and arises out of it. *This strict universality of the rule is never a characteristic of empirical rules; they can acquire through induction only comparative universality*, that is, extensive applicability. If we were to treat pure concepts of understanding as merely empirical products, we should be making a complete change in [the manner of] their employment (1781/87, emphasis mine).

Furthermore, Kant understood that cause-effect relationships establish an objective order in time—a realization particularly germane to the study of temporal sequence in text. He thereby rejected Hume's understanding that we first perceive temporal order between eventualities and then assign cause and effect to them accordingly.

John Stuart Mill—also, contra-Hume—reintroduced the concept of necessary cause with his idea of unconditionalness:

> If there be any meaning which confessedly belongs to the term necessity, it is unconditionalness. That which is necessary, that which must be, means that which will be, whatever supposition we may make in regard to all other things. The succession of day and night evidently is not necessary in this sense. It is conditional on the occurrence of other antecedents. That which will be followed by a given consequent when, and only when, some third circumstance also exists, is not the cause, even though no case should ever have occurred in which the phenomenon took place without it" (Mill 1874, 245).

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[27] The existence and determination of causes and effects is a fundamental tenet of empirical science. For a thorough analysis of Kant's strident response to Hume see De Pierris and Friedman (2008).

Mill also elucidated five methods for detecting evidence of a cause-effect relationship (1843; Kemerling 2011).[28] The first is *agreement*, that is, similar effects stem from similar causes: "If two or more instances of the phenomenon under investigation have only one circumstance in common, the circumstance in which alone all the instances agree, is the cause (or effect) of the given phenomenon." The second is *difference*, that is, all other things being equal, different effects stem from different causes: "If an instance in which the phenomenon under investigation occurs, and an instance in which it does not occur, have every circumstance in common save one, that one occurring only in the former; the circumstance in which alone the two instances differ, is the effect, or the cause, or an indispensable part of the cause, of the phenomenon." The third is a combination of these: "If two or more instances in which the phenomenon occurs have only one circumstance in common, while two or more instances in which it does not occur have nothing in common save the absence of that circumstance: the circumstance in which alone the two sets of instances differ, is the effect, or cause, or a necessary part of the cause, of the phenomenon." The fourth is *concomitant variation*, that is, a direct correlation can be established between two things, because the degree of a variable effect is proportional to the degree of a variable cause: "Whatever phenomenon varies in any manner whenever another phenomenon varies in some particular manner, is either a cause or an effect of that phenomenon, or is connected with it through some fact of causation." The fifth is *residues*, that is, if in the case of the existence of a complex nexus of potential causes and a complex of potential effects all the causes and effects are accounted for except for one pair, this last must be a cause-effect pair. In other words, if by a process of elimination all other causes are excluded, whatever is left must be the cause: "Deduct from any phenomenon such part as is known by previous inductions to be the effect of certain antecedents, and the residue of the phenomenon is the effect of the remaining antecedents."

Modern theories of causation build on the theories sketched above, to one degree or another. So we are now poised to consider the current theories.

(b) Toward a Definition of Cause: Current Theories. Transitioning to survey the modern theories of causation, we will consider four major rubrics in our discussion: **regularity theories, probabilistic theories, manipulation theories, and counterfactual theories**.

(i) Regularity Theories. These theories are more or less the refinement of Hume's concept of concomitant regularity. In this approach causes are examined logically and grouped into necessary, sufficient, necessary and sufficient, contributory and INUS types. The last is an acronym for the cause in question is *I*nsufficient by itself to cause the effect, but is a *N*on-redundant part of a nexus of causes, which is *U*nnecessary but *S*ufficient for the occurrence of the effect—a concept originated by Mackie (1974).

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[28] The quotes in the following paragraph are all from Mill.

The fourth type is *contributory cause*. This is seen whenever modifying the cause modifies the effect, such as a volume control on an amplifier connected to a tuner.

Mackie argues that most causes are *INUS conditions*, as defined above. A good illustration of this type is the example used above for necessary cause: *John turned off the lamp; The room became dark.* By itself "turning off the lamp" does not make a room dark, because there are other sources of light besides a lamp— the sun, for instance. So for *turning off a lamp* to be able to plunge a room into darkness requires a cluster of circumstances to be in place: there are no windows in the room, or, if there are, the sun must be down, the moon must not have risen yet (or be a moonless light), and the room must be shielded from any street lights. If all other sources of light are eliminated, then and only then will turning off the one remaining source of light, the lamp, produce darkness.

(ii) Probabilistic Theories. In this theory *c* is not assumed to definitively cause *e*, but rather makes it more likely that it occurs.[29] It is asserted that imperfect regularities (ala Hume), irrelevance, asymmetry, and spurious regularities demand this approach.

Imperfect regularity means that a cause does not always produce the effect. For example, turning off a lamp does not always darken a room–it might be daytime.

Irrelevance occurs when an action preceding an effect does not contribute to it. This is exemplified quite well in the habit of many Major League Baseball players always going through a little ritual before each pitch, which likely has nothing to do with their getting a hit.

The *asymmetry* of cause and effect, that is, causes temporally precede effects, was codified very clearly by Hume. But philosophers ask why this polarity obtains? They are unsatisfied to merely stipulate the temporal directionality; they want a theory that explains it.

Spurious regularities are correlations that are falsely attributed to causes. Suppose that in a given location every time it snows heavily at night, snow plows and salt trucks are immediately dispatched, and schools close the next day. According to Hume's understanding the invariable conjunction of snow plows being on the streets with the schools closing suggests that the former causes the latter. This, of course, is incorrect and a classic example of *cum hoc ergo propter hoc*, "with this therefore because of this." In fact, rather than snow plows causing the closing of schools, they are the very things most likely to effect the reopening of the schools!

Probabilistic theory is meant to address the above-mentioned potential problems with regularity. The theory is formulated as follows:

$$P(e \mid c) \rightarrow P(e \mid \neg c),$$

That is, the probability that *e* will occur given that *c* has occurred is higher than the probability that *e* will occur without *c* having occurred first.

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[29] See Williamson (2010) and Hitchcock (2012) for a thorough treatment of this topic.

But inferring cause from correlations using probability is difficult because of the complexity of the relationships between two potential causal *relata*.

Hans Reichenbach was the first to develop a full-blown theory of probabilistic causation. In so doing he made three major contributions by introducing three original concepts: screening off, common cause, and fork asymmetry. The first occurs when the probability of *e* occurring given that both *a* and *c* occur is the same as the probability of *e* occurring given that only *c* occurs. In such a case Reichenbach said that *c* "screens off" *a* from *e,* formulated as follows:

$$P(e \mid a \wedge c) = P(e \mid c).$$

This can happen in two ways: if *c* is a necessary intermediate step between *a* and *e*; or if *c* is a common cause (see below) of both *a* and *e.*

Both types of screening off can be used to identify spurious causation, as in the following. As for the first way, suppose a building has a double door: a normal-weight, outer door with a combination lock and a heavy, inner, security door with a key lock with a vestibule between them. To gain entry to the offices within (*e*) requires that the proper combination be input to open the outer door's combination lock (*a*) and that the proper key be selected from a ring of keys hung next to the inner door to open the inner door (*c*). An alarm will go off if the wrong key is chosen. If two thieves, John and James, gain access to the vestibule by different means, John by having stolen the combination and James with a crowbar, they have the same probability for picking the right key to get in. Thus, getting through the first door has nothing to do with getting into the building.

And as for the second way, let us return to the snow storm example above. Although without fail the snow plows roll out before the schools close, they do not cause the schools to close, because the two come from a common cause, the snow storm.

Reichenbach's second major contribution was generalizing examples as those above into what he called the "Common Cause Principle": if two eventualities are correlated, but neither is the cause of the other, that is,

$$P(a \wedge e) \rightarrow P(a) \times P(e)$$

then they result from a common cause satisfying the following conditions:

$$0 < P(c) < 1$$
$$P(a \wedge e \mid c) = P(a \mid c) \times P(e \mid c)$$
$$P(a \wedge e \mid \neg c) = P(a \mid \neg c) \times P(e \mid \neg c)$$
$$P(a \mid c) \rightarrow P(a \mid \neg c)$$
$$P(e \mid c) \rightarrow P(e \mid \neg c)$$

His third contribution is his asymmetrical forks theory. His theory assumes that a cause temporally precedes its effect, but he wanted to establish a probabilistic basis for such asymmetry. He assumed two eventualities *a* and *e* were correlated. If a third eventuality *c* is related to them such that it satisfies conditions

ii–vi, he called the triad a *conjunctive fork.* There are three types of forks. If *c* occurs temporally before the other two and no eventuality meeting the conditions temporally follows the two, the fork is said to be *open to the future.* Conversely, if *c* follows rather than precedes and no eventuality satisfying the conditions precedes, the fork is *open to the past.* Finally, he called the scenario in which *c* precedes the two, *d* follows them, and both satisfy the conditions, a *closed fork.* Then Reichenbach proposed that the direction from cause to effect was that in which *open forks* predominate. Of course, in the real world they do; thus, causes precede effects.

A possible analogy for Reichenbach's conjunctive forks theory is from Baseball. Suppose men are on 2nd and 3rd base, because a third batter hits a flair to shallow center. They had been on 1st and 2nd, because of successive base hits. Of course the man was initially on 2nd, because the man who had stood on first moved him over with a hit. So these are correlated. Furthermore, they only move to 3rd and 2nd, because the third man first got his hit. Now suppose they are on 3rd and 2nd. Could something that occurred after they were at 3rd and 2nd cause them to be at these bases? For instance … the man (a slow runner) crossing the plate after they reached 3rd and 2nd? Surely, it is the other way around. Moreover, baseball is a game of statistics. Every player has an on-base percentage. The probability of two players on base would be the product of their on-base percentages. The probability of so and so getting a hit with men on base is known as well. So the conditions might be met. But now we must leave the diamond and return to the outside world.

It is the purpose of all probabilistic theories of causation to express the cause and effect relationship exclusively in terms of probabilities. Thus, ideally, the goal is to arrive at an expression in which *c* is the cause of *e* is on the left side of an if and only if condition, and only probabilities involving these are on the right side. This equation should be read: the probability that *c* causes *e* is P.

The theory has progressed from Reichenbach's foundation and has become quite esoteric; and, thus, in its details is beyond the scope of this chapter.[30]

(iii) Manipulation Theories. The conception of manipulation theories is fairly straightforward: if *c* is a cause of *e*, then as *c* changes, *e* changes. We are seeking its converse: if *e* changes as *c* changes, then *c* is the cause of *e*.[31] For example, let us say we have a simple electrical circuit, comprising a battery, a variable resistor and a light bulb. As we increase the resistance the brightness of the bulb decreases. Conversely, as we decrease the resistance the bulb gets brighter. This simple experimental setup allows us to deduce that the battery and the light coming from the bulb are causally connected. Or does it? This type of understanding is criticized by philosophers as being dependent on human agency. But it is not too hard to modify the resistor to remove the human element. So for heuristic purposes, suppose we attach a weight to the resister control, which moves the resistor depending on the pitch of the resistor. If we take our little apparatus

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[30] Williamson (2010) surveys the approaches of Good and Suppes and discusses the counterexamples to probabilistic theory of causation in terms of the Causal Markov Condition.

[31] See Williamson (2011) and Woodward (2012) for a fuller treatment.

on board a ship, the bulb will change brightness as the ship rocks with the waves—with no human agency.

To meet the objections raised by scholars, Pearl (2000) developed a variation on this concept called intervention theory. Essentially, rather than a modification of *c*, it is a discussion of what happens to *e* at the cessation of *c*. To carry forward the electrical circuit analogy from above, in this case it would be a switch instead of a resistor.

(vi) Counterfactual Theories. Finally, we look at counterfactual theories of causation.[32] Although the study of this concept did not begin in earnest until the twentieth century, Hume—quite surprising in light of his arguments that cause is nothing more than constant conjunction—gave us the following early definition of counterfactual causation:

> We may define a cause to be an object followed by another, and where all the objects, similar to the first, are followed by objects similar to the second. Or, in other words, where, if the first object had not been, the second never had existed." (1748, Section VII).

Counterfactual causation should not be confused with contrary-to-fact conditional, such as: *If I were outside the earth's atmosphere [in fact, I am not], I would need a spacesuit*. To elucidate the difference, let me continue with this celestial illustration. Suppose for the sake of argument that the following conditional is true: *If I am outside the earth's atmosphere* [*c*]*, then I need a spacesuit* [*e*]. The counterfactual would be: *If I am **not** outside the earth's atmosphere* [not *c*]*, then I do **not** need a spacesuit* [not *e*]. The classic articulation of this theory by David Lewis is *c* is the necessary and sufficient cause of *e* if and only if both of the following obtain:

if *c* (is true) [the eventuality *c* occurs], then *e* (is true) [the eventuality *e* will occur] if not *c* (the eventuality *c* does not occur), then not *e* (the eventuality *e* will not occur)

A convenient, symbolic shorthand for this is

c is the cause of *e* iff *c* → *e* and ¬*c* → ¬*e*.

From our illustration, if being outside of the earth's atmosphere implies that I am in a spacesuit and not being outside of the earth's atmosphere implies that I am

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[32] Menzies (2009) has a very thorough and understandable discussion of counterfactual causation. He traces Lewis's modification of his theories in response to preemption scenarios proposed. He interacts with the latest approach, which is a structural equation analysis of counterfactual causation based on Pearl (2000). Some interesting studies not mentioned by Menzies are the entertaining *The Prince of Wales Problem for Counterfactual Theories of Causation*, in which it is argued that counterfactual theories of causation "cannot accommodate cause by omission. . . ."; Richard Scheines' *Causation*; Francis Longworth's 2006 dissertation at the University of Pittsburgh, *Causation, Counterfactual Dependence and Pluralism*; and L. Paul's *Counterfactual Theories of Causation.*

not in a spacesuit, then being outside of the atmosphere is the necessary and sufficient cause of needing a spacesuit or adopting Lewis's terminology: needing a spacesuit is *casually dependent* on being outside of the earth's atmosphere.

There are many biblical examples of the above. Of contrary-to-fact conditionals the following are a sampling: "Thus YHWH said, 'If the heaven above can be measured and the foundations of the earth can be searched below, also I will reject the seed of Israel for everything which they have done,' the utterance of YHWH" (Jer 31:37). Since said measuring and searching even in our day and age is impossible, this is a contrary-to-fact conditional. Others are Jeremiah 31:35–36, which concerns the contrary-to-fact faltering of the sun, moon and stars, and the waves of the sea; and 33:20, the contrary-to-fact altering of the timing of day and night.

Of examples of counterfactuals, perhaps the most striking is the parallel destinies of Israel outlined in Leviticus 26 and Deuteronomy 28: if Israel is faithful to YHWH, He will bless them (they will be blessed in myriads of ways). The counterfactual is that if they are not faithful to Him, He will curse them (they will be cursed in the same ways). The truth of both of these is evident throughout Israel's history, which proves that Israel's wellbeing is casually dependent on their faithfulness to YHWH.

Since we are trying to determine whether or not *c* caused *e,* both which have occurred, the first condition (xi) above) is trivially met. The focus then is on the second *irrealis* condition (xii) above): if *c* had not happened, then *e* would not have happened either. Although intuition suggests that this approach to determining causation would be valid, and scholars originally thought it would prove more promising than the regularity theory of Hume, updated by Mackie, it has suffered the onslaught of many scenarios posited to the contrary.[33] Chief among these are the preemptions. It has also been accused of circularity: what constitutes cause has been used to determine counterfactuality.

Let me illustrate by a contrived example. Suppose there is such a competition as tandem skeet shooting, in which two shooters with single-barreled shotguns have an opportunity to hit a given clay pigeon. Shooters alternate going first. They may pass or shoot. In this imaginary sport points are awarded according to how many targets are hit (two points per target), deducted according to how many shots are fired, and no penalty is imposed for a pass. Obviously, the only way to get points is to shoot; conversely, it is the only way to lose points.

If the first shooter passes or does nor shoot for some other reason, the second may pass or shoot. If he does the former, the team nets zero points for the round. If he does the latter and hits the target, the team gains one point for the round. But if he misses, the team loses a point.

If the first shooter shoots and hits, the team gets one point (two for the hit; minus one for the shot)—provided that the second shooter has not shot. If he has, the team gets no points for the round. If the first shoots and misses, the team loses

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[33] Ibid., for a description of these. The most notable are the two assassins, Billy and Suzy throwing rocks, to shock or not to shock, who saved the king's life the poisoner or the bodyguard with an antidote that is lethal if it does not encounter a poison?

a point; but, the second shooter still has a chance to hit the target. If he does, he gets two points for the hit, but because his is the second shot, the team breaks even for the round. If he too misses, the team loses two points for the round. On the other hand, if he passes, the team has lost only one point, the miss of the first shooter.

The above possibilities put the second shooter on the spot. Should he shoot or not if the first misses? If he shoots and misses, the team will lose an additional point for the round. If he hits the target, the team will break even: a difference of two points from the first scenario. Consequently, second shooters adopt two different strategies—wait to see if the target is hit, then shoot if there has been a miss—risky, because the target might ground by then—or shoot a split-second after the first shooter. Suppose, further, that both shooters are dead shots and ordinarily never miss; but, this time, the first has a broken hand. The umpires, knowing this, assume that the second shooter would not shoot unless he thought the first shooter was going to miss.

This example is replete with counterfactual situations. One scenario is that the first shooter hits the target and the second does not shoot. Here shooter one clearly caused the target to be hit, but if he had not shot and neither had the second shooter, the target would have escaped. Nevertheless, the second shooter was ready to shoot and would have hit the target had he shot. The target would be hit either way. Who caused the target to be hit? Intuition would tell us that it was shooter one. But shooter two could have hit the target as well if the counterfactual that shooter one had missed or did not shoot had occurred, prompting shooter two to shoot. This leads to the strange result that according to the second condition above (xii) shooter one was not the cause of the destruction of the target, when in fact he was, or that shooter two caused the target to be hit, when he had not even shot. This is called the *problem of early preemption*.

Now suppose that shooter two did not wait, but shot just after the first. His shot would have hit the target, but because the first shooter's shot hit the target, demolishing it, the second shooter's shot passed through the air where the target would have been. Who caused the target to be hit? Again, common sense tells us that shooter one did. But had he not shot, would the target not have been hit? Yes. So, according to condition two above (xii)), shooter one did not cause the target to be hit—an obviously wrong conclusion. On the other hand, if shooter two had not shot, given that shooter one missed the target or did not shoot, the target would not have been hit. And then by xii) shooter two is the cause of the target being hit. Very strange!

Proponents of the counterfactual theory of causation have made various modifications to salvage it, only to have them subjected to additional hypothetical scenarios. This web of stroke and counterstroke is too complicated to go into here. Rather, without embracing a particular position and being fully aware of its pitfalls, I will apply the basic idea of counterfactuality to the convoluted turns in the story of Joseph, establishing causality within it by posing a series of questions of the form: what if had not been. . .? By this exercise I hope to model how cause and effect between the

eventualities recounted in Scripture might be determined by counterfactual analysis.

CAUSE ILLUSTRATED: THE STORY OF JOSEPH (GENESIS 37:2–50:26)

Let us first look at the big picture, starting at the end of the story, to ask our *first question*: would Jacob and his family have gone down to Egypt—to be later miraculously delivered from subsequent Egyptian slavery—had not Joseph been the *de facto* pharaoh of Egypt? Probably not. And yet they had to, not primarily to survive the famine, as Joseph surmised (although this was the immediate purpose), but rather in the LORD's larger purpose, in order to be removed from pervasive, pernicious Canaanite corruption, which threatened the Messianic line. Moreover, they had to be positioned for the later exodus.

This leads to the *second question*: would Joseph's brothers have gone down to Egypt had there not been a famine? Again—probably not. In fact, they seemed singularly oblivious to their peril, frozen by indecision-induced shock, and were only awakened from their somnolence and paralysis by the urging of their father. A related *third question* is: would they have gone back had not the famine continued? Definitely not: as Judah made very clear to his father.

Since condition one (xi) is vacuously true for all three above, according to condition two (xii) of counterfactuals, we have established that the famine and Joseph's stature in Egypt caused Jacob to relocate his family to Egypt.

A *fourth question* pertains to how Joseph came to be in this position of authority: would Joseph have come to the attention of pharaoh had his chief of the cupbearers not mentioned him to him? As an inmate in the pharaoh's prison but not sentenced to be there at his behest, he would have not even known he was there let alone who he was. So, counterfactually this high official's recommendation of Joseph caused him to be brought up before pharaoh. This provokes a *fifth question*: would pharaoh have made Joseph second in command of Egypt had he not been convinced of his abilities to which the chief cupbearer testified and he himself had witnessed (Joseph's prescience in connection with God (or from pharaoh's perspective, the gods) and his weighed advice); and had his magicians and their congeners not failed (or been reluctant) to interpret his dreams? Almost certainly not. Consequently, these things are causes as well.

This moves us to the *sixth question*, which concerns how the cupbearer came to have the stated opinion of Joseph's abilities: would he have risked reminding the typically capricious pharaoh of his imprisonment in the course of recommending Joseph to him had he not been convinced that Joseph could not only help pharaoh but himself as well? Obviously not. He would not wish to incur pharaoh's wrath a second time. The outcome may not have been as salutary for him as at the first. A related *seventh question* arises: would he have been convinced of Joseph's abilities had he not lived out the fulfillment of the former's predictions, his restoration to pharaoh's favor and the demise of the hapless chief baker? Same answer. Witness how he ascribed to Joseph, not pharaoh, the effecting of the disparate dispositions of himself and the chief baker: "Just as he interpreted for us, thus it was: *me* he returned to my office; *him* he impaled" (Gen 41:13)

But how did these high officials of pharaoh come into contact with Joseph? This prompts an *eighth question*: would they have done so had Joseph not been in the prison and assigned to be their aid? No. Joseph would have been busily engaged in managing the estate of the pharaoh's chief of the bodyguards and would have had no occasion to visit the prison. Moreover, Joseph was designated as their assistant because his master was aware of his abilities and wanted the best for some of his fellow officials. So, a *ninth question* naturally is: would Potiphar have trusted Joseph with such responsibility had he not had the utmost confidence in him? Certainly not.

Of course this brings us to the questions surrounding Joseph's imprisonment. From above we can see that his imprisonment in the pharaoh's prison was essential for the unfolding of God's plan. This was quite a downward turn for Joseph, due to no fault of his own, but to the wantonness of Potiphar's wife, scornful (but perhaps hopeful of seducing him in the future) for being rejected. Consequently, she accuses Joseph in an ambiguous way. The text only says that Potiphar was angry at what his wife said. Notably, it does not say that he was angry at Joseph. The *tenth question* then is: would Joseph have been thrown into the pharaoh's personal prison had not circumstances worked out this way? And a corollary to this is the *eleventh question*: would Potiphar have merely incarcerated Joseph had he thought that he had attempted to rape his wife, in spite of the fact that he knew her concupiscent tendencies? The answer to both these questions is: no.

As we continue to trace back the necessary chain of eventualities to the beginning of the story, we must now consider the attempted seduction of Joseph. Two questions suggest themselves. The first, our *twelfth question* is: would Potiphar's wife have lusted after Joseph had he not been handsome of form and appearance and had the responsible position he had? Likely not. And second, our *thirteenth question*: would she have had the opportunity to see him at all if he had not been in the house? The answer of course is: no. We see here that it was necessary for Joseph to be promoted as he was so that she would desire him and scheme to get him. Given this reasoning, the *fourteenth question* is obvious: if Potiphar had not promoted Joseph would the eventualities have happened as they did? No. Furthermore, concomitant with this are two more (the *fifteenth question*): if YHWH had not caused Potiphar to prosper as he gave responsibility to Joseph would he have promoted him? And, the *sixteenth question*: if YHWH had not orchestrated matters so that Joseph was assigned to the house would Potiphar have given Joseph responsibility in the house? Virtually impossible.

We all know how Joseph came to be a slave of Potiphar, but now let us consider the matter counterfactually. Joseph's brothers with Reuben absent sold him into slavery rather than killing him. This moves us to ask the *seventeenth question*: if the Egypt-bound caravan of Ishmaelites/Midianites had not come along when it did, would Joseph's brothers have sold him into slavery and not carried out their initial murderous intentions? The text leaves Joseph in a pit and his brothers sitting and eating lunch, while apparently deliberating over how they will do him in and blame his death on a wild animal when they espy a caravan in the distance. There seems to be no indication that the brothers heeded their oldest brother Reuben's pleas. Perhaps they sensed as we do that he had an ulterior

motive: to rescue the boy and return him to his father, thereby ingratiating himself to him (which he needed after violating his father's concubine). There also seems to be no indication that the other brothers had considered any other plan than violence. It is likely therefore that the appearance of the caravan gave Judah a new idea of how they could get rid of Joseph without killing him. And with Reuben gone, ostensibly to figure out how to rescue Joseph, the brothers acted quickly. In short, the answer to question seventeen is: no.

What gave the brothers the opportunity to act as they did is that they were far away from their father. In addition, they had moved from the original location where Jacob had sent them. Curiously, it was a certain *man*, who, finding Joseph ineptly wandering about looking for his brothers (not the picture of a confident, self-assertive supervisor at all!), directed him to them. Did this *man* know what awaited Joseph? We must ask this in that he reminds us of another *man* who showed up out of nowhere and wrestled with Jacob through the night. Furthermore, he seems very well informed as to the plans of strangers. Did he just happen to overhear them? In any case, this moves us to frame the *eighteenth question*: if the *man* had not told Joseph the new location of his brothers (regardless of how he found out about this) would Joseph have encountered his brothers at all? Clearly, not. To this query we must add another the *nineteenth question*—this time concerning Jacob: if he had not sent Joseph after his sons to check up on them would the subsequent eventualities have happened? I think not. Finally, we must ask a question coming from a frightful thought. What is this? The text does not say that Jacob sent his sons to Shechem. Rather, they went to Shechem to shepherd his flock there—an uncharacteristically industrious action on their part. Was this to lure Joseph away from his father, knowing that Jacob did not trust them and would follow his customary practice of sending Joseph to find out what they were up to? If so—and I suspect so—this was a very sinister move on their part. And surprisingly, Jacob was not suspicious. Here then is the *twentieth question*: if the brothers had not gone to Shechem, would there have been an opportunity for the brothers to do anything to Joseph? Not in Jacob's presence, which means they had to get him away from their father.

Now we come to the beginning of the story and must examine an account of misguided favoritism, overweening pride, jealousy building toward hatred, and a normally shrewd man inexplicably oblivious of what is going on between his sons, namely, the details of what brought Joseph's brothers to the point of wanting to kill him and finally selling him into slavery. The text traces ten movements:

1. Jacob's initial favoritism of Joseph
2. the former appointing the latter to supervise the rest of his sons
3. Joseph informing on his brothers
4. the brothers hatred of Joseph because Jacob loved him more than them
5. Joseph arrogantly (because he knew what the dream foretold) relating his first dream to his brothers (what it portended for them they correctly understood)
6. their hateful resolve in return

> 7. Joseph even more arrogantly reporting his second dream of domination, this time also over his father and acting mother (Rachel had died more than a decade earlier) to both his brothers and, quite impertinently, to his father (!)
> 8. Jacob's weak rebuke
> 9. the heated envy and jealousy of his brothers
> 10. the ambivalence of Jacob

Each of these has a similar counterfactual question connected to it: what if had not happened this way? Would the next movement have taken place? The answer seems to be: no.

In summary, the answer to all of the questions is: no. So, these eventualities and the twenty discussed above establish a cause and effect chain, which had to be exactly as it was. The eventualities of the Joseph story take the family on a wild ride, with unexpected twists and turns, but rather than these eventualities careened down through time, seemingly unstoppable and nevertheless somehow accomplishing YHWH's purpose; they are careering down through time, unstoppable but under His control, orchestrated by Him to accomplish His purposes.

This concludes our cursory examination of the various theoretical understandings of cause and effect. Having bridged the gap between theory and application by examining the Joseph story, we now turn to consider how these concepts can inform our understanding of the semantic relations between verb/verb phrases in the Hebrew text. Our particular focus will be on *wayyiqtol* sequences.

(c) Cause versus Serialation within **wayyiqtol** *Chains. Result* is not an uncommon **coherence relation** in *wayyiqtol* sequences. It is clearly seen at the creation of man; the creation of woman; and the Temptation, Fall, and its aftermath. Furthermore, in these early texts it is theologically crucial to distinguish *Serialation* and *Result*. We will look at each of these three blocks separately, starting with Genesis 2:7, with the *wayyiqtols* in bold-face and continuing the *ad seriatim* designations of the verbs begun in the text above.

THE CREATION OF MAN; THE PLANTING OF THE GARDEN; THE PLACEMENT OF MAN IN THE GARDEN (GENESIS 2:7-15)

‪7 **וַיִּיצֶר֩** יְהוָ֨ה אֱלֹהִ֜ים אֶת־הָֽאָדָ֗ם עָפָר֙ מִן־הָ֣אֲדָמָ֔ה **וַיִּפַּ֥ח** בְּאַפָּ֖יו נִשְׁמַ֣ת חַיִּ֑ים‬

‪**וַֽיְהִ֥י** הָֽאָדָ֖ם לְנֶ֥פֶשׁ חַיָּֽה׃‬

‪8 **וַיִּטַּ֞ע** יְהוָ֧ה אֱלֹהִ֛ים גַּן־בְּעֵ֖דֶן מִקֶּ֑דֶם **וַיָּ֣שֶׂם** שָׁ֔ם אֶת־הָֽאָדָ֖ם אֲשֶׁ֥ר יָצָֽר׃‬

‪9 **וַיַּצְמַ֞ח** יְהוָ֤ה אֱלֹהִים֙ מִן־הָ֣אֲדָמָ֔ה כָּל־עֵ֛ץ נֶחְמָ֥ד לְמַרְאֶ֖ה וְט֣וֹב לְמַאֲכָ֑ל וְעֵ֤ץ‬

‪הַֽחַיִּים֙ בְּת֣וֹךְ הַגָּ֔ן וְעֵ֕ץ הַדַּ֖עַת ט֥וֹב וָרָֽע׃‬

‪10 וְנָהָר֙ יֹצֵ֣א מֵעֵ֔דֶן לְהַשְׁק֖וֹת אֶת־הַגָּ֑ן וּמִשָּׁם֙ יִפָּרֵ֔ד וְהָיָ֖ה לְאַרְבָּעָ֥ה רָאשִֽׁים׃‬

¹¹ שֵׁם הָֽאֶחָד פִּישׁוֹן הוּא הַסֹּבֵב אֵת כָּל־אֶרֶץ הַֽחֲוִילָ֔ה אֲשֶׁר־שָׁם הַזָּהָֽב׃

¹² וּֽזֲהַב הָאָרֶץ הַהִוא ט֑וֹב שָׁם הַבְּדֹלַח וְאֶבֶן הַשֹּֽׁהַם׃

¹³ וְשֵֽׁם־הַנָּהָר הַשֵּׁנִי גִּיח֑וֹן הוּא הַסּוֹבֵ֔ב אֵת כָּל־אֶרֶץ כּֽוּשׁ׃

¹⁴ וְשֵׁם הַנָּהָר הַשְּׁלִישִׁי חִדֶּ֔קֶל הוּא הַֽהֹלֵךְ קִדְמַת אַשּׁ֑וּר וְהַנָּהָר הָֽרְבִיעִי הוּא
פְרָֽת׃

¹⁵ **וַיִּקַּח** יְהוָה אֱלֹהִים אֶת־הָֽאָדָ֑ם **וַיַּנִּחֵהוּ** בְגַן־עֵ֔דֶן לְעָבְדָהּ וּלְשָׁמְרָֽהּ׃

> YHWH God ⁱ**formed** the man out of dust from the ground. He ^j**blew** into his nostrils living breath. He ^k**became** a living being. YHWH God ^l**planted** a garden in Eden in the east. He ^m**placed** there the man that he had formed. YHWH God ⁿ**caused to sprout** from the ground every tree praiseworthy in appearance and good for food [about the tree of life and the knowledge of good and evil and the rivers of Eden]. ^{2:15} YHWH God ^o**took** the man and ^p**caused him to rest** in the Garden of Eden to work it and keep it.

The relation between **(i)** and **(j)** is clearly *Serialation*: YHWH's action in **(i)** did not cause Him to do **(j)** but provided the occasion for it. On the other hand YHWH's action in **(j)** *caused* **(k).**

The relationship of **(l)** to the previous *wayyiqtols* is not immediately obvious. But after we consider the role the garden plays in the larger narrative (see Stroup's **Chapter 13** below for an expansion of this), we recognize the garden has no purpose or reason for existence apart from YHWH's purposes for man. The praiseworthiness of its trees and the fact that they were edible were for *his* appreciation and provided *his* food, respectively. Moreover, both of these will figure prominently in his temptation and Fall. Thus, the ***coherence relation*** in question is *Serialation*. Why this and not *Result*? Because the quickening of man did not *cause* YHWH to plant the garden, in exclusion of all possible other things he might have done. It did however furnish the circumstances, which according to YHWH's plan and purposes, made the garden necessary.

Now let us consider **(l)** and **(m).** Certainly, YHWH's planting of the garden did not *cause* Him to place man there. But it is equally certain that YHWH could not place man in a garden that did not exist. The planting of the garden brought it into a state of existence, which could then be acted upon by Him: placing man there. Hence, this is a case of *Serialation*. But, which came first the garden or the man? If we assume the text is iconic, we will say that man was created first. But if so, where did YHWH place man when He created him? To be sure there could have been an intermediate place, but it makes more sense that YHWH created the garden first. Why then is the creation of man reported first? I would answer: to show his preeminence in the created order.

With **(n)** we encounter two quandries: where is it connected in addition to the usual how is it connected? At first glance it seems that it is not connected to **(m)** but rather to **(l)**: the report of placement of man appears to interrupt the logical flow from the planting of the garden to causing trees to grow. But the larger

narrative will prove that this conclusion is too hastily drawn. What matters the trees, their appearance, their consumability, and the identification of the two special trees without man being there? Furthermore, the literary device of interchange in the text (man, garden, man, garden, man) invites us to compare or contrast the two. Looked at from these perspectives **(n)** is connected to **(m),** but this does not negate that, as observed, it is also connected to **(l).** How is it connected? According to the argument above the ***coherence relation*** between **(m)** and **(n)** is more than just *Serialation*. YHWH's placing man in the garden is the *reason* He caused the trees to grow, and so forth. And what ***coherence relation*** links **(l)** and **(n)**? (Delayed) *Elaboration*—which we will examine closely in **Paragraph 4)** of this sub-subsection.

Wayyiqtols **(o)** and **(p)** come after a hiatus of five verses evincing disjunctive constructions (clauses not beginning with verbs, which give background or parenthetic information) describing the rivers of the garden, and coupled together are a recapitulation of 2:8b. It is not a mere repetition of it, however. It has three significant differences/additions: the addition of לקח "take" or "receive"; the change from שִׂים "give" or "place" to the *hiphil* (causative) of נוח "rest"; and man being given a dual purpose for being in the garden. In order to properly understand the import of these changes, we must understand what they meant to Moses' readers. This will take us afield of ***coherence relations*** for a while, but it will be worth it, as the brief departure will pay a handsome dividend in understanding. Indeed, without these excurses we will misunderstand the text, because we will have failed to grasp the richness of these roots; and, as a result, we will analyze its ***coherence relations*** incorrectly.

The first of these roots draws our attention in that **(o)** is not needed for the restatement of 2:8b. Prompting the question: why is it here? The root is very common in both senses of the term, occuring 976x in BH (BibleWorks 7.0), and usually considered to be rather prosaic. But not here. Appearing here for the first time in BH, it introduces the theme of YHWH's intimate relationship with His creature which is to reflect Him. Consequently, it figures prominently in the succeeding narrative: positively in the creation of the woman and the institution of marriage (2:21, 22, 23), YHWH taking Enoch (5:24), and Noah taking in the dove (8:9); negatively at the Fall and its aftermath (3:6, 19, 22, 23), the murder of Abel (4:11), Lamech (in Cain's line) taking wives (4:19), and the fallen angels taking wives (6:2).

The second change is also intriguing. Here we ask different questions: why the change? Why is there recapitulation at all? The replacement root נוח (*wayyiqtol* **(p)**) means "rest," which is a powerful theme in Scripture as a whole from its first mention, here, through Isaiah 28:12 (2x), Christ's powerful invitation (Matthew 11:28–29), and up to the ten occurrences in Hebrews 3-4, which refer back to Psalm 95:11, which in turn goes back to Israel's recalcitrance at Kadesh Barnea, which precipitated the wilderness wanderings. The verb occurs once more in Genesis 1-11: the verb used to describe the grounding of the ark (8:4). As YHWH caused man to rest in the first place he would occupy after He created him, so the

ark came to rest on the first place to be occupied after the un-creation/re-creation of the world, which YHWH effected by the Flood. But it is the proper name derived from this root, which dominates the primeval history, Noah. His name occurs thirty-nine times in his genealogy (which includes the Flood narrative and its aftermath), twice in chapter 10, twice in Isaiah 54:9, twice in Ezekiel 14 as one of the three most virtuous men, and back to genealogical status in 1 Chronicles 1:4. In the New Testament he is mentioned as part of the Messianic line in the Lukan genealogy of Christ (Luke 3:36), twice in the Olivet Discourse as the quintessential picture of apathy before judgment (Matthew 24:37-38; Luke 17:26-27), in the hall-of-fame of faith (Hebrews 11:7) and twice in the Petrine corpus (1 Peter 3:20; 2 Peter 2:5). And finally, the third change established man's purposeful existence.

Equipped with this understanding of **(o)** and **(p),** we are now positioned to discuss their ***coherence relations***. As a verb freighted with the concepts of marriage and intimacy, **(o)** is connected to the manner of the creation of man, the planting of the garden, the placing of man there, and the purposeful fructification of the garden: all artful, personal, intimate, and purposeful acts of the Creator toward man. At the same time the description of the garden is replete with superlatives, showing the beauty, splendor and wonder of the place where YHWH placed man—what a gift for the one He would take. Looked at from this perspective, we realize that YHWH's planned "taking" is the *reason* for what comes before. In this case the second verb is the *cause*, *not* the *result* of the first verb. This is the inverse of *Result.* This is *Cause.* This type of **coherence relation** between verb clauses and the eventualities they represent is determined from the *intention* of one of the participants in the sequence of eventualities depicted in the account *to achieve a certain result*. Consequently, the participant does what he does in *anticipation* of the particular eventuality occurring—as when a couple expecting their first child prepares in advance for the blessed homecoming of their yet-to-be-born child by buying a crib, baby clothes, stroller, and so forth. I call the analogous manifestation of this scenario in discourse an *anticipated result coherence relation* (*ARCR*), which incorporates the anticipated result causing an eventuality (*ARC*); the anticipated result being readied for by that same eventuality (*ARR*); and the realization of the anticipated result (*RAR*). In returning to the domestic illustration, the last two would be the preparation of the child's birth followed in time by the birth and the bringing-home of the baby. This can be generalized to succeeding verbs (V_1 and V_2) in text, representing initial and final eventualities, respectively, with *ARC, ARR* and *RAR* working together to produce the following verb sequence/eventuality sequence/time profile: *first*, the anticipation of the final eventuality (represented by V_2), which causes the initial eventuality (represented by V_1); *second*, the occurrence of the initial eventuality (represented by V_1), which prepares for the final eventuality (represented by V_2); and, *third*, the occurrence of the final eventuality (V_2). The effect of the presence of an *ARCR* in a text is that the verb depicting the anticipated eventuality follows the verb depicting the preparation for that event; and, the anticipation of the eventuality represented by the second verb is the cause for the eventuality represented by the first verb, even though the realization of the eventuality

represented by the second verb succeeds that of the eventuality represented by the first verb. The latter, for **(o)** is the *realization* of the "taking" following the planting and preparation of the garden. The keyword here is "prepared." So, in this sense **(o)** relates to the previous as *Serialation.* The analysis of **(p)** follows naturally. Because YHWH took, in the sense we have outlined above, of course He wanted to give man a place of rest—and still does (Matthew 11:28-29; and the ten passages in Hebrews 3-4). And, so, this is another instance of *Result.* But this is not all. Since **(p)** is a recapitulation of **(m)**, it is also an instance of *Elaboration*.

THE CREATION OF THE WOMAN (GENESIS 2:18-23)

18 **וַיֹּ֨אמֶר֙** יְהוָ֣ה אֱלֹהִ֔ים לֹא־ט֛וֹב הֱי֥וֹת הָֽאָדָ֖ם לְבַדּ֑וֹ אֶֽעֱשֶׂה־לּ֥וֹ עֵ֖זֶר כְּנֶגְדּֽוֹ:

19 **וַיִּצֶר֩** יְהֹוָ֨ה אֱלֹהִ֜ים מִן־הָֽאֲדָמָ֗ה כָּל־חַיַּ֤ת הַשָּׂדֶה֙ וְאֵת֙ כָּל־ע֣וֹף הַשָּׁמַ֔יִם **וַיָּבֵא֙** אֶל־הָ֣אָדָ֔ם לִרְא֖וֹת מַה־יִּקְרָא־ל֑וֹ וְכֹל֩ אֲשֶׁ֨ר יִקְרָא־ל֧וֹ הָֽאָדָ֛ם נֶ֥פֶשׁ חַיָּ֖ה ה֥וּא שְׁמֽוֹ:

20 **וַיִּקְרָ֨א** הָֽאָדָ֜ם שֵׁמ֗וֹת לְכָל־הַבְּהֵמָה֙ וּלְע֣וֹף הַשָּׁמַ֔יִם וּלְכֹ֖ל חַיַּ֣ת הַשָּׂדֶ֑ה וּלְאָדָ֕ם לֹֽא־מָצָ֥א עֵ֖זֶר כְּנֶגְדּֽוֹ:

21 **וַיַּפֵּל֩** יְהֹוָ֨ה אֱלֹהִ֧ים׀ תַּרְדֵּמָ֛ה עַל־הָאָדָ֖ם **וַיִּישָׁ֑ן וַיִּקַּ֗ח** אַחַת֙ מִצַּלְעֹתָ֔יו **וַיִּסְגֹּ֥ר** בָּשָׂ֖ר תַּחְתֶּֽנָּה:

22 **וַיִּבֶן֩** יְהֹוָ֨ה אֱלֹהִ֧ים׀ אֶֽת־הַצֵּלָ֛ע אֲשֶׁר־לָקַ֥ח מִן־הָֽאָדָ֖ם לְאִשָּׁ֑ה **וַיְבִאֶ֖הָ** אֶל־הָֽאָדָֽם:

23 **וַיֹּאמֶר֘** הָֽאָדָם֒ זֹ֣את הַפַּ֗עַם עֶ֚צֶם מֵֽעֲצָמַ֔י וּבָשָׂ֖ר מִבְּשָׂרִ֑י לְזֹאת֙ יִקָּרֵ֣א אִשָּׁ֔ה כִּ֥י מֵאִ֖ישׁ לֻֽקֳחָה־זֹּֽאת:

YHWH God [q]**said,** "The man being alone is not good. I will make for him a helper corresponding to him." YHWH God [r]**formed** from the ground [all the animals and birds]. He [s]**brought** (each) to the man to see what he would name it [These would be their names]. The man [t]**called out** names [for all the animals and birds]. But as for Adam, he did not [u]**find** a helper corresponding to himself. YHWH God **caused to** [v]**fall** on the man a deep slumber. He [w]**slept.** He [x]**took** one of his ribs. He [y]**closed up** the flesh in its place. YHWH God [z]**built** the rib that He had taken into a woman. He [aa]**brought** her to the man. The man [ab]**said** "[his poetic rejoicing over her and naming of her]."

The first verb in this block, **(q)**, is a verb introducing the internal speech of YHWH, His thoughts. We can tell that He is not talking to the man, because he is talking about the man. The subsequent speech is a continuation in a sense of a larger speech, which begins with YHWH's commands and prohibitions to the man whom He has taken and caused to rest in the garden to accomplish specific tasks and whom he will test in regards to eating from the trees of the garden. This is His first speech to man. By nature, the prohibition, "… but from the tree of the knowledge of

good and evil, you must not eat from it …," contains a negative particle, as does the silent continuation of the speech: "… is not good." This quality of continuation unaffected by causation suggests that we are looking at *Serialation.* But is this all? And is this even right? Let us consider again the relationship of **(q)** with the previous verses from the purview of the content of the internal speech: the problem is that the man being alone is not good; the solution is the making of a helper corresponding to him. This prompts two related questions: why is man being alone not good? And how does the presence of a helper address the problem of man's aloneness? The conventional approach to answering these questions is to see YHWH's evaluation in Genesis 2:18 as the beginning of a new section on the inauguration of marriage.   Although this analysis is *possible*, it semantically severs the pronouncement from the previous verse; thereby, potentially introducing incoherence.   I am persuaded that a better approach—the key to answering these questions—is to connect YHWH's evaluation of the man's situation with the man's responsibilities (2:15) and the dire consequences of violating the prohibitions (2:18). The helper then is not to be just a general helper for the man but more: a helper in *those specific areas the text indicates he will need help*. Seen from this perspective, it is clear that we are looking at *Result* here.

At this point, as readers, we expect, because of the urgency of the situation, YHWH to make the helper. Even more—we expect that YHWH would *want* to make the helper immediately. But, literarily, He does not. And, historically, He did not. Why not? In **coherence relations** terms, we expect the relation between **(q)** and **(r)** to be *Result*—but, it is not. This is called *violation of expectation*.[34] Instead YHWH tasks the man with naming the land animals and birds. Why this? How is this connected with providing the man a helper for the purposes outlined above? More so than with straightforward *Result* and *Cause*, *violation of expectation* and its counterpart, *denial of preventer*,[35] stops us in our tracks. We cannot go on until the why-and-how questions are answered. And we will do so after we step sideways to examine the merits of that old canard concerning the

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[34] (Kehler 2004, 247–8). Originally coined by (Hobbs 1990). This obtains when the reader expects Q because of P, but instead the text has ¬Q. The example given by Kehler is: "George [Bush] wanted to satisfy the right wing of his party, but he refused to introduce an initiative to allow government funding for faith-based charitable organizations." Also see **Sub-subsection 2.2.2 Paragraph 3)** below for full discussion and biblical examples. In particular, Haman not being allowed to impale Mordecai as he desperately and hatefully wanted to do.

[35] (Kehler 2004, 248). This situation occurs when the reader does *not* expect Q, because of P, but instead the text has Q. An example using the President again is: "George refused to introduce an initiative to allow government funding of faith-based charitable organizations event though he wanted to satisfy the right wing of his party." Again, see **Sub-subsection 2.2.2 Paragraph 3)** for more. The parade example is Haman being forced to honor Mordecai, which is the last thing he would have wanted to do.

putative contradiction between the order of creation here (supposedly, man before animals) and in Genesis 1:20–27 (animals before man),[36] which arises because of this very *violation of expectation*.

Their[37] argument (to which I comment within square brackets) goes something like this: The order of creation in Genesis 1:20–27 is creatures of the water and birds *before* land animals and man, because the former were created on day five and the latter, on day six [so far, so good]. Moreover, according to Genesis 1:24–27, God created man *after* the animals [interpreting all the *wayyiqtols* as marking temporal sequentiality]. But [supposedly] Genesis 2:19 recounts the creation of land animals and birds as occurring after (not before) the creation of man, which is recounted in Genesis 2:7. Thus, there is a contradiction.

Their argument for the temporal sequence of 2:7 and 2:19 is a logical syllogism. Their major premise is the categorical proposition that all sequential *wayyiqtols* represent temporally sequential eventualities. Their minor premise is that the *wayyiqtols* in 2:7 and 2:19 are sequential. The logically valid conclusion they draw is that these *wayyiqtols* represent temporally sequential eventualities. But is this deduction *sound*? It would be, if both premises were *true*, but the major premise is *not*: that sequential *wayyiqtols* represent temporally sequential eventualities is an unfounded assumption. Consequently, the deduction is unsound. These sequential *wayyiqtols* do not necessarily represent temporally sequential eventualities. This text therefore is not necessarily saying that the creation of the animals followed the creation of man. We can see then that our understanding that sequential *wayyiqtols* do not necessarily indicate temporally sequential eventualities obviates resorting to allegory or some other halting explanation, which is the common response to the argument outlined above. Nevertheless, the different order here can be explained. In 1:20–25 the creation of the animals is not connected to the creation of man, as if they were created for an independent purpose apart from man. But that is not the case here. In this chapter, in which man is at the center—as opposed to chapter one, in which creation of man, male and female, is the climax of creation—the order makes it clear that YHWH created the animals for man, so that he could rule over them and dominate them. His naming of them is his first act of asserting his authority over them as king of the earth.

But, unfortunately, this new understanding does not help us answer the questions posed above. What *does* is to recognize that albeit the creation and subsequent naming of the animals appears from a linguistic perspective

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[36] *Passim.* This is a standard argument advanced to disprove the historical reliability of the text.

[37] "Their" is not specific; it refers to the propounders of the argument in general.

to be a *violation of expectation*, further thought proves it not to be; rather, it is an essential part of YHWH preparing man to receive his helper. Why is this so? For two reasons. First, he needs to be confirmed as king of the earth, with the animals as his subjects, because his helper will rule with him as queen and at the same time be under his authority. Second, YHWH created man to be an independent free agent. He wanted man to draw his own conclusions and make his own decisions; He did not want to make his decisions for him. So, rather than YHWH telling man that he needed a helper, He took man through a process, which would convince him that he needed a helper. The narrator says, "But as for Adam, he did not find [obviously, among the animals] a helper corresponding to himself." Moreover, Adam's reaction to seeing her, "This one, at last, bone from my bones and flesh from my flesh …," indicates that he was looking for one corresponding to himself.

The **coherence relations** for the next seven verbs are quite straightforward. Because Adam did not find a helper corresponding to himself, YHWH now begins the process of providing the helper for him. In the narrative, YHWH actually provides the helper in **(aa)**; whereas, verbs **(v)** through **(z)** prepare for this presentation. All along YHWH's ultimate goal was to present the helper to the man. So, all of YHWH's previous actions following His speech, in which He declared that He was going to make a helper corresponding to him (Genesis 2:18), therefore, were required to accomplish this goal. Thus, **(aa)** is to **(v)**–**(z)** an *Anticipated Result* coherence relation.

Putting the man into a deep sleep was the first step in this preparation, making the **coherence relation** between verb **(v)** and the previous verbs *Result*. The relation between **(w)** and **(v)** is also obvious: "He fell asleep" following "YHWH God caused a deep sleep to fall" is *Result*. Now that Adam was asleep, YHWH could perform the surgery. Thus, **(w)** provides the occasion, but not the cause, for **(x)**. Clearly, this is *Serialation*. The next **coherence relation** is *Result*, because the surgery necessitated closing the flesh afterwards **(y)**. "YHWH God built a woman"**(z)** is connected to taking the rib**(x)** (not to closing up the flesh**(y)**), by *Serialation*; in that circumstances, not cause, are provided by the first verb. The second to last **coherence relation** pertains to "brought her to the man"**(aa)**, which was YHWH's ultimate *purpose*, as if He were saying, "Adam, here is the helper you need. I made her for you." So this is *ARCR*, as mentioned above. Finally, there is Adam's *reaction* in **(ab)**, a spontaneous eruption of joy, which is a striking example of *Result*.

THE FALL AND ITS AFTERMATH (GENESIS 3:1–8)

¹ וְהַנָּחָשׁ הָיָה עָר֔וּם מִכֹּל֙ חַיַּ֣ת הַשָּׂדֶ֔ה אֲשֶׁ֥ר עָשָׂ֖ה יְהוָ֣ה אֱלֹהִ֑ים **וַיֹּ֨אמֶר֙** אֶל־
הָ֣אִשָּׁ֔ה   אַ֚ף כִּֽי־אָמַ֣ר אֱלֹהִ֔ים לֹ֣א תֹֽאכְל֔וּ מִכֹּ֖ל עֵ֥ץ הַגָּֽן׃

² **וַתֹּ֥אמֶר** הָֽאִשָּׁ֖ה אֶל־הַנָּחָ֑שׁ מִפְּרִ֥י עֵֽץ־הַגָּ֖ן נֹאכֵֽל׃

³ וּמִפְּרִ֣י הָעֵץ֮ אֲשֶׁ֣ר בְּתוֹךְ־הַגָּן֒ אָמַ֣ר אֱלֹהִ֗ים לֹ֤א תֹֽאכְלוּ֙ מִמֶּ֔נּוּ וְלֹ֥א תִגְּע֖וּ בּ֑וֹ פֶּן־
תְּמֻתֽוּן׃

⁴ **וַיֹּ֥אמֶר** הַנָּחָ֖שׁ אֶל־הָֽאִשָּׁ֑ה לֹֽא־מ֖וֹת תְּמֻתֽוּן׃

⁵ כִּ֚י יֹדֵ֣עַ אֱלֹהִ֔ים כִּ֗י בְּיוֹם֙ אֲכָלְכֶ֣ם מִמֶּ֔נּוּ וְנִפְקְח֖וּ עֵֽינֵיכֶ֑ם וִהְיִיתֶם֙ כֵּֽאלֹהִ֔ים יֹדְעֵ֖י
ט֥וֹב וָרָֽע׃

⁶ **וַתֵּ֣רֶא** הָֽאִשָּׁ֡ה כִּ֣י טוֹב֩ הָעֵ֨ץ לְמַאֲכָ֜ל וְכִ֧י תַֽאֲוָה־ה֣וּא לָעֵינַ֗יִם וְנֶחְמָ֤ד הָעֵץ֙
לְהַשְׂכִּ֔יל וַתִּקַּ֥ח מִפִּרְי֖וֹ וַתֹּאכַ֑ל וַתִּתֵּ֧ן גַּם־לְאִישָׁ֛הּ עִמָּ֖הּ וַיֹּאכַֽל׃

⁷ **וַתִּפָּקַ֙חְנָה֙** עֵינֵ֣י שְׁנֵיהֶ֔ם **וַיֵּ֣דְע֔וּ** כִּ֥י עֵֽירֻמִּ֖ם הֵ֑ם **וַֽיִּתְפְּרוּ֙** עֲלֵ֣ה תְאֵנָ֔ה **וַיַּעֲשׂ֥וּ** לָהֶ֖ם
חֲגֹרֹֽת׃

⁸ **וַֽיִּשְׁמְע֞וּ** אֶת־ק֨וֹל יְהוָ֧ה אֱלֹהִ֛ים מִתְהַלֵּ֥ךְ בַּגָּ֖ן לְר֣וּחַ הַיּ֑וֹם **וַיִּתְחַבֵּ֨א** הָֽאָדָ֜ם
וְאִשְׁתּ֗וֹ מִפְּנֵי֙ יְהוָ֣ה אֱלֹהִ֔ים בְּת֖וֹךְ עֵ֥ץ הַגָּֽן׃

Now the serpent was shrewder than any wild animal, which YHWH God had made. He ^ac**said** to the woman, "Did God really say, 'You shall not eat from any tree of the garden'?" The woman ^ad**said** to the serpent, "From the fruit of the trees of the garden we may eat. But from the fruit of the tree which is in the middle of the garden, God said, 'You shall not eat from it, nor touch it lest you die.'" The serpent ^ae**said** to the woman, "You will not certainly die, because God knows that when you eat from it, your eyes will open and you will be as God, knowing good and evil." The woman ^af**saw** that the tree was good for food, and that it was desirable to the eyes and praiseworthy for prudence leading to success. She ^ag**took** from its fruit. She ^ah**ate**. She ^ai**gave** also to her husband with her. He ^aj**ate**. The eyes of the two of them ^ak**opened**. They ^al**knew** that they were naked. They ^am**sewed** fig leaves. They ^an**made** wraps for themselves. They ^ao**heard** the sound of YHWH God walking in the garden in the wind of the storm.[38] The man and his wife ^ap**frantically hid** from YHWH God amongst the trees of the garden.

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[38] "In the wind of the storm" is not the usual understanding of the Hebrew here. רוּחַ הַיּוֹם only occurs in this text. The usual rendering is something like "cool of the day." I will return to considering the merit of this usual understanding, but first I want to argue for the superiority of the former translation, which is based on a compelling idea suggested by M. Tsevat in a classroom setting at Hebrew Union College–Jewish Institute of Religion. Tsevat argued that the Hebrew is unusual, if the words are understood in the usual way. "Wind of the day"—whatever that might mean— does not seem to fit the context of YHWH coming in judgment, which immediately commenced after He confronted the sinful pair. Tsevat proposed that יום is not "day," but a homonym supported by an Akkadian cognate *ūm(u)*, which means "storm." There is much to recommend this theory. First, it is a lexical possibility. There are three homonyms in Akkadian *ūm(u)* A, "day"; *ūm(u)* B, "storm," and *ūm(u)* C, "mythical lion" (*Akkadisches Handwörterbuch* (AHw),

This text comprises fourteen *wayyiqtols*, which relate the tragic account of what Milton called *Paradise Lost*. The first three verbs of this block are *wayyiqtols* from אמר "say," introducing three speeches: the serpent's question to the woman**(ac)**; followed by her answer**(ad)**; and finally the serpent's response**(ae)**. The remaining eleven *wayyiqtols* represent actions, culminating with the man's defiant act in eating from the forbidden tree**(aj)** and its aftermath.

This text evokes many questions—only some of which admit answers. Why did the serpent address the woman rather than the man? Why did she offer the fruit to him after she had disobeyed? And, tragically, why did he eat? Why did the man permit the interaction to continue, when he heard the woman give arguably erroneous answers? Why were her answers incorrect at all? Why did the man not stop her from taking and eating the fruit?

Only the first of these questions can be addressed by an analysis of ***coherence relations***. By approaching the woman and manipulating her to the point that not only did she disobey YHWH but also provided the opportunity for her husband to do so as well, the serpent turned the hierarchy YHWH had designed on its head. His created order was Himself–man–woman–animals. The serpent inverted this to animal–woman–man–God, and even more diabolically, turned the one whom YHWH had created to help man *not* to sin into the one who helped him *to* sin— seemingly, a momentary, devilish victory.

When taken as a whole then, we can see in this block of verses that although the man's disobedience to YHWH's prohibition**(aj)** follows a sequence of seven *wayyiqtols*, in particular, **she gave(ai)**, we do not have here a case of mere *Result*. In the largest sense the serpent's nefarious purpose to have the man disobey**(aj)** is an *Anticipated Result* coherence relation, which caused him to approach the woman in the first place.

We begin with the three speeches. The nature of dialogue is that interlocutors respond to each other in sequence; thereby, producing an interchange structure. But whether the speech-response is *Serialation* or *Result* depends upon the *content* of each speech. On the one hand, if a speech triggers a response, if the listener feels compelled to respond, if he has no choice but to respond, its content is the *cause* of that response; hence, the ***coherence relation*** is *Result*. If, on the other hand, the listener does not feel compelled, but rather chooses to answer, being in no way forced to (implying that he had a choice), the speaker merely creates the

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1420). AHw cites texts in which *ūm(u)* B is used of demons. Moreover, it is frequently connected with the gods. Second, the phonological correspondence is correct. Inasmuch as *ūm(u)* A appears in BH as יוֹם, supports the idea that ūm(u) B would appear in BH as יוֹם. Third, it fits better in the context. Here is where I would like to give a word or two on the usual rendering of this text vis-à-vis Tsevat's idea. The man and woman's reaction to hide themselves fits better with a reaction of terror, knowing that YHWH is coming to judge them than that He is just out for a pleasant stroll in a time of the day when the wind is blowing, cooling off the day. The usual translation also appears anachronistic and geographically misplaced, drawing on ideas of the weather patterns in the eastern Mediterranean, which produce cooling winds in the evening at higher elevations. But let us not forget that Moses was a Hebrew raised as an Egyptian—trained to be pharaoh. His people lived in Egypt. Would they have even understood an eastern Mediterranean meteorological reference? Would Moses have used one as a result?

circumstances to which the listener chooses to respond, in which case the **coherence relation** is *Serialation*.

The response is not always another speech. It can also be silence, action brought on by the speech ((**af**) through (**ai**)), or something entirely unrelated. Our concern here is the nature of the second of these applied to the chain of eventualities related in this text. Is the action caused (that is, no choice) or chosen (but not compelled)? The answer to this question determines culpability. If it is the former, then culpability is questionable; if the latter, guilt is established. In this text therefore *Result* or *Serialation* is crucial!

We have already considered the first speech above, recognizing that it was designed to end up in the man's disobedience. To this we can add that it also would have been a vital part of the serpent's scheme that he not force the man to disobey so that he had no choice but to eat. Rather, his eating must be entirely a free choice. Anything else would jeopardize the plan.

The serpent most skillfully worked to achieve his desired end. He deceived the woman. He provoked her to answer. He lied to her. He told her half-truths. She believed him rather than YHWH. She ate. She gave. He now had the man where he wanted him: caught between choosing YHWH or choosing his wife. But the Evil One could go no further. He had to wait for man to choose. Not knowing the future he had to wait and see if his plan had worked….All creation held its breath….He ate….All creation groaned and continues to….Everything changed….Death began its reign….And YHWH initiated His plan for restoration.

In light of the discussion above the **coherence relations** are clear. Since the serpent's question(**ac**) was so outrageously false, it *caused* the woman to respond(**ad**). This is *Result*. Of course her response did not cause him to dissemble(**ae**); rather, his initial question(**ac**) and his response(**ae**) were *caused by the anticipated result* of the fall of the man(**aj**). The woman's reaction to the serpent's response is interesting, because only the last idea she realized, "that [the fruit] was praised for making one successful," echoed the serpent's words; the first two things she realized derived from her own observations. But she would not have been thinking along these lines at all had the serpent not launched his verbal attack on her. Although, he did not compel her to think this way, which clearly would be *Result*; his deception, nevertheless, is responsible for producing a mindset in her (a mental circumstance as it were), which was inclined to questioning, distrust and disobedience. Hence, I think that the **coherence relation** in question is *Serialation*. This brings us to her taking and eating. The mindset conveyed in (**af**) *caused* her to take(**ag**) in order that she could eat(**ah**). This ensemble of eventualities therefore is another example of *Anticipated Result*. But her next action, "she gave to her husband who was with her"(**ai**) is most perplexing. Why did she do this?

Prescinding from the real possibility that this was an irrational action—it certainly was wicked and cruel—and assuming that she had a motive, what might it have been? I suggest here two. The first of these could have come from her analysis of what had *not* happened after she had eaten of the fruit of the forbidden tree: she had not died. Thinking that nothing had happened to her when she ate, she might have reasoned that since the tempters words, "You shall not certainly

die," were apparently true, the rest of what he had intimated was apparently true also, namely that God was holding them back from being equal to Him. Moreover, since she had eaten, according to what the serpent had said, she was now as God—and she wanted this for her husband. The second possibility was that when nothing happened, she remembered the serpent had said, "… when you [mp] eat…." That is, the transformation would not occur until both ate. She had to get her husband to eat in order for her to become as God. Both of these are examples of *Anticipated Result* of the "eye opening"**(ak)** that the serpent had assured them would come.

Now we come to the terrible words, "he ate"**(aj)**. The connection to the previous verb is only *Serialation*: her giving did not *compel* him to eat; rather, it provided the opportunity to eat. Why did he eat? In short, he chose her over God.

This brings us to the aftermath of the Fall, leading up to YHWH's confrontation of the man. This involves six verb phrases. The **coherence relation** linking the first of these, "the eyes of the two of the them opened,"**(ak)** with the preceding verbs is obviously *Result*, because their eyes would not have opened had the man not eaten. It is not just *Serialation*, because the man's eating of the forbidden fruit *necessarily effected* the change in man.

The **coherence relation** for the second of these verb phrases, "they knew that they were naked,"**(al)** is not as straightforward, because we must first determine what the *niphal* of פקח "(eyes) opened"**(ak)** in the previous VP means. Consequently, we must briefly survey the usage of this root.

Of the twenty-one occurrences of the root, three occur in the *niphal* (here; Gn 3:5; Is 35:5) and pertain to becoming sighted, where before there had been no sight (spiritual in the Genesis 3 passages; physical in the Isaiah); the rest are in the *qal*. Only two of these, the account of Elisha raising the Shunammite's son from the dead (2Kng 4:35) and the wealthy man opening his eyes after a night of sleep only to find his fortune gone (Job 27:19), concern actual *opening* of the eyes. The balance refer to YHWH enabling the physically blind to see (Psalm 146:8; Isaiah 42:7), restoring the sight of those supernaturally blinded (2 Kings 6:20(2x)), giving the ability to see what was not seen before (Genesis 21:19), or permitting a glimpse into the supernatural realm (2 Kings 6:17(2x)); to YHWH inspecting and evaluating a man (Job 14:3) and overseeing and protecting His people (2 Kings 19:16; Isaiah 37:17; Jeremiah 32:19; Zechariah 12:4; Daniel 9:18); to a man enjoined to be alert (Proverbs 20:13); and strangely enough, once, to the ability to hear (Isaiah 42:20).

In light of the above overview, the verb phrase in question in context means that the pair entered into a state with the potential of a certain type of sightedness, which they had not been in before.

This sightedness was not physical. Before the Fall, having eyes, they would have seen that they were naked compared to the other land animals and birds: the former covered with fur; the latter, with plumage. They might have wondered why, but it did not affect them: they had no shame.

What this text says is that they *knew* that they were *naked*. Stating the obvious—it does not say this earlier. Moreover, the earlier text does not say that they could not *see* that they were naked—they certainly could. And although it

does not say that they did not *know* that they were naked, did they? In sum, no comment at all is made about their perception of their condition; rather, it is recounted as a fact. But after the Fall knowledge was tainted by suspicion and fear, as can be seen later in the text. What we can deduce from the text and the meaning of פקח is that this knowledge of their nakedness is something they had not had before. This suggests that in this admittedly difficult text, this is a case of *Result*. Notice, furthermore, that the text does not say that they were ashamed of themselves or each other because of this knowledge; nevertheless, this is often inferred. Is this sound?

The text states plainly that they were not ashamed of their nakedness before the Fall. Most often it is inferred that after the man ate, however, they were. But in what sense? Certainly, the Fall happened and nakedness as a reality, which produced no shame, was replaced by knowledge of nakedness, which produced a focused effort to cover themselves. Moreover, it is often reasoned that their shame for themselves and of each other moved them to cover themselves. But the text does not say this. What other reason would they have had for wanting to cover themselves? Again the answer is in the text. Although it is possible that their motivation for doing this was to address their shame at their nakedness in and of itself, the text suggests a better alternative. The following question will launch us toward the answer: whom did they think would see their nakedness? The animals? Possibly. Each other? Shame between a husband and wife? Or was it YHWH? I submit that it was the last: they were terrified at the prospect of the inevitable confrontation with their Creator, He whom they had flagrantly defied.

Consider their effort in preparing for this dreaded meeting. "They sewed fig leaves"**(am)** entails that they had the simulacrum of a needle and thread, which they had to manufacture from scratch. They sewed the fig leaves into a type of fig leaf fabric, which could then be made into clothing**(an)** that would cover their nakedness.

What are the ***coherence relations*** revolving around these two verbs? It depends on how the eventuality complex is viewed. Between the two, the fact that the fig leaf fabric was employed to make the tunics, but did not cause them to be made, causes us to realize that this is *Serialation*. But when the two are looked at as a whole, in light of the discussion above, their relation to the surrounding verbs is a classic example of *Anticipated Result*—the hoped for result being that these coverings would allow them to weather the confrontation.

We now come to the last two verbs of this section. I believe that the following scenario ensued after the fallen pair made their make-shift clothing. No doubt, being fallen, they felt quite pleased with themselves at their accomplishment: two sets of clothing. They had deluded themselves into thinking that they would be able to proudly stand when YHWH came. But then they heard the sound of YHWH God coming in the wind of the storm**(ao)**, and all their false bravado evaporated. When the man and his wife recognized that the confrontation was at hand, their expectation of the coverings being some kind of shield for them, was dashed by a terrifying reality: YHWH God was coming to judge them. As a result they hid themselves among the trees of the garden**(ap)**. The verb, being in the

hithpael, speaks of the thoroughness born out of desperation with which they attempted to do this.

What is the *coherence relation* in this case? At first glance it seems that this is *Result*, because their fear when they heard YHWH coming caused them to hide. But they did not have to hide. It appears therefore in the final analysis that this is *Serialation*

Serialation and its congener, *Result*, are the most common **coherence relations** in BH narrative, because the nature of narrative is to trace a plot, which unfolds in time. And because *wayyiqtols* carry this narrative, most often they convey *these* relations. Furthermore, they come first in the clause or sentence, thus establishing the normative word order in BH of verb-subject-object. But if the verb is negated or a referent other than that represented by the verb is fronted, it is emphasized (contrasted with others like it) and the verb is changed to *qatal*. Notwithstanding, *wayyiqtol* can express a turn in the story as well. It is in these contexts that the **coherence relation** *Contrast* is to be found. And, thus, it is to consider its proclivities that we shift our focus. And as we will see below, with this coherence relation, time does not progress.

(3) Contrast (also Concession and Qualification)/Comparison. This many-monikered relation is included as a separate coherence relation—as do we—in most sets; although it is *Serialation* or *Result/Cause* with a different semantic polarity.[39] It is an additive relation, not advancing the narrative any further, but clarifying it. Often in texts its presence is indicated by such adversatives as "but" or "nevertheless" or such concessives as "although" or even though." But even if a text lacks these explicit markers, the following definition allows it to be identified: a VP raises expectations in the reader, which are contradicted or violated by the next VP. Thus, *Contrast* combines *Serialation* or *Result/Cause* with either *violaton of expectations* or *denial of preventer*. In order to understand *Contrast*, then, we must both revisit the concepts of the former pair (introduced above) and dig much deeper into the concepts of the latter. These are our two goals in the discussion below.

Gen 44:30 furnishes a parade example of *violation of expectation*. Joseph wanted to exhibit an impassive front before his brothers (in order to prolong the charade to accomplish his purposes); *nevertheless* (no explicit marker of this is in the text), when he saw his full brother, he rushed away from all of his brothers in an emotional state. An example of the *denial of preventer* comes from the grand irony in the Book of Esther, when Haman was forced to personally give the highest honors to Mordecai, whom he hated and wanted to kill.

In the following two sub-subsections we will intertwine the two goals mentioned above in the following way:

- Contrast Explained: Cause and Effect Frustrated

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[39] On positive and negative polarity in **coherence relations** see (Knott and Mellish 1996, 17–20).

- Contrast Illustrated: Mordecai, Haman, Esther and the King

(a) Contrast Explained: Cause and Effect Frustrated. We must take a closer look at causality, because if it can be established, then the temporal flow is established as well: the time of the cause is before that of the effect, regardless of whether the cause precedes or follows the effect in the text, with the ***coherence relations*** of *Result* and *Cause*, respectively.

To aid us in our exploration of causality, we introduce at this point the concept of *necessary temporal precedence*, which will be developed in the course of the analysis. A second concept we will need for our analysis is *triggering*.

Aristotle understood four types of causes: material, formal, efficient and final. But for our purposes we will look at causality in terms of seven contingencies: *capability*, *opportunity*, *teleology* (purpose), *morality*, *permission*, *consequences*, and *reasonableness*.

Of these capability and opportunity are indispensable for human-centered actions to occur, that is, something cannot happen unless someone has the capability to do it or the opportunity to do it. But although these are necessary, they are not sufficient.

If an action is at cross purposes to the human agent (but this can be overcome by external forces), considered immoral by him (although he can do the action in spite of this), permission to do it is denied to him (he can defy the prohibition), consequences are deemed too grave, or the action is seen as unreasonable, then the action will not happen unless there is intervention and interdiction from outside. In the discussion below we are looking at eventualities that are linked with verbs: Eventuality 1 and Eventuality 2.

Below we will delve into the seven factors, which can frustrate cause and effect. To help us do so, we will enlist the aid of the playground trio as needs be.

(i) Capability. This may be defined as follows: Eventuality 2 cannot happen until Eventuality 1 occurs. This is further divided into two types: Eventuality 1 triggers Eventuality 2, and Eventuality 1 does not necessarily trigger Eventuality 2.

The first type is that in which Eventuality 1 triggers Eventuality 2. Consider the following examples:

(15)a. Eventuality 1-Lightning; Eventuality 2-Thunder
   b. Eventuality 1-Release a weight; Eventuality 2-Weight falls
   c. Eventuality 1-YHWH opens the eyes of Elisha's servant; Eventuality 2-The servant sees the chariots of fire.

Example (15c) is particularly striking, because the servant's consternation in being surrounded by the Aramean forces, recorded in the biblical text, makes it clear that he could not see the spiritual realm.

The second type is that in which Eventuality 1 does not necessarily trigger Eventuality 2. The following is an example involving the boys:

(16)a. Eventuality 1-Severe thunderstorm;

b. Eventuality 2-The boys run into the school building, but they might choose (foolishly) to continue to play.

The assumption here is that the boys will not run into the school building unless they are forced to do so, and even under the duress of a dangerous thunderstorm might still refuse to abandon their play. The factors that preventuality Eventuality 2 from happening are this factor and the seven listed below.

Let us examine these frustrating-factors more closely. For the sake of argument let us suppose that the boys want to irritate the girls and make them scream. They know that if they wrap the swings around the top bar, the girls will scream and cry. This scenario is depicted in the following sentence divided into cause (17a) and effect (17b).

(17)a. Whenever the boys wrap all the swings around the top bars,
b. the girls scream and then cry when they see it.

Since this is the boys' goal (or purpose), they will want to wrap the swings. And if they effect this accomplishment, being untouched by chivalry, gallantry or charity, they will stand around and laugh at the girls' predicament. But any of the seven factors could frustrate their diabolical scheme. The first of these is capability: do the boys have the physical strength to fling the swings up with sufficient force to wrap them around the top bar? No matter how determined they are to do this, if they do not possess the capability to do it, it will not happen.

(ii) Opportunity. Continuing the swing-wrapping scenario, let us further assume for the sake of argument that the little urchins have enough strength to wrap the swings. Are the girls doomed? Not at all! The boys could be blocked by the frustrating-factor of opportunity. For instance, they might never get the chance to carry out their scheme, because either a teacher or a security guard is on duty at all times at the playground, precluding the possibility of a short period of time in which they would be unsupervised, which would be necessary to carry out their prank.

(iii) Purpose. This is the causality factor, which can be forced from the outside. Someone can be forced against his will *to do something he does not want to do* or be forced against his will *not to do something he wants to do*. An example of the first would be the boys being forced to let the girls play on each piece of playground equipment first. An example of the second would be the teacher making the boys get off the swings to give the girls their turn. These two types of duress explain the following two pairs of sentences rather than the boys being imbued with chivalry and gallantry.

(18)a. The boys always get to the playground first.
b. But the girls always get first choice on the equipment there.

(19)a. The boys let the girls play on the swings
b. Even though they wanted to monopolize them for the entire recess.

The first pair (18) exhibits *violation of expectation:* we expect the boys, not the girls, to get first dibs on the swings, monkey bars, etc. The second pair (19) evidences *denial of preventer,* because the first sentence refers to behavior contrary to that in keeping with the wishes expressed in the second sentence.

Also note the reversal with respect to purpose and reality. The school principal and teachers tell the students that when the bell rings, signifying the end of recess, that they must return to their classrooms. Schematically this scenario is as follows:

(20)a. Eventuality 1-The school bell rings.
   b. Eventuality 2-The boys trudge into the school building.

So, because the principal and teachers want them to return to their classes, they ring the bell. Or in other words the desire for Eventuality 2 to occur causes a desire for Eventuality 1 to occur, because it is known that ontologically Eventuality 1 causes Eventuality 2.

(vi) Consequences. Returning to our story about the ignoble efforts of the three boys to overcome the series of contingencies in order to pull their prank— the lads are committed to their task—we posit that our incorrigible trio is quite analytical. They carefully weigh the pros and cons of their coup. Is the few minutes of unbridled mirth at the girl's expense worth the certain severe punishment, which will ensue from all quarters? And being normal boys, they conclude it is.

(v) Reasonableness. We define reasonableness as Eventuality 2 likely will not happen until Eventuality 1 happens, but it could. As for the story … at the point of no return, a consideration of the reasonableness of the dastardly deed they are about to carry out gives them pause. Might something else cause the girls to cry, without them having to take the risk? But after long and careful deliberation of the small probability of that happening, they throw caution to the wind and it is full steam ahead.

(vi) Morality. Now let us suppose that there is no security guard. What then? If in the unlikely eventuality our three miscreants develop even a modicum of scruples and heed their beleaguered and seared consciences, the girls will be spared. But no such luck for these hapless victims to be.

(vii) Permission. This factor may be defined as Eventuality 2 to not be *allowed* to happen until Eventuality 1 occurs.

There are two versions of this causality factor. The first is when Eventuality 1 necessarily triggers Eventuality 2 as in the following example:

(21) a. Eventuality 1-Al completed writing sentences on the board.
    b. Eventuality 2-Al ran out to the playground.

In the above case, Al, having committed some infraction, was obligated to write sentences on the board rather than to go to recess. As soon as he completed writing the sentences, he was permitted to go outside.

But there is a second version of this factor: Eventuality 2 happens without the trigger of Eventuality 1. In the example above illustrating the first version we met a compliant Al, but below we meet a recalcitrant Al.

(22)a. Eventuality 1-Al had not completed writing his sentences by the time his teacher had been called to the principal's office.
   b. Eventuality 2-Al bolted out the door and ran out to the playground, ignoring his returning teacher's protests.

And finally, let us illustrate this factor by applying it to the swing wrapping plot. The plot has been uncovered and the boys have been strictly forbidden to follow through with their intentions. Less determined rascals would be thwarted at this point, but our three are made of sterner stuff and press on undaunted.

(b) Contrast Illustrated: Haman, Mordecai and the King: A Grand Illustration of Violation of Expectation and Denial of Preventer. The striking biblical text that comes to mind, evincing the seven factors discussed briefly above is the cause and effect among Ahaseurus, the king, Mordecai and Haman in the Book of Esther. Haman's resentment towards Mordecai, because he would not show him obeisence, grew into a hatred that drove him to ask the king's permission to execute him, but instead Haman was forced to honor his enemy. This is a perfect example of *violation of expectation* from Haman's point of view. From the king's point of view, on the other hand, Haman was the instrument to carry out his will, the honoring of Mordecai for uncovering a plot against his life. At the same time the king's will forces Haman to do the thing he would last want to do: parade around on the king's richly caparisoned horse a royally garbed Mordecai, whom he hates and has plotted to kill, and to proclaim, "This is what will be done for the man the king delights to honor" (Esther 6:11). This is a classic example of *denial of preventer.*

So, it is now time to leave the imaginary heuristic world of the third graders and enter the stark reality of Israel in exile under Persian rule, the milieu of the Book of Esther. This book portrays the providence of God working for and against the intrigues and machinations of the Persian court. And in the process, provides us with an extended text in which the various issues concerning all of the seven factors briefly discussed above, but chiefly, *purpose*, are strikingly displayed. We prescind then from the playground scenarios (to which we will return later) and take an extended look at the twenty-one stages of cause and effect involving the interactions of the king, Haman, Mordecai and others, recorded in Esther 6:1-11.

The *first stage* takes place in the king's chambers and in his thoughts. He cannot sleep. He knows how boring the official chronicles of his reign are. So he thinks about the ontological cause and effect as follows:

(23)a. When the chronicles are read to me,
   b. I fall asleep.

Because he wants to fall asleep, this causes him to have the chronicles read to him, as stated below.

(24)a. I want to fall asleep.
   b. So, I will have the chronicles read to me.

But in a *violation of expectation* the following, *stage two*, happens instead:

(25)a. The chronicles are read to him.
　　b. He does not fall asleep but becomes even more alert.

The *third stage* is

(26)a. He is awake.
　　b. He hears the account of Mordecai uncovering the plot against him.

The *fourth stage* has the same setting. It unfolds as follows:

(27)a. The king hears about Mordecai uncovering the plot against him.
　　b. He thinks, Mordecai is worthy of honor, because he uncovered a plot against my life.

Notice for the *fifth stage* the following cause and effect in the kings thoughts:

(28)a. Mordecai is worthy of honor, because he uncovered a plot against my life.
　　b. Mordecai must be honored.

Connected with this are the king's thoughts of the *sixth stage*:

(29)a. I wonder: have I honored Mordecai?
　　b. I must ask my servant.

The *seventh stage* is the interchange between the king and his servant:

(30)a. The king's question: Has Mordecai been honored?
　　b. The servant's answer: No.

The *eighth stage* takes place in the king's mind as follows:

(31)a. Mordecai is worthy of honor, because he uncovered a plot against my life.
b. I want to honor Mordecai.

The *ninth stage*—in the king's mind—is subsequently

(32)a. I want to honor Mordecai immediately but need an idea of how best to do it.
　　b. I need to talk to one of my advisors, who can suggest how this should be done.

In the *tenth stage* the king reasons

(33)a. I need to talk to an advisor now.

b. I wonder if one of them is around?

In the *eleventh stage* he continues

(34)a. I wonder if one of them is around?
b. I will ask my servant.

The *twelfth stage* is a question and answer between the king and his servant

(35)a. Question: "Who is in the court?"
b. Answer: "Haman."

The *thirteenth stage* brings Haman into the analysis

(36)a. The king's thoughts: Hmmm … Haman. He will do.
b. Let him come in.

The *fourteenth stage* is the king's question to Haman and the latter's subsequent thoughts, with Haman ignorant of stages one through thirteen:

(37)a. Question: Haman, what should be done for the man that the king delights to honor?
b. Haman's conceited thought: I am more worthy of honor than any other official of the king.

The *fifteenth stage* shows this conceit developing into a delusion of grandeur in Haman's mind:

(38)a. I am more worthy of honor than any other official of the king.
b. The king must want to honor me.

Furthermore, in the *sixteenth stage* Haman reasons that a public ceremony would honor him. And since he wants (39b) below to happen, he wants (39a) below to happen.

(39)a. A ceremony to be performed for him.
b. He will be honored.

But, even more, Haman is not satisfied with just being honored; he wants the highest honor that can be bestowed. Moreover, he knows the following cause and effect, *stage seventeen*:

(40)a. An extremely elaborate ceremony to be performed for him.
b. He will receive the highest honors.

Since Haman wants (40b), the highest honors for himself, he is caused to ask himself: "What is the most extreme ceremony I can conceive of to give myself the maximum honor?"–which pertains to (40a). Then the *eighteenth stage* ensues, Haman's answer and the king's response:

(41)a. Haman describes the elaborate ceremony.
b. The king's approval of the idea and his orders.

In the *nineteenth stage* we are back in Haman's mind. No doubt initially he is thinking the following as he listens to the king's orders:

(42)a. The king approved my idea, because he wants it to be carried out immediately.
b. I will be honored in a spectacular ceremony.

Haman told the king how an honoree of the king should be treated, thinking that he was that person and would be so honored. But his reverie is short-lived and abruptly interrupted with the stunning reality of what the king has actually said. This is the *twentieth stage*:

(43)a. You must honor Mordecai, the Jew, in the way you described.
b. Haman's thoughts: I am not to be honored; Mordecai is. And not only that—I am the one who must honor Mordecai, the man who refused to honor me, with the highest honors I planned for myself.

Finally, there is the *twenty-first* stage:

(44)a. Haman performs an elaborate ceremony to honor Mordecai according to the king's command.
    b. His sworn enemy, Mordecai, receives the highest honors.

So, in a dramatic turn of irony, Haman is forced to honor the one he never wanted to honor, because he hated him for not honoring him; Haman was compelled to shamefully humble himself before the one who refused to humble himself to him. This is a classic example of *denial of preventer.*
With the great example above we conclude our perusal of *Contrast*. So now we turn to investigate another additive coherence relation, *Elaboration*.

(4) Elaboration/Restatement/Summary. This relation is frequently included in **coherence relation** sets. It is also referred to as additive, expansion and resemblance.
Elaboration may be defined as follows: given two text segments, the second expands on the first by specifying it in greater detail or in other words, in the following ways: set to member; process to step; whole to part; object to attribute; abstract to instance; and general to specific (Hovey and Maier (1992, 9)).

Restatement and *Summary* go in the opposite direction: member to set; part to whole, and so forth.

An artificial example of elaboration is *John wrote an email to his friend. He booted up his computer, opened his browser, went to the college webpage, moused down to "email", entered his password, clicked on "new," typed out the message, and sent it*. In this sequence of verbs, "wrote an email" is an *introductory encapsulation*, elaborated by the verbs following it.[40] That is, all the eventualities depicted by the verbs after "wrote an email" are parts of the overall event of emailing. Now, on to not a few biblical examples, which unmistakably exhibit these types of **coherence relations**.

To assist the reader we offer the following outline for the discussion below:

- Examples of Elaboration
- Examples of Restatement
- Examples of Summary

(a) Examples of Elaboration. We begin with Genesis 37:5–8, because it is a parade example of *Elaboration* and its congeners, *Restatement* and *Summary*.

JOSEPH BOASTS OF HIS DREAMS TO HIS BROTHERS; THEIR REACTION (GENESIS 37:5-8)

⁵ **וַיַּחֲלֹם** יוֹסֵף חֲלוֹם **וַיַּגֵּד** לְאֶחָיו **וַיּוֹסִפוּ** עוֹד שְׂנֹא אֹתוֹ:

⁶ **וַיֹּאמֶר** אֲלֵיהֶם שִׁמְעוּ־נָא הַחֲלוֹם הַזֶּה אֲשֶׁר חָלָמְתִּי:

⁷ וְהִנֵּה אֲנַחְנוּ מְאַלְּמִים אֲלֻמִּים בְּתוֹךְ הַשָּׂדֶה וְהִנֵּה קָמָה אֲלֻמָּתִי וְגַם־נִצָּבָה וְהִנֵּה תְסֻבֶּינָה אֲלֻמֹּתֵיכֶם וַתִּשְׁתַּחֲוֶיןָ לַאֲלֻמָּתִי:

⁸ **וַיֹּאמְרוּ** לוֹ אֶחָיו הֲמָלֹךְ תִּמְלֹךְ עָלֵינוּ אִם־מָשׁוֹל תִּמְשֹׁל בָּנוּ **וַיּוֹסִפוּ** עוֹד שְׂנֹא אֹתוֹ עַל־חֲלֹמֹתָיו וְעַל־דְּבָרָיו:

Joseph **dreamed** a dream. He **told** (it) to his brothers. They **hated** him even more.

He **said** to them, "Please listen to this dream, which I have dreamed. [Joseph describes his dream at this point; their reaction];
They **hated** him even more because of his dreams and because of his words.

Verse five describes the entire interaction between Joseph and his brothers regarding his first dream from a bird's eye view: 1) he dreamt, 2) then he told them his dream, 3) and then they reacted. This verse then is an *introductory encapsulation*—but, with the somewhat unusual

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[40] The CCRG suspects that Genesis 7:17a, "The Flood was on the earth for forty days," is such an *introductory encapsulation*, with the subsequent verses elaborating the particulars.

characteristic of having parts. Then verses six and seven retrace 2) and 3) in much more detail: Joseph—no doubt, relishing being able to lord it over his brothers yet again—describing the contents of his dream, which in turn evokes his brothers' furious reaction: "Shall you indeed reign over us?; you shall NEVER even RULE over us!"[41] This is followed by a repetition (or *Restatement*) of 3) with additional words of explanation, "because of his dreams and because of his words," making it a summary statement for the whole.

JOSEPH'S COMMANDS TO HIS SERVANTS CONCERNING HIS BROTHERS (GENESIS 42:25)

25 וַיְצַ֣ו יוֹסֵ֗ף וַיְמַלְא֣וּ אֶת־כְּלֵיהֶם֮ בָּר֒ וּלְהָשִׁ֤יב כַּסְפֵּיהֶם֙ אִ֣ישׁ אֶל־שַׂקּ֔וֹ וְלָתֵ֥ת לָהֶ֛ם צֵדָ֖ה לַדָּ֑רֶךְ וַיַּ֥עַשׂ לָהֶ֖ם כֵּֽן׃

Joseph **commanded** (his servants) and they **filled** their vessels with grain and (he commanded) to return each man's silver to his sack and to give them provisions for the journey. So he **did** for them thus.

After the first *wayyiqtol* of verse twenty-five, the text does not straightforwardly tell us what Joseph commanded his servants. Instead we can infer his orders to them. It seems that the strategy of the narrator was not to mention the mundane command, which is deducible from the servants' subsequent action (the second *wayyiqtol*)—it must have been something like, "Fill the vessels of these men!"—but rather, to highlight with infinitive constructs the *unusual* commands to return their silver and to provision them. Also, we note that the text does not report the carrying out of these commands. Nor does it need to: obedience to the orders of the second in command in Egypt is a given. The final *wayyiqtol* is a summary statement of what Joseph's servants did at his behest: those commands not recorded, but compliance to them is recorded; and those commands recorded, but compliance to them is not recorded but assumed. There is obviously no temporal progression with this final *wayyiqtol*.

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[41] The usual way of translating y אִם x הֲ is "x or y?" Thus, here: "Shall you indeed reign over us or rule over us?" But this seems to be an insipid translation in light of the fact that the text says that they hated him even more. It is better to understand אִם as introducing a negative oath, which is not only permissible but preferable in that it conveys the fury of the brothers, goaded on by Joseph, which is according to the tenor of the narrator's account.

JOSEPH'S INSTRUCTIONS TO THE HEAD OF HIS HOUSE TO HIS BROTHERS' THEIR SACKS WITH GRAIN, TO RETURN THEIR SILVER, AND TO GIVE BENJAMIN HIS SILVER GOBLET (GENESIS 44:1–2)

וַיְצַ֞ו אֶת־אֲשֶׁ֣ר עַל־בֵּיתוֹ֮ לֵאמֹר֒ מַלֵּ֞א אֶת־אַמְתְּחֹ֤ת הָֽאֲנָשִׁים֙ אֹ֔כֶל כַּאֲשֶׁ֥ר יוּכְל֖וּן שְׂאֵ֑ת וְשִׂ֛ים כֶּֽסֶף־אִ֖ישׁ בְּפִ֥י אַמְתַּחְתּֽוֹ׃ ¹

וְאֶת־גְּבִיעִ֞י גְּבִ֣יעַ הַכֶּ֗סֶף תָּשִׂים֙ בְּפִי֙ אַמְתַּ֣חַת הַקָּטֹ֔ן וְאֵ֖ת כֶּ֣סֶף שִׁבְר֑וֹ וַיַּ֕עַשׂ כִּדְבַ֥ר ² יוֹסֵ֖ף אֲשֶׁ֥ר דִּבֵּֽר׃

And he **commanded** the one who was over his house: "Fill the sacks of the men with food according to what they are able to carry and place each man's silver in the mouth of his sack. And my goblet, the silver goblet, you must place in the mouth of the sack of the youngest along with the silver for his grain." So he **did** according to the word of Joseph, which he had spoken.

This is another interesting text within the Joseph narrative. Unlike the incident recorded in Genesis 42:25, here we are given the complete contents of Joseph's commands, which follows the first *wayyiqtol*. It is instructive to examine this incident from the perspective of his *major domo*. As that man considered how Joseph had shown special favor toward a group of men he had formerly accused of being spies—no doubt he had supervised the carrying out of Joseph's orders in regards to the regaling of the men (inviting them to his house, dining with them, arranging them in a certain order at the table, and even becoming inebriated with them)—he must have been amazed at Joseph's orders. Not the first two of course. They were consistent with the special attention he had given the men (related earlier in the chapter). But giving his special cup as a gift to the youngest man, was a different matter. He had clearly most favored (the five-fold portion having been given to Benjamin) this man, but to give him his divining cup? At this point the man thinks that the cup is an extraordinary gift. He has no inkling that this is meant to frame him. In any case, the second *wayyiqtol* records his carrying out all these orders.

JOSEPH'S INSTRUCTIONS TO THE HEAD OF HIS HOUSE TO OVERTAKE HIS BROTHERS AND TO ACCUSE THEM OF STEALING HIS CUP (GENESIS 44:4–6)

הֵ֠ם יָֽצְא֣וּ אֶת־הָעִיר֮ לֹ֣א הִרְחִיקוּ֒ וְיוֹסֵ֤ף אָמַר֙ לַֽאֲשֶׁ֣ר עַל־בֵּית֔וֹ ק֥וּם רְדֹ֖ף אַחֲרֵ֣י ⁴ הָֽאֲנָשִׁ֑ים וְהִשַּׂגְתָּם֙ וְאָמַרְתָּ֣ אֲלֵהֶ֔ם לָ֛מָּה שִׁלַּמְתֶּ֥ם רָעָ֖ה תַּ֥חַת טוֹבָֽה׃

הֲל֣וֹא זֶ֗ה אֲשֶׁ֨ר יִשְׁתֶּ֤ה אֲדֹנִי֙ בּ֔וֹ וְ֕הוּא נַחֵ֥שׁ יְנַחֵ֖שׁ בּ֑וֹ הֲרֵעֹתֶ֖ם אֲשֶׁ֥ר עֲשִׂיתֶֽם׃ ⁵

וַֽיַּשִּׂגֵ֑ם וַיְדַבֵּ֣ר אֲלֵהֶ֔ם אֶת־הַדְּבָרִ֖ים הָאֵֽלֶּה׃ ⁶

They [the brothers] went out of the city. They had not gone far when Joseph said to the one who was over his house, "Pursue immediately after the men, overtake them, then say to them, 'Why have repaid evil in place of good? Surely this is from what my master drinks. Moreover, he himself assuredly divines by this. Do have acted in an evil way in what you have done.'" So he overtook them and spoke to them these words.

As we analyze this text, we will continue to do so from the viewpoint of Joseph's *major domo*. If he was amazed at Joseph's first set of orders (Genesis 44:1–2), these must have completely befuddled him. He had thought that the cup was an extraordinary present, but now he realized it was to frame the youngest man, whom clearly his master had most favored.

GOD'S SPEECH TO MOSES (EXODUS 6:2)

וַיְדַבֵּר אֱלֹהִים אֶל־מֹשֶׁה וַיֹּאמֶר אֵלָיו אֲנִי יְהוָה:

God **spoke** to Moses and **said** to him, "I am YHWH."

Certainly, the second *wayyiqtol*, וַיֹּאמֶר, does not indicate any temporal progression; it is introducing the particulars of what YHWH spoke (the first *wayyiqtol*, וַיְדַבֵּר).

MOSES INSTRUCTIONS TO ISRAEL CONCERNING THE BLASPHEMER (LEVITICUS 24:23)

²³ **וַיְדַבֵּר** מֹשֶׁה אֶל־בְּנֵי יִשְׂרָאֵל **וַיּוֹצִיאוּ** אֶת־הַמְקַלֵּל אֶל־מִחוּץ לַמַּחֲנֶה **וַיִּרְגְּמוּ** אֹתוֹ אָבֶן וּבְנֵי־יִשְׂרָאֵל *עָשׂוּ* כַּאֲשֶׁר צִוָּה יְהוָה אֶת־מֹשֶׁה:

Moses **spoke** to the sons of Israel. Then they **brought out** the curser outside of the encampment. Then they **stoned** him with stones. Hence, the Sons of Israel *did* just as YHWH had commanded Moses.

As in Genesis 42:25, which was discussed above, the text does not tell us what Moses spoke, but we know from the previous verses what YHWH had commanded be done, and moreover, we can infer it from what the text reports the people did. As far as the temporal signature of this text is concerned, our interest centers on the last verbal phrase, "Hence, the sons of Israel *did* . . . ." The verb is not a *wayyiqtol*, but a *qatal* [italicized in the text; italicized and underscored in the translation]; nevertheless, its temporal sequence with respect to the previous verb is instructive. This is a summary statement. There is no new eventuality being reported here: the referent of "did" is the same referent as that of the two preceding verb phrases. Thus, there is no temporal progression here.

MOSES' INSTRUCTIONS TO THE SPIES (NUMBERS 13:17FF)

¹⁷ **וַיִּשְׁלַח** אֹתָם מֹשֶׁה לָתוּר אֶת־אֶרֶץ כְּנָעַן **וַיֹּאמֶר** אֲלֵהֶם עֲלוּ זֶה בַּנֶּגֶב וַעֲלִיתֶם

אֶת־הָהָר:

¹⁸ וּרְאִיתֶם אֶת־הָאָרֶץ מַה־הִוא וְאֶת־הָעָם הַיֹּשֵׁב עָלֶיהָ הֶחָזָק הוּא הֲרָפֶה

הַמְעַט הוּא אִם־רָב:

¹⁹ וּמָה הָאָרֶץ אֲשֶׁר־הוּא יֹשֵׁב בָּהּ הֲטוֹבָה הִוא אִם־רָעָה וּמָה הֶעָרִים אֲשֶׁר־

הוּא יוֹשֵׁב בָּהֵנָּה הַבְּמַחֲנִים אִם בְּמִבְצָרִים:

²⁰ וּמָה הָאָרֶץ הַשְּׁמֵנָה הִוא אִם־רָזָה הֲיֵשׁ־בָּהּ עֵץ אִם־אַיִן וְהִתְחַזַּקְתֶּם וּלְקַחְתֶּם

מִפְּרִי הָאָרֶץ וְהַיָּמִים יְמֵי בִּכּוּרֵי עֲנָבִים:

Moses sent them to spy out the land of Canaan. And he said to them, "Go up here into the Negev, then go up into the hill country. See the land, what it is, and what the people who dwell in it are like. Are they strong or are they weak? Whether they are few or many. And what is the land in which they dwell: is it good or bad? And what are the cities like in which they dwell? Are they in camps or in fortifications? And what of the soil: is it rich or poor? Are there any trees in it or not? Strengthen yourselves and take some of the fruit of the land." (Now the days were the days of the first fruits of the grapes).

Clearly, he gave them this long charge concerning their mission as he sent them out, or before he sent them out, not afterwards. They would not have been there after he sent them. If, on the one hand, sending is a process, the text elaborates on this process. Part of the process is the charge. If on the other hand, it is an instantaneous event, it must follow the charge. To put it another way, the charging occurred during the time period of the sending or preceded it. In addition, for the former way of understanding, although Moses' actions of sending and speaking are compatible, and thus, not constrained to happen at different times, the linearity of texts requires this verbal sequence; for the latter way, the verbs are in reverse temporal order.

THE RETURN OF JOSHUA'S MEN SENT TO RECONNOITER JERICHO (JOSHUA 2:23)

²³ **וַיָּשֻׁבוּ** שְׁנֵי הָאֲנָשִׁים **וַיֵּרְדוּ** מֵהָהָר **וַיַּעֲבְרוּ** **וַיָּבֹאוּ** אֶל־יְהוֹשֻׁעַ בִּן־נוּן **וַיְסַפְּרוּ**־לוֹ

אֵת כָּל־הַמֹּצְאוֹת אוֹתָם:

Then the two men **returned**. They **descended** from the hill country, **crossed** [the Jordan], **came** to Joshua bin Nun and **recounted** to him everything which had happened to them [lit. found them].

The first sentence above (first *wayyiqtol*) leaves the men safe in the camp of Israel on the plains of Moab across from Jericho. The second *wayyiqtol* takes us back in time, expanding on their journey back to their camp in Transjordan, starting with their descent from their hiding place for three days in the hill

country above Jericho. The third *wayyiqtol* relates their subsequent crossing of the Jordan. The fourth is their eventual coming before Joshua to give their report. The three actions represented by last three of these *wayyiqtols* occurred within the time span of the eventuality depicted by the first *wayyiqtol*, וַיָּשֻׁבוּ, "returned." The final *wayyiqtol* in the above text conveys the giving of this report.

JOSHUA ORDERS AN AMBUSH TO BE SET AGAINST AI (JOSHUA 8:3–4)

‏3 **וַיָּקָם** יְהוֹשֻׁעַ וְכָל־עַם הַמִּלְחָמָה לַעֲלוֹת הָעָי **וַיִּבְחַר** יְהוֹשֻׁעַ שְׁלֹשִׁים אֶלֶף אִישׁ גִּבּוֹרֵי הַחַיִל **וַיִּשְׁלָחֵם** לָיְלָה:

‏4 **וַיְצַו** אֹתָם לֵאמֹר רְאוּ אַתֶּם אֹרְבִים לָעִיר מֵאַחֲרֵי הָעִיר אַל־תַּרְחִיקוּ מִן־הָעִיר מְאֹד וִהְיִיתֶם כֻּלְּכֶם נְכֹנִים:

Joshua and all the men of war **arose** to go up to Ai. Joshua **chose** thirty thousand men, the best warriors and **sent** them at night. He **commanded** them, "Look, you are going to set an ambush for the city. Do not be very far from the city. And all of you be ready."

The pertinent issue for us in these verses is the temporal sequence—or lack thereof—between the third and fourth *wayyiqtols.* Here we see Joshua sending men on a mission, as Moses did earlier (Numbers 13:17ff). The second verb differs from that in the Numbers passage, but the reasoning is the same—save one additional thought. The necessary secrecy, which had to obtain to have a successful ambush, precludes—I think—the idea that Joshua shouted the orders to the ambushers after they left to position themselves. Thus, the text here cannot be iconic.

JOSHUA'S INSTRUCTIONS TO THE DELINQUENT TRIBES ABOUT THEIR LAND ALLOCATION (JOSHUA 18:2–10)

‏**וַיִּוָּתְרוּ** בִּבְנֵי יִשְׂרָאֵל אֲשֶׁר לֹא־חָלְקוּ אֶת־נַחֲלָתָם שִׁבְעָה שְׁבָטִים:

‏3 **וַיֹּאמֶר** יְהוֹשֻׁעַ אֶל־בְּנֵי יִשְׂרָאֵל עַד־אָנָה אַתֶּם מִתְרַפִּים לָבוֹא לָרֶשֶׁת אֶת־הָאָרֶץ אֲשֶׁר נָתַן לָכֶם יְהוָה אֱלֹהֵי אֲבוֹתֵיכֶם:

‏4 הָבוּ לָכֶם שְׁלֹשָׁה אֲנָשִׁים לַשָּׁבֶט וְאֶשְׁלָחֵם וְיָקֻמוּ וְיִתְהַלְּכוּ בָאָרֶץ וְיִכְתְּבוּ אוֹתָהּ לְפִי נַחֲלָתָם וְיָבֹאוּ אֵלָי:

‏5 וְהִתְחַלְּקוּ אֹתָהּ לְשִׁבְעָה חֲלָקִים יְהוּדָה יַעֲמֹד עַל־גְּבוּלוֹ מִנֶּגֶב וּבֵית יוֹסֵף יַעַמְדוּ עַל־גְּבוּלָם מִצָּפוֹן:

‏6 וְאַתֶּם תִּכְתְּבוּ אֶת־הָאָרֶץ שִׁבְעָה חֲלָקִים וַהֲבֵאתֶם אֵלַי הֵנָּה וְיָרִיתִי לָכֶם גּוֹרָל פֹּה לִפְנֵי יְהוָה אֱלֹהֵינוּ:

‏⁷כִּ֠י אֵֽין־חֵ֨לֶק לַלְוִיִּ֜ם בְּקִרְבְּכֶ֗ם כִּֽי־כְהֻנַּ֤ת יְהוָה֙ נַחֲלָת֔וֹ וְגָ֤ד וּרְאוּבֵן֙ וַחֲצִי֙ שֵׁ֣בֶט הַֽמְנַשֶּׁ֔ה לָקְח֖וּ נַחֲלָתָ֑ם מֵעֵ֨בֶר לַיַּרְדֵּן֙ מִזְרָ֔חָה אֲשֶׁר֙ נָתַ֣ן לָהֶ֔ם מֹשֶׁ֖ה עֶ֥בֶד יְהוָֽה׃

‏⁸**וַיָּקֻ֥מוּ** הָאֲנָשִׁ֖ים **וַיֵּלֵ֑כוּ וַיְצַ֣ו** יְהוֹשֻׁ֡עַ אֶת־הַהֹלְכִים֩ לִכְתֹּ֨ב אֶת־הָאָ֜רֶץ לֵאמֹ֗ר לְכ֨וּ וְהִתְהַלְּכ֣וּ בָאָרֶץ֮ וְכִתְב֣וּ אוֹתָהּ֒ וְשׁ֣וּבוּ אֵלַ֔י וּ֠פֹה אַשְׁלִ֨יךְ לָכֶ֥ם גּוֹרָ֛ל לִפְנֵ֥י יְהוָ֖ה בְּשִׁלֹֽה׃

‏⁹**וַיֵּלְכ֤וּ** הָֽאֲנָשִׁים֙ **וַיַּעַבְר֣וּ** בָאָ֔רֶץ **וַיִּכְתְּב֧וּהָ** לֶעָרִ֛ים לְשִׁבְעָ֥ה חֲלָקִ֖ים עַל־סֵ֑פֶר **וַיָּבֹ֥אוּ** אֶל־יְהוֹשֻׁ֖עַ אֶל־הַֽמַּחֲנֶ֥ה שִׁלֹֽה׃ ¹⁰**וַיַּשְׁלֵךְ֩** לָהֶ֨ם יְהוֹשֻׁ֧עַ גּוֹרָ֛ל בְּשִׁלֹ֖ה לִפְנֵ֣י יְהוָ֑ה **וַיְחַלֶּק־**שָׁ֨ם יְהוֹשֻׁ֜עַ אֶת־הָאָ֗רֶץ לִבְנֵ֥י יִשְׂרָאֵ֖ל כְּמַחְלְקֹתָֽם׃ פ

And seven tribes **remained** among the sons of Israel who had not allocated their inheritance.

So, Joshua **said** to the sons of Israel, "How long will you be lax about entering into possessing the land that YHWH, the God of your fathers, has given to you? Appoint for yourselves three men per tribe in order that I might send them, that they might immediately go all about the land and write out [a description of] it for the purpose of their inheritance, and then come to me. Then they will allocate it into seven portions/Then it will be allocated into seven portions [the latter understands the masculine plural weqatal to have a dummy subject; and, thus, to be a passive]. Judah will stand according to its border in the Negev. And the House of Joseph will stand according to their border in the north. But as for you, you will write out the land into seven portions. Then you will bring [the results] to me here. Then I will throw the lot for you here before YHWH, our God. But the Levites have no portion amongst you, because the priesthood of YHWH is their inheritance. Also, Gad, Reuben, and half of the tribe of Manasseh received their inheritance on the other side of the Jordan eastward, which Moses, the servant of YHWH, had given to them."

Then the men **went** immediately. And Joshua **commanded** those who went to write out the land: "Go all around in the land, write it out, and return to me. Then, here I will throw [different root] the lot for you before YHWH at Shiloh."

So, the men **went**, **traveled** through the land and **wrote** it out upon a scroll by [its] cities into ten portions. Then they **came** to Joshua, to the camp at Shiloh. And Joshua **threw** [same root as previous] the lot for them at Shiloh before YHWH.

So, Joshua **apportioned** there the land for the sons of Israel according to their allotments.

I have split up the text above into its natural divisions. The first is strictly a narrative, giving the background for the rest of the text: there is a problem: seven tribes had not yet determined—let alone claimed— their portions of the land. The

second part of the text is Joshua's reaction to their delinquency, his speech to them, comprising a preliminary rebuke, followed by commands for them to survey the remaining land, divide it into seven parts and return to him, at which time he would cast lots to determine each tribe's allotment. And inasmuch as it was Joshua's *reaction*, the circumstances detailed in the first part of the text were its cause. Thus, Joshua's first speech is an example of *Result*; and, temporally follows his realization of the tribes' laxness. The third section of text recounts in narrative prose the surveyors' response to Joshua's command (they went, as he had earlier ordered them); and a second speech, Joshua's instructions to them as he dispatched them (very similar to what he said before), which would have preceded their actual leaving. The fourth section of the text begins with a restatement of the first part of the third section: "the men went"—consequently, there is no time advance—and continues with the record of the compliance of the men sent out by Joshua and of Joshua's actions on their behalf. The fifth section could be part of the fourth, but I set it off by itself as a summary of the whole. The redundant re-lexicalization of Joshua's name in the last section corroborates this analysis. And, furthermore, it then ties in nicely with the first section: the problem has been solved. In either case (part of the fourth or a separate fifth) casting lots is part of the apportionment process, so there is no temporal progression from "threw" to "apportioned."

The Philistines Gather for Battle (1 Samuel 17:1)

וַיַּאַסְפ֨וּ פְלִשְׁתִּ֤ים אֶת־מַחֲנֵיהֶם֙ לַמִּלְחָמָ֔ה וַיֵּאָסְפ֣וּ שֹׂכֹ֔ה אֲשֶׁ֖ר לִֽיהוּדָ֑ה וַיַּחֲנ֣וּ בֵּין־
שׂוֹכֹ֥ה וּבֵין־עֲזֵקָ֖ה בְּאֶ֥פֶס דַּמִּֽים׃

The Philistines **gathered** their camp for battle. They **amassed** at Sokoh, which belongs to Judah, and **camped** between Sokoh and 'Azekah in Ephes Dammim.

It is clear from both the immediate and extended context what this text describes: the staging of the Philistines in the Valley of Elah to fight against the forces of Saul. The first *wayyiqtol* gives us a general introductory encapsulation: the Philistines gathered together their forces to engage in battle. The second and third *wayyiqtols* give us the particulars of the location of their camp, with the third further specifying the place beyond what the second does. The result is general, followed by specific, followed by even more specific. The elaboration is spatial: it concerns the circumstances of the event; it does not break down the eventuality into sub-eventualities. In this case, the second obviously occurred within the same time interval in which the first happened. And, the third happened within this interval as well. Consequently, there is no temporal progression represented by the textual sequence.

Joab's Report to David about the Imminent Capture of Rabbah of Ammon (2 Samuel 12:27)

²⁷ **וַיִּשְׁלַח** יוֹאָב מַלְאָכִים אֶל־דָּוִד **וַיֹּאמֶר** נִלְחַמְתִּי בְרַבָּה גַּם־לָכַדְתִּי אֶת־עִיר הַמָּיִם:

Joab **sent** messengers to David. And he **said**, "I have fought against Rabbah. I have even captured the city of the water [likely, the city's water supply complex]."

The pertinent issue in this text is whether "he" refers to Joab giving the message to be conveyed to David, with an ellipsis more or less like the following, *And he said to them, 'you will say to the king…'*, one of the messengers as the mouthpiece for Joab, or the messengers collectively speaking as him. If it is the first of these—which I believe to be the most likely scenario, albeit it is ambiguous—then this is another case of the recounting of a message given to messengers, which textually follows the recounting of them being sent. We know that the giving of a message cannot occur after the messenger has left. The latest it can occur with respect to the sending is that it happened at the same time; to suggest that the message was shouted to them after they left, which would have to be the case if this text were iconic, strains credulity. Thus, again, the temporal order of the *wayyiqtols* is reversed from their order in the text. So there is no temporal progression in the text. On the contrary, it is likely that there is temporal *regression*.

On the other hand, if is the second or third possibility, there would be *Serialation* (or possibly even *Result*).

Nineveh's Response to Jonah's Message (Jonah 3:5–8)

⁵ **וַיַּאֲמִינוּ** אַנְשֵׁי נִינְוֵה בֵּאלֹהִים **וַיִּקְרְאוּ**־צוֹם **וַיִּלְבְּשׁוּ** שַׂקִּים מִגְּדוֹלָם וְעַד־קְטַנָּם:

⁶ **וַיִּגַּע** הַדָּבָר אֶל־מֶלֶךְ נִינְוֵה **וַיָּקָם** מִכִּסְאוֹ **וַיַּעֲבֵר** אַדַּרְתּוֹ מֵעָלָיו **וַיְכַס** שַׂק **וַיֵּשֶׁב** עַל־הָאֵפֶר: ⁷ **וַיַּזְעֵק וַיֹּאמֶר** בְּנִינְוֵה מִטַּעַם הַמֶּלֶךְ וּגְדֹלָיו לֵאמֹר הָאָדָם וְהַבְּהֵמָה הַבָּקָר וְהַצֹּאן אַל־יִטְעֲמוּ מְאוּמָה אַל־יִרְעוּ וּמַיִם אַל־יִשְׁתּוּ: ⁸ וְיִתְכַּסּוּ שַׂקִּים הָאָדָם וְהַבְּהֵמָה וְיִקְרְאוּ אֶל־אֱלֹהִים בְּחָזְקָה וְיָשֻׁבוּ אִישׁ מִדַּרְכּוֹ הָרָעָה וּמִן הֶחָמָס אֲשֶׁר בְּכַפֵּיהֶם:

The men of Nineveh believed in God. They called for a fast and wore sackcloth, from the greatest of them to the least of them.

The matter reached the king of Nineveh. He arose from his throne, removed his robe from himself, covered himself with sackcloth, and sat on ashes. He cried out and said, "In Nineveh from the decree of the king and his great ones [formal introduction of the decree to follow]: '[decree begins here] Let neither man nor domestic animal (cattle and flocks) taste anything or graze, and water let them not drink. Let man and domestic animal cover themselves with sackcloth and cry

forcefully to *God*. And let each turn back from his evil way and from the violence which is in their hands.'"

This text can be analyzed in two non-mutually exclusive ways: either verses six through eight are an explanation of the origin of the fast proclamation or they are an elaboration of it. And since they are non-contradictory, both could obtain. For all three possibilities, the actions recorded in verses six through eight were anterior to that reported in verse five. But, the structure of the elaboration is not so simple: it applies to only the second and third *wayyiqtol*, not the first; and, the italicized portion above is not part of the elaboration.

(b) Examples of Restatement

ABRAHAM JOURNEYS TO THE LAND OF CANAAN WITH SARAI, LOT, AND THE REST OF HIS HOUSEHOLD (GENESIS 12:4–5)

⁴ **וַיֵּ֣לֶךְ** אַבְרָ֗ם כַּאֲשֶׁ֨ר דִּבֶּ֤ר אֵלָיו֙ יְהֹוָ֔ה **וַיֵּ֥לֶךְ** אִתּ֖וֹ ל֑וֹט וְאַבְרָ֗ם בֶּן־חָמֵ֤שׁ שָׁנִים֙ וְשִׁבְעִ֣ים שָׁנָ֔ה בְּצֵאת֖וֹ מֵחָרָֽן׃

⁵ **וַיִּקַּ֣ח** אַבְרָם֩ אֶת־שָׂרַ֨י אִשְׁתּ֜וֹ וְאֶת־ל֣וֹט בֶּן־אָחִ֗יו וְאֶת־כָּל־רְכוּשָׁם֙ אֲשֶׁ֣ר רָכָ֔שׁוּ וְאֶת־הַנֶּ֖פֶשׁ אֲשֶׁר־עָשׂ֣וּ בְחָרָ֑ן **וַיֵּצְא֗וּ** לָלֶ֙כֶת֙ אַ֣רְצָה כְּנַ֔עַן **וַיָּבֹ֖אוּ** אַ֥רְצָה כְּנָֽעַן׃

Abram **went** just as YHWH had spoken to him. And Lot **went** with him. Now Abram was seventy-five years old when he went out of Haran. Abram **took** Sarai, his wife, Lot, the son of his brother, and all their possessions, which they had acquired, and every person, whom they had acquired in Haran. And they **went out** to go to the land of Canaan. And they **entered** the land of Canaan.

This text exhibits *Restatement* in the following way. The second VP with *wayyiqtol*, "And Lot went with him," is reprised in the third VP with *wayyiqtol*, "And Abram took Sarai, his wife, and *Lot*, the son of this brother" [emphasis, mine]. What is the purpose of the repetition? It might be providing clarification: that Lot went because Abram took him; he did not go on his own. In addition, it establishes the importance of Lot to Abram. He was *not obligated* to take Lot; but, could it be that he *wanted* to take him as a possible heir, in light of the fact that Sarai was barren? At any rate, the eventuality of Lot having being taken by Abram is the *very same eventuality* as Lot having going with him. So, obviously, there is no temporal progression here. Moreover, the eventuality is further examined in the text in the fourth main clause. Its *wayyiqtol* is plural, because Abram did not go out of his country by himself; he took his whole household (including Sarai and Lot) with him. But it is still looking at the same event. Again, therefore, time does not advance.

THE ACCOUNT OF THE DEATH OF URIAH THE HITTITE (2 SAMUEL 11:17)

¹⁷ וַיֵּצְאוּ אַנְשֵׁי הָעִיר וַיִּלָּחֲמוּ אֶת־יוֹאָב וַיִּפֹּל מִן־הָעָם מֵעַבְדֵי דָוֶד וַיָּמָת גַּם
אוּרִיָּה הַחִתִּי:

> The men of the city **came out** and **fought** with Joab. Some of the people from the
> servants of David **fell**. Also, Uriah the Hittite **died**.

The text above, although short, is extremely poignant, as we will see below,
and must be examined in some detail to understand its import. The first two
wayyiqtols give us the circumstances of a report of the fatalities afflicted on the
army of Israel by the inhabitants of the besieged city of Rabbah, who staged a
counterattack against Joab's forces surrounding the city in a desperate effort to
break the siege. These verbs are an *introductory encapsulation* of a peculiar type for
the details supplied farther on in the text in a report of the battle, which was given
to David (2 Samuel 11:23–24). Although in speech, rather than in narrative, and
occurring at a later time than the eventualities recounted, this description clearly
functions as an *Elaboration*, taking us back to the time of the battle.

This brings us to the next two *wayyiqtols*. It is the narrator's account of the
death of a few and the death of one. Why is the death of *this* man singled out? We
know the answer from the larger context of the story. Uriah refused to have
conjugal relations with his wife—and thereby cover up David's adultery and
impregnation of her—while his fellow soldiers were on the battlefield. Uriah
viewed it as a matter of loyalty. His integrity is boldly sketched; David's lack
thereof is most apparent. And thus, in David's mind Uriah must die, so that he
could hastily marry his widow and disguise her pregnancy. Never mind that this
would be snuffing out a life. He was a threat.

So, David asked Joab to arrange for Uriah's death by having his forces
withdraw from him in the heat of the battle, allowing him to be overwhelmed and
killed (2 Samuel 11:15). Joab must have wondered why the king wanted this man
dead. Notwithstanding his puzzlement, in loyal obedience to his liege's nefarious
orders, he placed the noble Hittite at the point of the attack (16). But not even
ruthless Joab could bring himself to carry out such a callous act as the second
order. Nevertheless, conveniently for David, gallant Uriah did die as part of the
vanguard in the siege of Rabbah.

We also are acquainted with the rest of the story. David married Uriah's
widow, and seemed to have gotten away with his sin by staging a successful
cover-up—with men, that is; not with God. A Divine reckoning was coming.

Supplied with this background, we now look at the temporal profile of the
eventualities recorded here. Our focus is on the third and fourth *wayyiqtols*. The
former reports the casualties sustained in the battle: "some of the servants of
David." We cannot swoop by this verb on the way to the next without the
following comment: David's orders not only cost Uriah his life but other loyal
servants of David as well! With the latter *wayyiqtol*, the text zooms in on one of
those loyal servants who gave their lives fighting for their king, namely, Uriah, in
a classic *Restatement* of general to specific, with the curt (only four Hebrew words)
grim report: "Also, Uriah the Hittite died." Why this repetition in this way? It is

because a driving emphasis in the immediate context and the larger as well is loyalty versus disloyalty. Loyal Uriah, loyal Joab, disloyal David. How loyal was Uriah the Hittite, husband of Bathsheba, loyal servant but hapless threat to a monarch who thought himself to be unaccountable and unassailable? So loyal, in fact, that he bore without question the missal containing his death warrant—he was no fool, the significance of David's bizarre antics in Jerusalem was transparent[42]—to the battle lines and put it into the hands of his commander. This way too he could demonstrate loyalty to his king, who had been disloyal to him—to protect the latter from himself as it were, at the cost of his life. His loyalty is in stark contrast to David's treachery, for that is what it was. He ordered a murder for personal gain. In short, the better man died. The Scripture is not finished with this bald statement; more must be said. And so it does, launching into Joab's report to his king of the results of the battle—including Uriah's death—in the following verses [which we will look at below]. As to the temporal profile of this text, Uriah's death is part of the death of the rest, and occurred therefore within the same time span as theirs. Hence, there is no temporal progression between the last two verbs of the text.

JOAB'S REPORT TO DAVID ABOUT THE BATTLE (2 SAMUEL 11:18–21)

<div dir="rtl">

18 וַיִּשְׁלַ֖ח יוֹאָ֑ב וַיַּגֵּ֣ד לְדָוִ֔ד אֶת־כָּל־דִּבְרֵ֖י הַמִּלְחָמָֽה׃

19 וַיְצַ֥ו אֶת־הַמַּלְאָ֖ךְ לֵאמֹ֑ר כְּכַלּֽוֹתְךָ֗ אֵ֛ת כָּל־דִּבְרֵ֥י הַמִּלְחָמָ֖ה לְדַבֵּ֥ר אֶל־הַמֶּֽלֶךְ׃

20 וְהָיָ֗ה אִֽם־תַּעֲלֶה֙ חֲמַ֣ת הַמֶּ֔לֶךְ וְאָמַ֣ר לְךָ֔ מַדּ֛וּעַ נִגַּשְׁתֶּ֥ם אֶל־הָעִ֖יר לְהִלָּחֵ֑ם הֲל֣וֹא יְדַעְתֶּ֔ם אֵ֥ת אֲשֶׁר־יֹר֖וּ מֵעַ֥ל הַחוֹמָֽה׃

21 מִֽי־הִכָּ֞ה אֶת־אֲבִימֶ֣לֶךְ בֶּן־יְרֻבֶּ֗שֶׁת הֲלֽוֹא־אִשָּׁ֡ה הִשְׁלִ֣יכָה עָלָיו֩ פֶּ֨לַח רֶ֜כֶב מֵעַ֤ל הַחוֹמָה֙ וַיָּ֣מָת בְּתֵבֵ֔ץ לָ֥מָּה נִגַּשְׁתֶּ֖ם אֶל־הַחוֹמָ֑ה וְאָ֣מַרְתָּ֔ גַּ֗ם עַבְדְּךָ֛ אוּרִיָּ֥ה הַחִתִּ֖י מֵֽת׃

</div>

Joab **sent** (a messenger) and **told** David the complete account of the battle. He **commanded** the messenger, "When you finish speaking the complete account of the battle to the king, if the anger of the king should arise, and he should say to you, 'Why did you fight so near the city?! Surely you know that they shoot from the wall! Who struck Abimelek, son of Jerubbeshet? Surely a woman threw upon him a millstone from the wall; and he died at Tebets. Why did you draw near the wall?!' Then you will say, 'Also, your servant, Uriah the Hittite, died.'"

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[42] See Meir Sternberg's fascinating and insightful analysis of the narrative of David trying to manipulate Uriah to have conjugal relations with his wife (in *The Poetics of Biblical Narrative: Ideological Literature and the Drama of Reading*.)

The first two *wayyiqtols* are an *introductory encapsulation*, explaining that Joab sent a messenger to David, who gave him the complete report of the battle in which Uriah died. Consequently, what follows is an *Elaboration*, but of a different kind: rather than giving us details of the report itself (a few of these come later in verses 24–25), we are looking at details of secondary instructions to the messenger of how he should respond to the king if he were to react to a certain section of it in a particular way—which, no doubt, was given to him before he was sent to the king. So this is a temporal flashback from the later time of the reporting to the earlier time of the sending.

The second *wayyiqtol* clause suggests that it was a complete report, as do Joab's words, "When you finish speaking the complete account of the battle to the king," as well as the narrator's comment in verse twenty-two. And although we are not privy to the contents of the report, we can infer from the king's potential objections, that a portion of the report, not surprisingly, listed casualties, which are to be expected in war. This time however, they included those incurred because of a highly questionable strategy, which went against historical precedent, the deployment of his troops near the wall of the city. Joab suspected that David would be angry at him and perplexed—given the fact that he was a general who knew military history—that he had ordered an assault near the wall. This implies that in compliance with David's orders to put Uriah into the thick of the battle in order that he would be killed, Joab ordered an elite unit, which included him, into a dangerously exposed position. (We will learn in verses twenty-three and twenty-four that Joab was not that foolish or cavalier with his men.) So, in anticipation of David's justifiable ire and what he suspected he might likely say, Joab gave further orders that he knew would mollify the king: "Then you will say, 'Also, your servant, Uriah the Hittite, died.'" According to verse twenty-two, the messenger gave the report verbatim to David [also an *introductory encapsulation*]. This is followed in verses twenty-three and twenty-four by an *Elaboration* of a portion of that report, which comprised the details of the elite unit's contribution to the battle, they pushed the enemy back to its gate, but the casualties they suffered in the process—including one in particular, Uriah. It appears that the messenger gave the last detail without waiting for the king's objections. It turns out—not unexpectedly, because David had schemed to effect this outcome—that he did not object to this section of the report.

ELISHA'S PROPHECY TO THE KING'S OFFICER AND ITS FULFILLMENT (2 KINGS 7:1–2; 17–20)

[For the convenience of the reader, in the text and the translation below the prophecies are italicized; the circumstances in question use an expanded font; and what happened to the officer is in a box. The fulfillment of all these and their recounting adds underlining.]

וַיֹּאמֶר אֱלִישָׁע שִׁמְעוּ דְּבַר־יְהוָה כֹּה| אָמַר יְהוָה כָּעֵת/ מָחָר סְאָה־סֹלֶת בְּשֶׁקֶל וְסָאתַיִם שְׂעֹרִים בְּשֶׁקֶל בְּשַׁעַר שֹׁמְרוֹן:

²נַ**יַּעַן** הַשָּׁלִ֨ישׁ אֲשֶׁר־לַמֶּ֜לֶךְ נִשְׁעָ֣ן עַל־יָד֗וֹ אֶת־אִ֣ישׁ
הָאֱלֹהִים֮ **נַיֹּאמַר֒** הִנֵּ֣ה יְהוָ֗ה עֹשֶׂ֤ה אֲרֻבּוֹת֙ בַּשָּׁמַ֔יִם
הֲיִהְיֶ֖ה הַדָּבָ֣ר הַזֶּ֑ה *וַיֹּ֣אמֶר הִנְּכָ֤ה רֹאֶה֙ בְּעֵינֶ֔יךָ וּמִשָּׁ֖ם לֹ֥א תֹאכֵֽל*׃

¹⁷וְהַמֶּ֗לֶךְ הִפְקִ֞יד אֶת־הַשָּׁלִ֨ישׁ אֲשֶׁר־נִשְׁעָ֤ן עַל־יָדוֹ֙ עַל־הַשַּׁ֔עַר **וַיִּרְמְסֻ֧הוּ** הָעָ֛ם
בַּשַּׁ֖עַר **וַיָּמֹ֑ת** כַּאֲשֶׁ֤ר דִּבֶּר֙ אִ֣ישׁ הָאֱלֹהִ֔ים אֲשֶׁ֣ר דִּבֶּ֔ר בְּרֶ֥דֶת הַמֶּ֖לֶךְ אֵלָֽיו׃

¹⁸*וַיְהִ֗י כְּדַבֵּ֞ר אִ֣ישׁ הָאֱלֹהִים֮ אֶל־הַמֶּ֣לֶךְ לֵאמֹר֒ סָאתַ֣יִם שְׂעֹרִ֣ים בְּשֶׁ֗קֶל וּֽסְאָה־*
סֹ֤לֶת בְּשֶׁ֙קֶל֙ יִהְיֶ֔ה כָּעֵ֣ת מָחָ֔ר בְּשַׁ֖עַר שֹׁמְרֽוֹן׃

¹⁹וַיַּ֨עַן הַשָּׁלִ֜ישׁ אֶת־אִ֣ישׁ הָאֱלֹהִים֮ וַיֹּאמַר֒ וְהִנֵּ֣ה
יְהוָ֗ה עֹשֶׂ֤ה אֲרֻבּוֹת֙ בַּשָּׁמַ֔יִם הֲיִהְיֶ֖ה כַּדָּבָ֣ר הַזֶּ֑ה **וַיֹּ֙אמֶר֙**
הִנְּךָ֤ רֹאֶה֙ בְּעֵינֶ֔יךָ וּמִשָּׁ֖ם לֹ֥א תֹאכֵֽל׃

²⁰**וַיְהִי־ל֖וֹ** כֵּ֑ן **וַיִּרְמְס֨וּ** אֹת֥וֹ הָעָ֛ם בַּשַּׁ֖עַר **וַיָּמֹֽת**׃

Elisha **said**, "Hear the word of YHWH; thus, YHWH has said, '*At this time tomorrow a seah of flour for a shekel; two seahs of barley for a shekel in the gate of Samaria*.'" The officer upon whose hand the king leaned **answered** the man of God and said, "If at this moment YHWH was about to make apertures in heaven, could this thing be?" He [Elisha] **said**, "*You are about to see it with your eyes, but from it you shall not eat*."

The king **appointed** the officer upon whose hand he leaned **to supervise** at the gate. And the people **trampled** him at the gate and he **died**, just as the man of God had spoken, which he had spoken when the king came down to him.

It was as the man of God had spoken to the king, "*Two seahs of barley for a shekel; a seah of flour for a shekel will be at this time tomorrow in the gate of Samaria*." And the officer **answered** the man of God and said, "If at this moment YHWH was about to make apertures in heaven, could this thing be?" He [Elisha] **said**, "*You are about to see it with your eyes, but from it you shall not eat*."

It was to him that way: the people **trampled** him at the gate and he **died**.

    The above is a remarkable case of restatement. Both of Elisha's predictions and the circumstances which prompted the second of these are recalled in their entirety, almost verbatim, to show that what happened was a fulfillment of prophecy. What happened to the king's officer is also repeated.

    The first prophecy was that the price of food would dramatically drop the next day. This could only happen—of course—if there were a sudden unexpected windfall of food for the city. But the city was in the grip of a deadly famine,

brought on by a prolonged siege of the Aramean army. As readers we wonder. So did the king's officer. But questioning the word of the man of God had fatal consequences for him. This leads us to the second prophecy concerning those consequences. The second prophecy was Elisha's response to the disbelieving sarcastic comment of the king's officer: that the latter would see the famine broken but would not eat any of the food. This smacks of being a riddle: how can you see food but not eat it? We find out as the story unfolds. Lepers found the camp of the besieging Arameans abandoned, because YHWH had caused them to hear the sound of a massive army approaching. They panicked and fled, leaving all their supplies. After gorging themselves for a while on their food, they were struck with their need to inform the city—which they did. The king thought it was a trap, sent scouts to verify the leper's story, and found it to be true. The starving people rushed through the gate to plunder the Aramean camp, trampling to death the king's officer in the process. The relating of the death of the king's officer frames the portion of the text evincing the fulfillment of both Elisha's prophecies. Of course, the officer's demise is a fulfillment in itself. The *wayyiqtols* translated "answered," "said," "trampled," and "died" recur in the text, referring to exactly the same incidents as when are used the first time and to exactly the same times.

(c) Examples of Summary

ASSESSMENT OF ESAU'S ACTIONS (GEN. 25:34)

³⁴ וְיַעֲקֹ֞ב נָתַ֣ן לְעֵשָׂ֗ו לֶ֚חֶם וּנְזִ֣יד עֲדָשִׁ֔ים וַיֹּ֣אכַל וַיֵּ֔שְׁתְּ וַיָּ֖קׇם וַיֵּלַ֑ךְ וַיִּ֥בֶז עֵשָׂ֖ו אֶת־הַבְּכֹרָֽה׃

As for Jacob, he gave Esau bread and lentil stew. And he [Esau] **ate** and **drank**, **arose** and **went**. So, Esau **despised** his birthright.

Stroup has discussed this verse above and pointed out the obvious fact that Esau did not wait until he had eaten all the stew before he had anything to drink. Indeed, most likely he alternated between eating and drinking as we do, given that the two actions represented by the first two *wayyiqtols* are compatible. On the other hand, the third and fourth *wayyiqtols* are most likely not compatible with the first two, and thus must occur after them in time, even though one can imagine a scenario with Esau still chomping on his food and carrying a wineskin from which he frequently takes a deep draught as he runs off, not giving a single thought to what he has lost in exchange for fleeting gratification. The fifth *wayyiqtol* is altogether different from the rest. It is summary assessment of what Esau has done.

SUMMARIES OF DURATIONS OF JUDGSHIPS (JUDGES 12:8–12)

¹¹ **וַיִּשְׁפֹּט** אֶת־יִשְׂרָאֵל עֶ֫שֶׂר שָׁנִ֑ים: ¹² **וַיָּ֫מָת** אֵל֣וֹן הַזְּבֽוּלֹנִ֗י **וַיִּקָּבֵ֛ר** בְּאַיָּל֖וֹן בְּאֶ֥רֶץ זְבוּלֻֽן:

And he **judged** Israel seven years. Then Elon, the Zebulonite **died** and **was buried** in Ayyalon in the land of Zebulun.

This happens to be the formulaic ending of the account of Elon's judgeship, but each of the three accounts of the minor judges from this portion of the Book of Judges, ends in the same formulaic way with three *wayyiqtols*: the first is a summary statement of how many years the judge judged, differing from the others only in his length of tenure; the second, reporting his death; and the third, recording his burial in such and such a place. Each first *wayyiqtol* encompass that judge's entire rule and thus does not evince any temporal progression.

Samson's Weeping Philistine Wife (Judges 14:16–17)

¹⁶ **וַתֵּ֣בְךְּ** אֵ֣שֶׁת שִׁמְשׁוֹן עָלָיו **וַתֹּ֗אמֶר** רַק־שְׂנֵאתַ֙נִי֙ וְלֹ֣א אֲהַבְתָּ֔נִי הַֽחִידָ֣ה חַ֗דְתָּ לִבְנֵ֤י עַמִּ֙י וְלִ֣י לֹ֣א הִגַּ֑דְתָּה **וַיֹּ֣אמֶר** לָ֗הּ הִנֵּ֤ה לְאָבִ֤י וּלְאִמִּ֙י לֹ֣א הִגַּ֔דְתִּי וְלָ֖ךְ אַגִּֽיד: ¹⁷ **וַתֵּ֤בְךְּ** עָלָיו֙ שִׁבְעַ֣ת הַיָּמִ֔ים אֲשֶׁר־הָיָ֥ה לָהֶ֖ם הַמִּשְׁתֶּ֑ה **וַיְהִ֣י** בַּיּ֤וֹם הַשְּׁבִיעִי֙ **וַיַּגֶּד**־לָ֔הּ כִּ֥י הֱצִיקַ֑תְהוּ **וַתַּגֵּ֥ד** הַחִידָ֖ה לִבְנֵ֥י עַמָּֽהּ:

The wife of Samson **wept** upon him. She **said**, "You only hate me; you do not love me. A riddle you told to the sons of my people, but me you did not tell." Then he **said** to her, "Indeed, my father and my mother I have not told; and you I should tell?" She **wept** upon him the seven days that constituted their feast. Finally, on the seventh day he **told** her, because she had pressured him [so]. Then she **told** the riddle to the sons of her people.

Because her countrymen invited to the wedding feast for Samson and herself threaten to immolate her if she did not find out the secret of Samson's riddle, Samson's wife, instead of telling her husband of their intimidation, determined to pry the secret out of him. She tried to move him with her tears (the first *wayyiqtol*) and to break his resolve with baseless charges that his unwillingness to tell her the secret showed that he hated her (the second *wayyiqtol*). His retort to her that since he had not even told his parents, why should he tell her (the third *wayyiqtol*), indicates that he resisted her efforts at first. Although a man should trust his wife with secrets more than he does his parents—and thus his reply to her evinces a basic misunderstanding of marriage—his misgivings about her loyalty to him vis-à-vis to her countrymen were apparently not misplaced, seeing that she betrayed him as soon as she knew the secret (the seventh *wayyiqtol*). One could ask: why did she not seek his help? Instead she resolutely pursued her campaign of tears and false accusations for their entire wedding celebration week (the fourth *wayyiqtol*) until he broke under her ceaseless barrage and told her the secret (the

sixth *wayyiqtol*). The fourth *wayyiqtol* is a summary of the first three, the same cycle repeating itself over and over again for seven days.

SUMMATION: In light of all the various perspectives on **coherence relations**, we could have approached the subject from many angles; used different, more, or fewer categories; and furnished other and certainly more biblical examples. In no stretch of the imagination have we examined all of the occurrences of any of the categories. But hopefully we have a better understanding of how they work in the BH text, particularly with respect to temporal sequence. The set of **coherence relations** we chose (*Serialation*, *Result/Cause*, *Contrast*, and *Elaboration*) seems well represented in BH narrative and provides not a few examples of dischronologized *wayyiqtol*. We can further say that time progresses in the first two, but not in the second two.

Now we must move on to consider what might be perhaps the most decisive factor in determining temporal progression in a text, the **compatibility** or **incompatibility** of eventualities.

2. 3 *Compatibility/Incompatibility and Temporal Displacement*

2.3.1 Introduction
As discussed above, the **compatibility** versus **incompatibility** of the eventualities represented by the VPs in a text is a decisive factor in determining the temporal profile of that text, specifically with regard to the possibility of the simultaneity or non-simultaneity of the eventualities. **Compatibility** and *simultaneity* go hand in hand. *Compatible eventualities* means those that *can* occur simultaneously; but they are not constrained to do so. This requires us then to understand the concept of simultaneity.

If we posit that an eventuality occurs over an interval of time, simultaneity is overlap—however small—of these intervals. Most often in our discussion below we will employ common nomenclature, such as *at the same time*, *concurrent*, or *contemporaneous*, referring when we do so to overlapping time intervals, but only employing the latter more cumbersome verbiage when necessary.

Compatible eventualities can occur simultaneously (although are not constrained to be so); incompatible cannot. But even so, the linear character of text (word follows word) requires that concurrent eventualities be recounted sequentially. In this case, textual sequentiality does not mirror reality: the text cannot be iconic. On the other hand, if eventualities are incompatible, the time the eventualities occurred must be different: the incompatibility of eventualities displaces the time of the eventualities. And, in this case, the sequentiality can be iconic, but not necessarily so: the polarity of the text could be reversed as in *Bob fell. Al pushed him.* It is up to the reader to use temporal reasoning to deduce whether or not the eventualities did indeed happen at the same time.

In the texts below, I will argue that the eventualities described were either certainly simultaneous or likely so.

2.3.2 Biblical Examples

JACOB COOKING; ESAU ARRIVES (GENESIS 25:29)

וַיָּ֥זֶד יַעֲקֹ֖ב נָזִ֑יד **וַיָּבֹ֥א** עֵשָׂ֛ו מִן־הַשָּׂדֶ֖ה וְה֥וּא עָיֵף׃

Jacob **was cooking** a stew. Esau **came** in from the field. (Now he was exhausted.)

My translation of the first *wayyiqtol* clause as "Jacob was cooking a stew," reflects my perception of this event. From common knowledge we understand that Esau could have arrived while Jacob was cooking the stew. Both *cooking* and *arriving* can happen at the same time.

Then the question must be asked: why was Jacob's cooking not grammaticalized as an infinitive construct with prefixed בְּ or כְּ, ("when" and "when and because," respectively)? My answer is that this would subordinate the cooking to the arriving, which is not what the author wanted to convey. Nor did he want to contrast the two, which probably would have been done with the second clause being disjunctive with *qatal* instead of conjunctive with *wayyiqtol*. All of this *may* suggest that sequential *wayyiqtols* are required to represent the occurrence of equally sentient, simultaneous eventualities, which are not meant to be contrasted.

BALAAM'S SHE-ASS CRUSHES HER MASTER'S FOOT (NUMBERS 22:25)

וַתֵּ֣רֶא הָאָת֗וֹן אֶת־מַלְאַ֣ךְ יְהוָה֮ **וַתִּלָּחֵץ֮** אֶל־הַקִּיר֒ **וַתִּלְחַ֤ץ** אֶת־רֶ֨גֶל֙ בִּלְעָ֔ם אֶל־הַקִּ֑יר **וַיֹּ֖סֶף** לְהַכֹּתָֽהּ׃

The she-ass **saw** the Angel of YHWH. She **pressed** against the wall and **pressed** Balaam's foot against the wall. Consequently, he **struck** her again.

The verse above furnishes a parade example of simultaneous actions constrained to be sequential in the text because of its physical linearity. The second and third *wayyiqtols* clearly refer to the same event. There is no other possibility. Simultaneity might be debatable for the other examples in this sub sub-section, but not this one. Even the roots for the two are the same; although, the stems differ. The first is a *Niphal*; the second is a *Qal*. The *Niphal* in this verse is a verb of physical motion: to move next to something or squeeze against something—in this case, the wall.[43] In English translations this idea has been rendered in a number of different ways, often with a pseudo-reflexive (adding

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[43] The *Niphal* is a verb of motion; but, not usually physical motion. Usually the subject-experiencer-referent moves from one *state* to another; but, occasionally—as in this case—it can refer to physical motion. I elucidated these ideas in my dissertation and argued from the *Niphal*'s attested diatheses that it has medio-passive voice. Indeed, I discussed this verse in particular.

"herself"): "thrust herself against" (GNV; KJV), "pushed herself" (NKJ), "pushed against" (ESV), "pressed herself against" (TNK), "pressed close to" (NIV), "scraped against" (NJB, NRS), and so forth. At any rate, the text looks at the same eventuality from different perspectives: hers and his. From hers, she moved as close as she possibly could to the wall to avoid the menacing Angel of YHWH. From his, one of his dangling feet—because he was straddling her—was between her side and the wall. And so it was crushed, pressed, pinched, scraped, etc. against the wall.

GOLIATH AND DAVID RUN TOWARDS EACH OTHER (1 SAMUEL 17:48)

וְהָיָה֙ כִּֽי־קָ֣ם הַפְּלִשְׁתִּ֔י **וַיֵּ֥לֶךְ וַיִּקְרַ֖ב** לִקְרַ֣את דָּוִ֑ד **וַיְמַהֵ֣ר** דָּוִ֗ד **וַיָּ֧רָץ** הַמַּעֲרָכָ֛ה לִקְרַ֖את הַפְּלִשְׁתִּֽי׃

When the Philistine arose, he **went** and **drew near** to meet David. David **hastened** and **ran** to the battle line to meet the Philistine.

Although it is *possible* that David waited until Goliath had taken his position and then ran to meet him; it is not *plausible*. Most likely David delayed at most a split second before running toward Goliath. In other words they were approaching one another at the same time. And yet the physical linearity of texts requires that their respective actions be reported sequentially: two *wayyiqtols* describing Goliath's approach, followed by two *wayyiqtols* for David. In addition, this may support what I said above concerning how simultaneous eventualities having the same level of significance were construed by the author when his purpose was not to indicate contrast.

DAVID DODGING SAUL'S SPEAR (1 SAMUEL 18:11)

[11] **וַיָּ֤טֶל** שָׁאוּל֙ אֶֽת־הַחֲנִ֔ית **וַיֹּ֕אמֶר** אַכֶּ֥ה בְדָוִ֖ד וּבַקִּ֑יר **וַיִּסֹּ֧ב** דָּוִ֛ד מִפָּנָ֖יו פַּעֲמָֽיִם׃

Saul **hurled** a spear and **said**, "I will transfix David onto the wall." But David **dodged** him twice.

A little common sense brings light to these eventualities. First of all Saul certainly did not throw his spear and *then* think his murderous thought. They were simultaneous or the thought preceded the action. But what of David's dodging? Assuming that David knew that Saul usually threw on target, he could not have waited to determine if that was the case, because he was the target! He must have delayed, however, for an instant until Saul released the spear, at which point, the king would have no further control over it. If David had moved too soon, Saul could have just altered his aim. Nevertheless, David did dodge when the spear was in flight towards him. It is like and unlike baseball. The pitcher releases the ball from his fingers first. Saul did the same with his spear. Then the batter—

unlike David, who did not want to intercept the projectile from Saul—moves his bat to intercept the projectile. The batter has to hit the ball before it reaches its intended destination, the catcher's mitt, in mid-flight, as it were. But the ball's trajectory is determined by the pitcher (and gravity, and the wind, and possibly other factors) as was Saul's spear. The question is: does throwing an object anticipate hitting an intended target and thus include its trajectory or is just its release? I believe that the former is the case, as Saul made clear by his thoughts, and certainly what is the goal of pitching.

SUMMATION: Up to this point we have been looking only at consecutive verbs to understand the factors that determine temporal progression. But clearly because of *Elaboration* and *Contrast*, temporal progression can skip over verbs, as we will now show as we consider to which verb a given verb is linked. With this next factor we begin to expand from the immediate context (the ***macro-level***) to the larger context of the ***mega-level***.

2.4 *Attachment/Detachment and Temporal Dislocation*

2.4.1 What is Verbal Attachment? And Where Do Verbs Attach?
It is a fact that most often verbs attach to the verbs closest to them, but not always. What do we mean by attachment? A verb is attached to another verb if the eventuality corresponding to the second verb is more closely connected (temporally or logically) to the first verb than to other verbs. Verbs attach to other verbs at the same level, as if in an outline.[44] Verbs can also be connected in this way, that all of them are subsets of another verb. To illustrate these ideas and a number of others we have discussed above consider the following contrived scenario involving our playground trio:

(45) a. The boys had a full day on Saturday
      b.   They flew kites
          c.   Al brought the kite kits
          d.   Bob brought the string
          e.   Carl assembled them
          f.   They all ran as fast they could so that their kites went up in the air
          g.   The wind died down for a few minutes
          h.   Al left
          i.   The wind picked up again
      j.   Al road his bike in the neighborhood
      k.   The three went to the shore in the afternoon with their parents, older siblings and their dogs
          l.   They played with their dogs

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[44] Organizing these eventualities as an outline as I did above, allows us to see the truth of Asher and Vieu's assertion that "discourse has a hierarchal structure" (2005, 591). Also—as they note—***coherence relations*** differ in two more significant ways. First, coordinating relations alter the topic of the discourse; subordinating, do not (596). And, second, subordinating relations can be deleted and still have a coherent text; not so, with coordination (596–7).

m. Al ran with his—or at least tried to
n. Bob and *Carl* played fetch with theirs
    o. They threw balls into the water
    p. Their dogs chased them
    q. They brought them back so that they could throw them again
r. Al joined in with his dog on the fun they were having
s. Al built a sand castle
t. Bob and *Carl* watched their older brothers surf
u. Al fell asleep
v. They all fell asleep on the way home
w. They sleepily climbed up the stairs of their respective houses
x. They fell into bed
y. They went to church the next day

I organized this according to its levels using world knowledge of what things naturally go together. But when considered formally, this amounts to recognizing the hierarchy that is in the text; or from Asher and Vieu's (2005, 596–7) perspective: ascertaining where there is coordination (temporal progression occurs)[45] versus where there is subordination (no temporal progression). Among the general characterizations of **coherence relations**, which are noted by them, two stand out as the most significant. One, coordinating relations alter the topic of the discourse; subordinating, do not. Subordinating relations can be deleted and still have a coherent text; not so, with coordination. Attempting attachments outside of a level leads to temporal confusion and a faulty understanding of a text.

The groupings of (45) are obvious using our understanding of serialation, causation, contrast, elaboration, and **compatibility** (or the lack thereof). The following is a possible analysis: (a) is an introductory encapsulation for (b) through (x). (y) is not included, because it is not on Saturday. The eventualities (b), (j), (k), (w) and (x) are mutually exclusive activities for Bob and *Carl* [I am not using "activities" in the technical sense of situation aspect]. They are not compatible. But, Al could ride his bike while Bob and *Carl* flew their kites. Nevertheless, he most likely cannot fly a kite while riding a bike, besides he left the kite-flyers. So, for Al, (b), (j), (k), (w) and (x) are *incompatible.* (c) through (i) are an elaboration of (b). (c) and (d) could happen at the same time. (e) cannot happen until (c) and (d) do, but are not caused by them. (e) provides the circumstances for (f), but does not cause it. (g) is not caused by (f), Nor does the latter provide the circumstances for the former. Rather, the negation of (g) caused their kites to fly. This is a bit of temporal reversal. (g) causes (h) or at least provides the circumstances for it. (i) would allow the kites to fly again. (j) could happen while Bob and *Carl* continue to fly their kites, but has nothing to do with kite flying. (k) also is *incompatible* with (b) and (j) and happens later in the day. It is not connected to (j); but rather, is an obvious subset of (a), as are, (b), (w) and (x). (l), (s), (t), (u) and (v) are all subsets of (k) and therefore elaborations of it.

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[45] They consider narration—what we have called *Serialation*—the prototypical *coordinating* coherence relation; whereas, *Elaboration* is the prototypical *subordinating* relation (600).

(s), (t), (u) and (v) are not *compatible* with (l); but (s) is *compatible* with (t), (t) is *compatible* with (u), even though (s) is not *compatible* with (u). Obviously, (v) is not *compatible* with (l), (s), (t) and (u). (m), (n) and (r) are subsets of (l), for which it their introductory encapsulation. (m) and (n) are *compatible*, (n) and (r) are *compatible*; but, (m) and (r) are not compatible. (o), (p) and (q) are an elaboration of (n) and are temporally in order, since (o) provides the circumstances for (p) and (p) for (q).

The same types of structures obtain in biblical Hebrew narrative, as will be shown in the examples below—and this is usually with *wayyiqtols.* Failure to recognize this can lead to misunderstanding and misinterpretation.

2.4.2 Biblical Examples
We are going to look at three extraordinary examples, in which considering attachment can greatly help in understanding the temporal profile of the text.

ISAAC SENDS JACOB TO PADAN ARAM; ESAU RESPONDS (GENESIS 28:1–10)

וַיִּקְרָא יִצְחָק אֶל־יַעֲקֹב **וַיְבָרֶךְ** אֹתוֹ **וַיְצַוֵּהוּ וַיֹּאמֶר** לוֹ

לֹא־תִקַּח אִשָּׁה מִבְּנוֹת כְּנָעַן: ² קוּם לֵךְ פַּדֶּנָה אֲרָם בֵּיתָה בְתוּאֵל אֲבִי אִמֶּךָ וְקַח־לְךָ מִשָּׁם אִשָּׁה מִבְּנוֹת לָבָן אֲחִי אִמֶּךָ: ³ וְאֵל שַׁדַּי יְבָרֵךְ אֹתְךָ וְיַפְרְךָ וְיַרְבֶּךָ וְהָיִיתָ לִקְהַל עַמִּים: ⁴ וְיִתֶּן־לְךָ אֶת־בִּרְכַּת אַבְרָהָם לְךָ וּלְזַרְעֲךָ אִתָּךְ לְרִשְׁתְּךָ אֶת־אֶרֶץ מְגֻרֶיךָ אֲשֶׁר־נָתַן אֱלֹהִים לְאַבְרָהָם:

⁵ **וַיִּשְׁלַח** יִצְחָק אֶת־יַעֲקֹב **וַיֵּלֶךְ** פַּדֶּנָה אֲרָם אֶל־לָבָן בֶּן־בְּתוּאֵל הָאֲרַמִּי אֲחִי רִבְקָה אֵם יַעֲקֹב וְעֵשָׂו:

⁶ **וַיַּרְא** עֵשָׂו כִּי־בֵרַךְ יִצְחָק אֶת־יַעֲקֹב וְשִׁלַּח אֹתוֹ פַּדֶּנָה אֲרָם לָקַחַת־לוֹ מִשָּׁם אִשָּׁה בְּבָרֲכוֹ אֹתוֹ **וַיְצַו** עָלָיו לֵאמֹר לֹא־תִקַּח אִשָּׁה מִבְּנוֹת כְּנָעַן: ⁷ **וַיִּשְׁמַע** יַעֲקֹב אֶל־אָבִיו וְאֶל־אִמּוֹ **וַיֵּלֶךְ** פַּדֶּנָה אֲרָם:
⁸ **וַיַּרְא** עֵשָׂו כִּי רָעוֹת בְּנוֹת כְּנָעַן בְּעֵינֵי יִצְחָק אָבִיו:
⁹ **וַיֵּלֶךְ** עֵשָׂו אֶל־יִשְׁמָעֵאל **וַיִּקַּח** אֶת־מָחֲלַת׀ בַּת־יִשְׁמָעֵאל בֶּן־אַבְרָהָם אֲחוֹת נְבָיוֹת עַל־נָשָׁיו לוֹ לְאִשָּׁה: ס

¹⁰ **וַיֵּצֵא** יַעֲקֹב מִבְּאֵר שָׁבַע **וַיֵּלֶךְ** חָרָנָה:

Isaac [a]**summoned** Jacob, [b]**blessed** him and [c]**commanded** him and [d]**said** to him, "You must not take a wife from the daughters of the Canaanites. Go immediately

to Padan Aram, to the house of Bethuel, the father of your mother, and take for yourself from there a wife from the daughters of Laban, the brother of your mother. May El-Shaddai bless you, make you fruitful and multiply you, and may you / you will become an assembly of peoples. And may He give to you the blessing of Abraham, to you and to your seed along with you, as your possession the land of your sojourning, which God gave to Abraham."

Then Isaac ᵉ**sent out** Jacob. And he ᶠ**went** to Padan Aram, to Laban, the son of Bethuel the Aramean, the brother of Rebecca, the mother of Jacob and Esau.

Esau ᵍ**saw** that [realized that] Isaac had blessed Jacob and had sent him to Padan Aram to take for himself from there a wife: [that] when he had blessed him, he ʰ**commanded** him, "You must not take a wife from the daughters of the Canaanites." [that] Jacob [had] ˡ**listened** to his father and his mother and [had] ʲ**gone** to Padan Aram.
Then Esau ᵏ**saw** that [realized that] the daughters of the Canaanites were bad in the eyes of Isaac his father.
So Esau ˡ**went** to Ishmael and ᵐ**took** Mahalat, the daughter of Ishmael, the son of Abraham, the sister of Nebayot—besides his (other) wives—for himself as a wife.

And Jacob ⁿ**went out** from Be'er Sheva, and he ᵒ**went** to Haran.

This is a very interesting text, which illustrates a number of the points discussed above. First of all, we notice that *wayyiqtols* **(b)**, **(c)**, and **(d)** require **(a)** (it is *necessary*): Isaac could not command or bless Jacob until he had summoned him. Furthermore, **(a)** is not *sufficient* to *cause* **(b)**, **(c)**, and **(d)**; therefore, this is an example of *Serialization*, not *Result*. In either case, time advances. But, we notice that Isaac's actual speech is ordered differently: his directive to Jacob precedes his blessing of him. Thus, the temporal order of these eventualities was probably **a c d b,** which was temporally followed by **e**, and then by **f**.

The narrative then departs for three verses from the main story line, which is of Jacob, to consider Esau's reaction to all that had occurred between his father and his brother, and the latter's leaving on a journey back to their ancestral homeland to find a wife. Since this scene is his *reaction* to all the preceding eventualities, its first verb (*wayyiqtol* **(g)**) is related to the previous scene considered as a whole by either *Serialization* or *Result*. The issue is whether or not the eventualities surrounding the departure of Jacob, were sufficient to make Esau think about the significance of all of it to him, in which case the **coherence relation** would be *Result*. But, I doubt it: the record of Esau's thinking is not very flattering to him. Nevertheless, in either case, time marches forward.

This is a scene within the greater narrative, which unfolds as follows so as to report what Esau was thinking after Jacob left. Shortly after Jacob departed for Haran, Esau came to the realization **(g)** of the significance to him of what had happened. He rehearsed in his mind the chain of past eventualities: principally, Isaac's blessing (*qatal* for anterior action), sending (waw +*qatal*—not *weqatal*—for

anterior action), and commanding (*wayyiqtol* (h)) Jacob, and the latter's unquestioned and immediate obedience (*wayyiqtols* (i) and (j)).

From this analysis it is clear that the eventualities depicted by the textual sequence **h i j** were not temporally sandwiched between the eventualities represented by (g) and (k). Rather, due to the fact that the sequence is the record of Esau's thoughts about the past, they reprise (a) through (f). In addition, this informs us that the main narrative line in this sub-narrative scene is **g k l m**. So (k) is temporally connected to (g), not to (j).

We also learn that a sub-narrative, just as the main narrative, has its own narrative line, which is independent of that of the main narrative. And, to top it all off, this particular sub-narrative has an additional narrative nested within it, which also has its own temporal sequence apart from that of the scene. Indeed, it is following part of the temporal sequence of the main narrative.

The narrative line of this scene resumes with *wayyiqtol* (k). Here we learn that Esau reflected not only on the order of eventualities but also on the kernel of Isaac's words to Jacob: not to take a wife from the Canaanites. He concluded (*wayyiqtol* (k)) from this that he was obliged—as Jacob had set out to do—to address his father's displeasure with the nationality of his wives. *Wayyiqtols* (l) and (m) record his subsequent actions. And with these, this subsection about Esau comes to an end.

At this juncture the text takes up again the story of Jacob with *wayyiqtols* (n) and (o). Obviously, the first of these is not connected to Esau's actions in any way, since it preceded the latter. In fact, it is temporally connected to both (e) and (f), the latter which is the record of Jacob's obedience to his father. (n) is attached to (e) by *Serialation* or even *Result*, in that the eventuality it depicts provided the circumstances for Jacob's going out from Beersheba, if not the impetus for it. (n) is attached to (f) by *Elaboration*, in that it details the beginning of Jacob's journey. Thus, (n) does not temporally advance the account. Furthermore, it functions to reorient the reader to the main narrative by recommencing the story of Jacob's journey when and where it left off before the hiatus of the scene involving Esau.

RAHAB AND THE SPIES (JOSHUA 2:1–22)

וַיִּשְׁלַח יְהוֹשֻׁעַ־בִּן־נוּן מִן־הַשִּׁטִּים שְׁנַיִם־אֲנָשִׁים מְרַגְּלִים חֶרֶשׁ לֵאמֹר לְכוּ רְאוּ אֶת־הָאָרֶץ וְאֶת־יְרִיחוֹ **וַיֵּלְכוּ וַיָּבֹאוּ** בֵּית־אִשָּׁה זוֹנָה וּשְׁמָהּ רָחָב **וַיִּשְׁכְּבוּ**־שָׁמָּה:

2 **וַיֵּאָמַר** לְמֶלֶךְ יְרִיחוֹ לֵאמֹר הִנֵּה אֲנָשִׁים בָּאוּ הֵנָּה הַלַּיְלָה מִבְּנֵי יִשְׂרָאֵל לַחְפֹּר אֶת־הָאָרֶץ:

3 **וַיִּשְׁלַח** מֶלֶךְ יְרִיחוֹ אֶל־רָחָב לֵאמֹר הוֹצִיאִי הָאֲנָשִׁים הַבָּאִים אֵלַיִךְ אֲשֶׁר־בָּאוּ לְבֵיתֵךְ כִּי לַחְפֹּר אֶת־כָּל־הָאָרֶץ בָּאוּ:

4 וַתִּקַּח הָאִשָּׁה אֶת־שְׁנֵי הָאֲנָשִׁים וַתִּצְפְּנוֹ וַתֹּאמֶר‏ ׀ כֵּן בָּאוּ אֵלַי הָאֲנָשִׁים וְלֹא יָדַעְתִּי מֵאַיִן הֵמָּה:

5 וַיְהִי הַשַּׁעַר לִסְגּוֹר בַּחֹשֶׁךְ וְהָאֲנָשִׁים יָצָאוּ לֹא יָדַעְתִּי אָנָה הָלְכוּ הָאֲנָשִׁים רִדְפוּ מַהֵר אַחֲרֵיהֶם כִּי תַשִּׂיגוּם:

6 וְהִיא הֶעֱלָתַם הַגָּגָה וַתִּטְמְנֵם בְּפִשְׁתֵּי הָעֵץ הָעֲרֻכוֹת לָהּ עַל־הַגָּג:

7 וְהָאֲנָשִׁים רָדְפוּ אַחֲרֵיהֶם דֶּרֶךְ הַיַּרְדֵּן עַל הַמַּעְבְּרוֹת וְהַשַּׁעַר סָגָרוּ אַחֲרֵי כַּאֲשֶׁר יָצְאוּ הָרֹדְפִים אַחֲרֵיהֶם:

8 וְהֵמָּה טֶרֶם יִשְׁכָּבוּן וְהִיא עָלְתָה עֲלֵיהֶם עַל־הַגָּג:

9 וַתֹּאמֶר אֶל־הָאֲנָשִׁים יָדַעְתִּי כִּי־נָתַן יְהוָה לָכֶם אֶת־הָאָרֶץ וְכִי־נָפְלָה אֵימַתְכֶם עָלֵינוּ וְכִי נָמֹגוּ כָּל־יֹשְׁבֵי הָאָרֶץ מִפְּנֵיכֶם:

10 כִּי שָׁמַעְנוּ אֵת אֲשֶׁר־הוֹבִישׁ יְהוָה אֶת־מֵי יַם־סוּף מִפְּנֵיכֶם בְּצֵאתְכֶם מִמִּצְרָיִם וַאֲשֶׁר עֲשִׂיתֶם לִשְׁנֵי מַלְכֵי הָאֱמֹרִי אֲשֶׁר בְּעֵבֶר הַיַּרְדֵּן לְסִיחֹן וּלְעוֹג אֲשֶׁר הֶחֱרַמְתֶּם אוֹתָם:

11 וַנִּשְׁמַע וַיִּמַּס לְבָבֵנוּ וְלֹא־קָמָה עוֹד רוּחַ בְּאִישׁ מִפְּנֵיכֶם כִּי יְהוָה אֱלֹהֵיכֶם הוּא אֱלֹהִים בַּשָּׁמַיִם מִמַּעַל וְעַל־הָאָרֶץ מִתָּחַת:

12 וְעַתָּה הִשָּׁבְעוּ־נָא לִי בַּיהוָה כִּי־עָשִׂיתִי עִמָּכֶם חָסֶד וַעֲשִׂיתֶם גַּם־אַתֶּם עִם־בֵּית אָבִי חֶסֶד וּנְתַתֶּם לִי אוֹת אֱמֶת:

13 וְהַחֲיִתֶם אֶת־אָבִי וְאֶת־אִמִּי וְאֶת־אַחַי וְאֶת־(אחותי) [אַחְיוֹתַי] וְאֵת כָּל־אֲשֶׁר לָהֶם וְהִצַּלְתֶּם אֶת־נַפְשֹׁתֵינוּ מִמָּוֶת:

14 וַיֹּאמְרוּ לָהּ הָאֲנָשִׁים נַפְשֵׁנוּ תַחְתֵּיכֶם לָמוּת אִם לֹא תַגִּידוּ אֶת־דְּבָרֵנוּ זֶה וְהָיָה בְּתֵת־יְהוָה לָנוּ אֶת־הָאָרֶץ וְעָשִׂינוּ עִמָּךְ חֶסֶד וֶאֱמֶת:

15 וַתּוֹרִדֵם בַּחֶבֶל בְּעַד הַחַלּוֹן כִּי בֵיתָהּ בְּקִיר הַחוֹמָה וּבַחוֹמָה הִיא יוֹשָׁבֶת:

16 וַתֹּאמֶר לָהֶם הָהָרָה לֵּכוּ פֶּן־יִפְגְּעוּ בָכֶם הָרֹדְפִים וְנַחְבֵּתֶם שָׁמָּה שְׁלֹשֶׁת יָמִים עַד שׁוֹב הָרֹדְפִים וְאַחַר תֵּלְכוּ לְדַרְכְּכֶם:

17 וַיֹּאמְרוּ אֵלֶיהָ הָאֲנָשִׁים נְקִיִּם אֲנַחְנוּ מִשְּׁבֻעָתֵךְ הַזֶּה אֲשֶׁר הִשְׁבַּעְתָּנוּ:

18 הִנֵּה אֲנַחְנוּ בָאִים בָּאָרֶץ אֶת־תִּקְוַת חוּט הַשָּׁנִי הַזֶּה תִּקְשְׁרִי בַּחַלּוֹן אֲשֶׁר הוֹרַדְתֵּנוּ בוֹ וְאֶת־אָבִיךְ וְאֶת־אִמֵּךְ וְאֶת־אַחַיִךְ וְאֵת כָּל־בֵּית אָבִיךְ תַּאַסְפִי אֵלַיִךְ הַבָּיְתָה:

19 וְהָיָה כֹּל אֲשֶׁר־יֵצֵא מִדַּלְתֵי בֵיתֵךְ‏ ׀ הַחוּצָה דָּמוֹ בְרֹאשׁוֹ וַאֲנַחְנוּ נְקִיִּם וְכֹל אֲשֶׁר יִהְיֶה אִתָּךְ בַּבַּיִת דָּמוֹ בְרֹאשֵׁנוּ אִם־יָד תִּהְיֶה־בּוֹ:

20 וְאִם־תַּגִּידִי אֶת־דְּבָרֵנוּ זֶה וְהָיִינוּ נְקִיִּם מִשְּׁבֻעָתֵךְ אֲשֶׁר הִשְׁבַּעְתָּנוּ:

²¹ וַתֹּ֤אמֶר כְּדִבְרֵיכֶ֖ם כֶּן־ה֑וּא וַתְּשַׁלְּחֵ֖ם וַיֵּלֵ֑כוּ וַתִּקְשֹׁ֛ר אֶת־תִּקְוַ֥ת הַשָּׁנִ֖י בַּחַלּֽוֹן׃

²² וַיֵּלְכוּ֩ וַיָּבֹ֨אוּ הָהָ֜רָה וַיֵּ֤שְׁבוּ שָׁם֙ שְׁלֹ֣שֶׁת יָמִ֔ים עַד־שָׁ֖בוּ הָרֹדְפִ֑ים וַיְבַקְשׁ֧וּ הָרֹדְפִ֛ים בְּכָל־הַדֶּ֖רֶךְ וְלֹ֥א מָצָֽאוּ׃

Joshua, the son of Nun, secretly ᵃ**sent** from the Shittim two men as spies: "Go see the land, Jericho." So, they ᵇ**went** and ᶜ**entered** into the house of a woman, a prostitute, whose name was Rahab. And they ᵈ**lay down** there. It ᵉ**was said** to the king of Jericho, "Indeed men have come here tonight from the sons of Israel to search out the land." So, the king of Jericho ᶠ**sent** [messengers, most likely soldiers] to Rahab: "Bring out the men who came to/into you, who came to your house, because to search out the entirety of the land they have come."

The woman ᵍ**took** the two men and ʰ**hid** them.

And she ⁱ**said**, [her first dialogue—to the king's messengers] "Yes, the men / men have come to/into me; but, I do not know from where they have come. And (it) ʲ**was** when the gates were about to close, the men / men went/go out. I do not know to where the men went. Pursue after them quickly! Indeed, you might overtake them!"

She herself had taken them up to the roof and ᵏ**hidden** them in the stalks of flax, which were arranged by her on the roof.

The men pursued after them by the way of the Jordan to the fords. The gate they closed/ was closed afterwards, as soon as the pursuers went out after them.

And as for the men [the Israelites], before they lay down, she herself came up to them on the roof.

And she ˡ**said** to the men, "[her second dialogue—to the Israelite men, which includes her confession of faith in YHWH and a request for them to spare her family]." Then the men ᵒ**said** to her, "[their first dialogue, a response to her request]." Then she ᵖ**lowered** them by a rope through a window, because her house was on the inner wall of the city wall. (She was actually dwelling in the city wall.) And she ᵠ**said** to them," [her third dialogue—instructions on where to hide]." Then the men ʳ**said** to her "[their second dialogue] . . . . Indeed, we are about to come into the land. This cord of scarlet thread you must tie in the window through which you lowered us . . . ." Then she ˢ**said**, "[her fourth dialogue] According to your words, thus [be] it." Then she ᵗ**sent** them away; and they ᵘ**went**. Then she ᵛ**tied** the scarlet cord in the window.

They ʷ**went**, ˣ**entered** into the hill country, and ʸ**stayed** there three days until the pursuers returned [to the city]. The pursuers ᶻ**sought** [them] along every road, but they did not find [them].

There are twenty-six *wayyiqtols* in this text. They are identified by bold superscripted letters in the translation above and will be referred to by bold letters in the discussion below. Twenty-three occur in the narrative; three occur

in dialogue. The lettering jumps from **(l)** to **(o)**, because **(m)** and **(n)** are in Rahab's second dialogue, which was directed at the Israelite men.

Now let us look at this text rather closely, starting with the most general of questions: how much time did Joshua's men spend in Jericho? It appears that they arrived at night, because some of the men frequenting her house said so: "men have come here tonight" (verse 2). It is likely that they slipped into the city at night to avoid detection. Some of the men at her house must have voiced their suspicions about the strangers: that they were Israelites. Somehow Rahab also knew that they were Israelites. When she heard what the suspicious men were saying, Rahab would have recognized at once that the strangers were in grave danger and so she lost no time in taking them up to the roof and hiding them, knowing that the suspicious men would go to the king immediately that night (hoping for reward). She also would have realized that the king would straightway dispatch soldiers to interrogate her and search her premises. She was right; they said *tonight* when they reported to the king. Also, he did send soldiers. Her foresight and quick actions saved the spies' lives! Immediately after the king's soldiers left her house, she began to make plans to get Joshua's men out of the city. As soon as the pursuing party left the city and the gates closed, she went up to the roof and talked with the men. Then without further ado she lowered them through a window (whether this was an aperture in the wall accessible from the roof or in one of her rooms below, we cannot tell). In conclusion, they only stayed there during one evening and part of that night.

Next let us consider the portions of the text that are iconic. The first four *wayyiqtols* appear to be so. **(b)** is related to **(a)** by *Result*; thus, there is temporal progression from **(a)** to **(b)**. **(c)** follows **(b)** by *Serialation*; and, **(d)** follows **(c)** the same way. So, there is temporal progression from **a** through **(d)**. But, **(e)** does not necessarily follow **(d)**. It better follows **(c)**. The arrival of two strangers at night for some reason caught the attention of some of the men visiting Rahab's establishment. And they reported their suspicions to the king—no doubt to ingratiate themselves to him. In addition, **(l)** and **(o)** are iconic. It is fairly obvious that Rahab's conversation with the Israelites (verses 9–14) is temporally sequential. She went up to the roof (a second time? [more on this below]) to have the conversation with them. In her speech (introduced by *wayyiqtol* **(l)**), she pleaded with them to extend the same חֶסֶד "mercy-grace" to her and her household that she had shown to them. In their first speech (*wayyiqtol* **(o)**, verse 14), they mention this חֶסֶד, which suggests that this speech is a reply to hers, and therefore followed it temporally. The temporal sequentiality of verses fifteen through twenty-one also is evident. *Wayyiqtol* **(q)** (verse 16) could have either temporally followed, been at the same time, or even preceded *wayyiqtol* **(p)** (verse 15). There is nothing that precluded Rahab from speaking to the men before, while or after she lowered them. There would have been enough noise at a brothel to hide her words to them. I tend to think that it was the last. Verse seventeen (introduced by *wayyiqtol* **(r)**) records the men mentioning the window through which Rahab had lowered them (**(p)**, verse 15). This ties verses sixteen and

seventeen together—with normal temporal polarity. As to the four *wayyiqtols* in verse 21, **(s)** introduces her response to the men's second and final speech (introduced by **(r)**). With her final words to them she agreed to their terms. Her dismissal of them followed naturally **(t)**. And so they went away **(u)**. Finally, most likely after they left, she tied the scarlet cord in the window **(v)**—although she could have done so after **(s)**. Thus, it appears that **(r)** through **(v)** are in chronological order. Finally, **(w)**, **(x)** and **(y)** are in the order established by *Serialation*: they left Jericho **(w)**, entered into the hill country **(x)** and remained there for three days **(y)**. This leaves the following chronological uncertainties, which we will turn to below: between **(d)** and **(e)**; between **(f)** and **(g)**; between **(h)** and **(i)**; between **(o)** and **(p)**; between **(v)** and **(w)**; and between **(y)** and **(z)**.

In spite of the iconic sections within this text mentioned above, the text is not wholly iconic: it contains significant and glaring dischronologizations involving *wayyiqtols*, which indicate that all of them are not temporally sequential. Striking among them are the four in verses three and four: "(the king of Jericho) [f]sent," "(the woman) [g]took," "(she) [h]hid," and "(she) [i]said [to the messengers of the king]." As far as the first two are concerned, it is highly improbable that Rahab excused herself from the king's soldiers without being challenged or followed; went to where the spies had hidden *themselves*, even though the text does not say that they had done this, but only that they had lain down there; spirited them from there **(g)**; and then hid them **(h)** again. Similarly, it is equally dubious that she, having returned from her clandestine task of treasonous defiance of the king, caught her breath, composed herself and craftily answered the questions of the messengers **(i)** without being challenged in any way. I submit then that *wayyiqtols* **(g)** and **(h)** are not in temporal sequence with **(f)** and **(i)**, but occurred earlier. Nevertheless, they are here to show where Rahab's allegiance lay: in response to the king, confronted with a choice, even with the death penalty of treason potentially facing her, she chose YHWH, and acted accordingly.

In addition, this text evokes many intriguing questions: those of a general nature and not a few of a temporal nature. We will ask and attempt to answer both. Concerning the former, why did the spies choose to go to a brothel? Answer: it is a place where men come and go without questions—even strangers. It is a place active at night. It is a place with rooms, where they could hide out. It is a place where men would not be as guarded in their talk as at other times; and, so, the Joshua's men could find out the latest "news." It was a place loud and noisy at all times, ideal for hiding necessary quiet exchanges between themselves. They also might have noticed that it was located on the wall, convenient if they had to escape.

Moreover, what of her response to the king's men? It is an audacious, brilliant blend of ambiguity, half-truths, outright lies, and misdirection. She took full advantage of what these men thought of her because of her occupation and made use of the ambiguity of the Hebrew root בוא, which can mean "enter" in the usual sense or "enter into" as a reference to sexual intercourse, seizing their miscues and turning them on them. Thus, her reply to them in verses four and five, has several possible double entendres. Was she pretending to misunderstand their questions,

coquettishly answering them that of course men came to her (or is she saying, came *into* her—she being a prostitute) and she did not know where they came from and where they were going when they left; or was she knowingly lying, because she *was* referring to the spies and claiming to have no knowledge of them? She was so skillful in her language that it is impossible for us to tell which it is, and neither could the king's men. Her demeanor and clever speech caught them so off-guard that when they perceived that she was no longer toying with them, they believed her lies.

Furthermore, *where* did Joshua's men lay down (d)? We do not know from verse one. It is not out of the realm of possibility that they rented a room. Nevertheless, there is another plausible answer. Verse eight reads, "before they lay down, she herself came up to them on the roof." Could this be a reprise of the earlier mention, filling in the information gap left by verse one?

Finally, how did it happen that the nationality of the spies became known? More to the point, how did she know? They certainly would not have announced their nationality—even in a brothel! Did their accents betray them? Their clothes? Their furtiveness? Or did YHWH reveal it to her? We do not know. But somehow she knew. And, unfortunately, others did, and informed the king.

As far as temporal questions are concerned, first: do *wayyiqtols* (h) and (k), two different roots meaning "to hide," refer to the same eventuality or to separate eventualities? The latter is highly unlikely. This would require that Rahab hid the men twice, once in some location undisclosed in the text and then on the roof. Second: when did her hiding of the men take place? As soon as they came into her house? After she suspected that their presence was known? As stated above, most likely she hid them before the soldiers came. She suspected that the latter would search for them through all the rooms, but probably not on the roof. She even made provision for that by hiding them under the flax stalks. But her speech to the soldiers was cogent enough that apparently they did not search but acted on her advice to pursue after the men. This means that the time of verse six was before that of verse two, if not earlier. Third: what is the temporal sequence of the eventualities in verses six, seven and eight? All three verses begin with a noun or independent personal pronoun (ipp), which are followed in the first two by *qatals*. In verse eight, the pronoun is a *casus pendens*, which is resumed by the *yiqtol* following טֶרֶם, "before." In verse six the ipp is redundant, indicating emphasis and contrast, "she *herself*," making it clear that she had hid them herself and not had one of her prostitutes do it. The eventualities of verse seven, the pursuit sent out after the spies, temporally follows verse five, but—question four—where is it temporally located with respect to verse eight? We will return to this later. The fifth question is: what is the temporal sequence of verses eight and nine? It might seem that this is easily answered, since obviously her reason for going up to the roof was to talk with the men, the verses are in chronological order. But that would be too hasty of a conclusion. The answer depends on when she went up to the roof and how many times. We know that she went up *before* the king's men came, to take the spies up there and hide them. That she would have taken them up there to hide them while or after the soldiers were there is extremely

impracticable, as we argued above. This drives us back to reexamine verse six, which apparently does not record the same eventuality as that in verse eight. The former recounts her taking them up onto the roof to hide them. But according to this verse, they were already there. Moreover, she speaks about her valorous actions on their behalf as being in the past. Aware of the suspicions that the presence of the men had aroused and suspecting that her house would therefore be under surveillance, she would not have risked another trip to the roof unless she knew there was no possibility that the spies would be discovered. This situation only could have obtained after the pursuers left and the gates were closed. This then was her second trip to her roof. Thus, we have an answer to question four; but what of question five: what is the temporal relation of this visit to the roof and her speech? Could she have given this speech earlier when she took them up to the roof? To answer these related questions we must first deal with question six: where are the two temporally sequential blocks of verses nine through fourteen (group one) and fifteen through twenty-one (group two) located in the narrative at large? Let us look at the latter grouping first, because there are clear temporal relations, which can be observed. By the same reasoning used to answer question four, Rahab would not and could not have lowered the men from her window if there were soldiers snooping around her house. This also must have happened after she encouraged the king's men to leave the city, because she lied that the men had gone out of the city. Observing that the direction of the pursuit was eastward,[46] toward the Jordan, she warned the Israelites to go in the opposite direction, westward into the mountains (introduced by *wayyiqtol* (q), verse 16). Thus, the eventualities reported in these verses temporally follow those of verse seven. As to the former grouping, this depends on a seventh question: do the eventualities of verse fifteen temporally follow those of verse fourteen, joining the two blocks into one? The answer is: yes. The spies speech in verses seventeen through twenty depends on Rahab's words in verses twelve through thirteen, in particular their words "this oath of yours, which you have caused us to swear" (verse 17). Looking at it another way, the two blocks of verses are incompatible: the eventualities reported could not have occurred at the same time—except, perhaps (p) and (q). So, the blocks must be in one chronological order or the other: verses nine through fourteen must either precede or follow fifteen through twenty-one. The spies' reference to the oath that she convinced them to give requires that grouping two temporally follows grouping one. This means that *wayyiqtols* (l) and (o) though (v) are in chronological order, and the verses form one block. Given the fact that these eventualities occurred in the order of the text, right after each other, and her lowering of Joshua's men through the window had to follow her climb to the roof, all the eventualities (including her speech of verses

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[46] How was Rahab able to see the direction of the pursuit? City gates normally close at sunset, which Rahab, answering the queries of the king's men, said was about to happen. Either a detachment of soldiers was hastily gathered for the pursuit before the gates closed, or after they had been closed, they were subsequently opened to allow the detachment of soldiers to leave the city, after which they would have been closed again. It would have been twilight. The pursuers would have been visible for about an hour—longer, if there was moonlight. Also, they would have been carrying torches.

nine through thirteen) had to follow her second assent to the roof. This is consistent with the additional observations that Rahab's speech temporally locates her second visit after the first one mentioned in verse 6, because, as was said above, she referred to her act of mercy and grace as being in the past. Now we have the answers to questions five and six. In summary, the eventualities recorded in verses eight through twenty-one all had to happen after the pursuers had left on a wild goose chase and the gates had closed behind them.[47] This brings us to the last two questions and their temporal and interpretive implications: does *wayyiqtol* **(w)** refer to the same eventuality as **(u)**; and where is **(z)** temporally attached, questions eight and nine, respectively? The answer to the first of these is that it obviously refers to the same eventuality and thus is attached to *wayyiqtol* **(t)**, not **(v)**. I believe that the action is reprised because with verse twenty-one Rahab's interaction with the spies was over. Starting with verse twenty-two they were on their own, even though the connection with her lingered in that they followed her instructions. Finally, *wayyiqtol* **(z)** is temporally attached to the eventualities of verse seven, where the pursuit of the spies is first mentioned, but it continued for the entire time they were hiding in the hill country. Therefore, it follows **y** in the text. In addition, it is an appropriate restatement and concluding statement for the Rahab story, epitomizing the failure of the pursuit because of Rahab's courageous intervention.

THE MURDER OF ISHBOSHETH (2 SAMUEL 4:5–7)

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⁵ **וַיֵּלְכוּ** בְּנֵי־רִמּוֹן הַבְּאֵרֹתִי רֵכָב וּבַעֲנָה **וַיָּבֹאוּ** כְּחֹם הַיּוֹם אֶל־בֵּית אִישׁ בֹּשֶׁת וְהוּא שֹׁכֵב אֵת מִשְׁכַּב הַצָּהֳרָיִם:

⁶וְהֵנָּה בָּאוּ עַד־תּוֹךְ הַבַּיִת לֹקְחֵי חִטִּים **וַיַּכֻּהוּ** אֶל־הַחֹמֶשׁ וְרֵכָב וּבַעֲנָה אָחִיו נִמְלָטוּ:

⁷ **וַיָּבֹאוּ** הַבַּיִת וְהוּא־שֹׁכֵב עַל־מִטָּתוֹ בַּחֲדַר מִשְׁכָּבוֹ **וַיַּכֻּהוּ וַיְמִתֻהוּ וַיָּסִירוּ** אֶת־רֹאשׁוֹ **וַיִּקְחוּ** אֶת־רֹאשׁוֹ **וַיֵּלְכוּ** דֶּרֶךְ הָעֲרָבָה כָּל־הַלָּיְלָה:

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The sons of Rimmon, the B'erotite, Rekab and Ba'anah, **went** and in the heat of the day **entered** into the house of Ish Boshet. Now he was lying on a couch in the afternoon. There they entered into the middle of the house receiving wheat and **struck** him in the belly. Then Rekab and Ba'anah his brother escaped.

They **entered** the house. Now he was lying on his bed in his bedroom. They **struck** him, **put him to death**, **removed** his head and **took** his head and **went** by the way of the 'Arabah all night.

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[47] This could have been the first time the gates closed or the second, depending on which of the two scenarios proposed in the footnote above occurred. I suspect that it was the latter.

This is an interesting text in that it appears to be susceptible to two erroneous approaches. The first of these is that it describes the same murder twice and thus should be approached as having gratuitous redundancy because of a careless redactor. The second is that it describes a two part murder and thus should be approached as if the brothers bungled the job the first time around and had to go back a second time to finish it. But these are only appearances, not reality, as we will show below. Let us look at the text to disabuse ourselves of these incorrect understandings. But first, the cast of characters.

Ishbosheth was the youngest son of Saul, too young, apparently, to have gone into battle with his father against the Philistines. He was a weak ruler, unable to hold onto any territory in Cisjordan and thus ruled from exile in Transjordan. He was also propped up by Abner's strong leadership. When he heard of the latter's death, he lost heart, and all of Israel despaired with him. His murderers are introduced in verse two as captains of raiding parties and Be'erothites (and are thus considered Benjamites). Thus, Ishbosheth's killers were his own men from his own tribe.

The first description (verses 5–6), has three *wayyiqtols*: "went," "entered," and "struck." The second description (verse 7) has six: "entered," "struck," "put to death," "removed," "took," and "went." The first and last, being identical, form an *inclusio*, framing the deed itself with the *going* of sons of Rimmon from Israel to Transjordan (where Ishboshet "ruled" Israel from exile) and their *going* from the scene of the crime back to David (who ruled over Judah from Hebron and would soon rule over all Israel). In addition, the second and third *wayyiqtols* are repeated as the fourth and fifth, forming a skewed chiasm, which serves to highlight the sixth through the eighth. Why these? The *hiphil* of מות, "to cause to die," refers to an execution, that is, someone is killed who deserves to die. The next verbal clause speaks of beheading, which is how enemies, not kin, were treated. Finally, to take the head to David was to present it to him as his war trophy, an act of war he had not authorized. In short, they treated their king as David had treated Goliath.

David considered Ishbosheth to be an innocent man. As weak as he was and in light of the fact of where he was, he probably did not view him as a threat. Moreover, David most likely thought he would yield to him in time. In addition, they killed an unarmed man while he was asleep—not in battle—the most disgraceful way for a warrior to die and the most cowardly way to kill a man—instead of facing him in battle. The text emphasizes his repose; both accounts record that he was lying down. They killed him in his bedroom, a man's inner sanctum, where his guard is down and he is not expecting treachery. Furthermore, David, by severely dealing with the murderers, proved to the tribes loyal to Saul that he had nothing to do with the heinous act, thereby continuing to build bridges from himself to those tribes.

Now let us look at the text from the perspective of *coherence relations*. For one thing, the first description leaves details unsaid, which the second supplies. Conversely, the first includes details the second excludes. For another, the author has skillfully employed *coherence relations* to achieve a specific purpose.

We can make seven observations on the first account of the murder. First, the account begins with a *wayyiqtol* connected to verse two. Verses three and four are of a parenthetic nature, describing the flight (ברח) of the Be'erothites and the flight (נוס) of Mephibosheth's nanny, who dropped him when he was baby, laming him. The semantic parallelism here is clear. The connection with the two murder accounts is also semantic in that the murderers escaped (מלט in *niphal*) after their perfidious deed. Second, we note that we do not know from these verses whether or not they killed Ishbosheth. We only know that they stabbed him in the belly. Now, of course, this is usually a fatal blow; but that would be surmise and not certainty. Third, we are at a loss (especially considering that the brothers were his own Benjamite soldiers) as to what was their motive for doing this; only later do we learn what it was. Fourth, their method is a bit foggy. We do know that they entered into Ishbosheth's house at around noon. To perpetrate their crime and get away with it, they had to do it inside, away from any witnesses and those that might try to stop them. It appears that they had no opposition. They must have reasoned—and correctly—that Ishbosheth would likely be indoors at midday and that they could gain admittance to his house either because onlookers would not think it unusual to see men trying to get out of the sun; or—if they were in their military apparel—would not be suspicious of two of the king's men coming to see him. What we do not know is the certain meaning of verse six. There are at least three possibilities, both involving taking wheat, whatever that means (carrying some? picking some up?). We can understand הֵנָּה as a 3rd feminine plural ipp, meaning that some women (on guard?) took the wheat inside because of the heat, which gave the murderers the chance to slip in; or we can understand it as a locative particle, "here" or "there," in which case the men are the ones entering the house carrying wheat. A third, even more bizarre possibility, is that the two men disguised themselves as women (hence, the 3rd feminine plural ipp) in order to get in. All three are rather strange, supporting the fact that murdering their king in such a fashion is not only wicked but unnatural. A fifth observations is that they found the king sleeping on his bed, obviously unarmed—convenient for skulking murderers. Sixth, they struck him in the belly as Ehud had Eglon—an assassin's blow. And, seventh, the text reports that the brothers escaped. Their names are redundantly relexicalized and fronted for emphasis at this point (to contrast them with heroes), with the result that *qatal* must be used. Thus, this first account gives us the basics: where they killed him, how they killed him, and that they got away, undetected. In fact, no one would have been the wiser had they not carried their gruesome trophy to David.

As far as the temporal profile of this text is concerned, the sequence of three *wayyiqtols* matches that of the eventualities, all exhibiting *Serialation,* and, therefore, temporal progression: *going* to the location provides the circumstances for *entering* the house; *entering* the house provides the circumstances for *striking.* The last verb in the first account is a *qatal*, because of the fronting of the names of the murderers; but, nevertheless, *escaping* also temporally follows the last *wayyiqtol* as *Result*, rather than *Serialation*.

As far as the second account goes, its first *wayyiqtol* (the fourth in the text as a whole) reprises the second of the first account and thus is attached to the very first one, "went." And although it omits the bit about the wheat and that they stabbed him in the belly (this detail is not repeated, because it is in the first account), this account proceeds to give us more details: precisely where the murder happened, what their perspective was on the killing (an execution), the beheading, taking the head, and details of their flight by night. This, then, is an elaboration of the first account. Within this elaboration is the following temporal sequence: progression by *Serialation* (*entered* followed by *struck*); stagnation by *Elaboration* (*struck* followed by *put him to death* [incidently, this is where we find out that they did kill him]); progression by *Serialation* (*put him to death* followed by *removed* his head); progression by *Serialation* (*removed* his head followed by *took* his head); both progression by *Result* (having his head *required* that they go) and regression by *Anticipated Result Cause* (wanting to show it to David—which occurs later in both text and time— required that they go to where he was).

SUMMATION: Above we looked at some striking illustrations of attachment, but the overall temporal range in these passages is small. They are relatively temporally contiguous. This is not always the case, however. Texts can have gaping holes and large jumps in time. We are well on our way to the *mega-level* considering the texts below, but will leave the elucidation of the particulars to Stroop in the next chapter. In addition, Anderson discusses the means of identifying temporal discontinuities in **Chapter 14** below.

2.5 *Continuity/Discontinuity: Significant Dischronologizations*

2.5.1 Temporal Gaps
We know come to the fourth temporal characteristic of texts: the presence of large temporal gaps, in which the text leaps over spans of time, either backward or forward. The former are often called *flashbacks*. The latter are *foreshadowing*. In the biblical examples that follow these gaps are obvious; but, they are not always so. In such cases, the gaps must be detected through various means, such as Anderson does in **Chapter 14** below. The gaps also are divisions in the texts, the depth of the gap determining whether they are separating narratives from narratives, episodes from episodes, scene from scene, or thematic paragraph from thematic paragraph.

2.5.2 Biblical Examples

HADAD'S MOTIVATION FOR OPPOSING ISRAEL (1 KINGS 11:14–22)

וַיָּ֨קֶם יְהוָ֤ה שָׂטָן֙ לִשְׁלֹמֹ֔ה אֵ֖ת הֲדַ֣ד הָאֲדֹמִ֑י מִזֶּ֧רַע הַמֶּ֛לֶךְ ה֥וּא בֶּאֱדֽוֹם׃

¹⁵ **וַיְהִ֗י** בִּהְיֹ֤ות דָּוִד֙ אֶת־אֱדֹ֔ום בַּעֲלֹ֗ות יֹואָב֙ שַׂ֣ר הַצָּבָ֔א לְקַבֵּ֖ר אֶת־הַחֲלָלִ֑ים **וַיַּ֥ךְ** כָּל־זָכָ֖ר בֶּאֱדֹֽום: ¹⁶ כִּ֣י שֵׁ֧שֶׁת חֳדָשִׁ֛ים יָֽשַׁב־שָׁ֥ם יֹואָ֖ב וְכָל־יִשְׂרָאֵ֑ל עַד־הִכְרִ֥ית כָּל־זָכָ֖ר בֶּאֱדֹֽום:

¹⁷ **וַיִּבְרַ֣ח** אֲדַ֡ד הוּא֩ וַאֲנָשִׁ֨ים אֲדֹמִיִּ֜ים מֵעַבְדֵ֥י אָבִ֛יו אִתֹּ֖ו לָבֹ֣וא מִצְרָ֑יִם וַהֲדַ֖ד נַ֥עַר קָטָֽן: ¹⁸ **וַיָּקֻ֙מוּ֙** מִמִּדְיָ֔ן **וַיָּבֹ֖אוּ** פָּארָ֑ן **וַיִּקְחוּ֩** אֲנָשִׁ֨ים עִמָּ֜ם מִפָּארָ֗ן **וַיָּבֹ֤אוּ** מִצְרַ֙יִם֙ אֶל־פַּרְעֹ֣ה מֶֽלֶךְ־מִצְרַ֔יִם **וַיִּתֶּן־**לֹ֣ו בַ֗יִת וְלֶ֙חֶם֙ אָ֣מַר לֹ֔ו וְאֶ֖רֶץ נָ֥תַן לֹֽו: ¹⁹ **וַיִּמְצָ֙א** הֲדַ֥ד חֵ֛ן בְּעֵינֵ֥י פַרְעֹ֖ה מְאֹ֑ד **וַיִּתֶּן־**לֹ֤ו אִשָּׁה֙ אֶת־אֲחֹ֣ות אִשְׁתֹּ֔ו אֲחֹ֖ות תַּחְפְּנֵ֥יס הַגְּבִירָֽה: ²⁰ **וַתֵּ֨לֶד** לֹ֜ו אֲחֹ֣ות תַּחְפְּנֵ֗יס אֵ֚ת גְּנֻבַ֣ת בְּנֹ֔ו וַתִּגְמְלֵ֣הוּ תַחְפְּנֵ֔ס בְּתֹ֖וךְ בֵּ֣ית פַּרְעֹ֑ה **וַיְהִ֤י** גְנֻבַת֙ בֵּ֣ית פַּרְעֹ֔ה בְּתֹ֖וךְ בְּנֵ֥י פַרְעֹֽה: ²¹ וַהֲדַ֞ד שָׁמַ֣ע בְּמִצְרַ֗יִם כִּֽי־שָׁכַ֤ב דָּוִד֙ עִם־אֲבֹתָ֔יו וְכִי־מֵ֖ת יֹואָ֣ב שַׂר־הַצָּבָ֑א **וַיֹּ֤אמֶר** הֲדַד֙ אֶל־פַּרְעֹ֔ה שַׁלְּחֵ֖נִי וְאֵלֵ֥ךְ אֶל־אַרְצִֽי: ²² **וַיֹּ֧אמֶר** לֹ֣ו פַרְעֹ֗ה כִּ֠י מָה־אַתָּ֤ה חָסֵר֙ עִמִּ֔י וְהִנְּךָ֥ מְבַקֵּ֖שׁ לָלֶ֣כֶת אֶל־אַרְצֶ֑ךָ **וַיֹּ֣אמֶר**׀ לֹ֔א כִּ֥י שַׁלֵּ֖חַ תְּשַׁלְּחֵֽנִי:

YHWH **raised up** an adversary against Solomon, Hadad the Edomite. He was from the king's seed in Edom.

When David **was** in Edom, when Joab, the commander of the army went up to bury the slain, he **struck** every male in Edom. Indeed for six months Joab and all Israel remained there until he cut off every male in Edom.

Hadad, he and Edomite men, some of the servants of his father, **fled** with him toward Egypt. Now Hadad was a little boy. And they **arose** from Midian and **entered** Pa'ran. They **took** men with them from Pa'ran and **came** to Egypt to pharaoh, king of Egypt. And he **gave** to him a house. And bread he promised to him and land he gave to him. Hadad **found** favor in the eyes of pharaoh exceedingly. He **gave** to him as a wife the sister of his wife, the sister of Lady Tahpenes. And the sister of Tahpenes **bore** for him Gnubat, his son. And Tahpenes **weaned** him within the house of pharaoh. And Gnubat **was** in the house of pharaoh amongst the sons of pharaoh. Hadad heard in Egypt that David had lain down with his fathers and that Joab, the commander of the army, had died. Then Hadad **said** to pharaoh, "Release me in order that I may go to my country." Pharaoh **said** to him, "Indeed, but what have you lacked with me that now you are seeking to go to your country?" And he **said**, "Nothing. But you certainly must release me."

The temporal gaps are obvious in this text. The time of the eventualities of verse fifteen is late in Solomon's reign, after his third flagrant violation of the Law of the King (Deuteronomy 17:14–20)—the prohibition not to multiply wives. The text says that in his pursuit of foreign women he apostasized after their gods as well. As chastisement, YHWH raised up three adversaries against him: Hadad of

Edom, Rezon of Aram, and Jereboam, an Ephraimite. The text above is the story of the first of these..

After we are introduced to Hadad of the royal house of Edom, an antagonist to Solomon, the text suddenly jumps backwards in time to the days of David, in order to give us the background of Hadad, in particular why he hated the line of David so much that he rebelled against his son. It was David's policy of genocide against Edom carried out by Joab. Hadad narrowly escaped Joab's sword and fled to Egypt, where he found asylum. The pharaoh showed him preferential treatment: giving him a house, food, land, and even a wife. This last was his greatest favor. He gave him his wife's sister as a wife, who bore him a son. Pharaoh's wife herself weaned the boy and he grew up with pharaoh's sons.

At this point of time, in spite of all the advantages that had accrued and would have continued to do so for himself and for his son if he had stayed in Egypt, when Hadad heard that David and Joab, his great foes, had died, he demanded to be released from pharaoh's court—the time of his vengeance was at hand. And although it could not be directed against his enemy directly, it could be against his son.

The time of the text has taken quite a ride: plunging as it were off a temporal cliff from late in Solomon's reign all the way down to the time of David's reign, then gradually climbing up at the usual temporal rate to the beginning of Solomon's reign and finally, jumping back up to the original time at the beginning of the text.

INTERACTIONS BETWEEN ELIJAH, OBADIAH, AND AHAB (1 KINGS 18:1–7)

וַיְהִי יָמִים רַבִּים וּדְבַר־יְהֹוָה הָיָה אֶל־אֵלִיָּהוּ בַּשָּׁנָה הַשְּׁלִישִׁית לֵאמֹר לֵךְ הֵרָאֵה אֶל־אַחְאָב וְאֶתְּנָה מָטָר עַל־פְּנֵי הָאֲדָמָה: 2 **וַיֵּלֶךְ** אֵלִיָּהוּ לְהֵרָאוֹת אֶל־אַחְאָב וְהָרָעָב חָזָק בְּשֹׁמְרוֹן: 3 **וַיִּקְרָא** אַחְאָב אֶל־עֹבַדְיָהוּ אֲשֶׁר עַל־הַבָּיִת וְעֹבַדְיָהוּ הָיָה יָרֵא אֶת־יְהֹוָה מְאֹד:

4 **וַיְהִי** בְּהַכְרִית אִיזֶבֶל אֵת נְבִיאֵי יְהֹוָה **וַיִּקַּח** עֹבַדְיָהוּ מֵאָה נְבִאִים **וַיַּחְבִּיאֵם** חֲמִשִּׁים אִישׁ בַּמְּעָרָה וְכִלְכְּלָם לֶחֶם וָמָיִם:

5 **וַיֹּאמֶר** אַחְאָב אֶל־עֹבַדְיָהוּ לֵךְ בָּאָרֶץ אֶל־כָּל־מַעְיְנֵי הַמַּיִם וְאֶל כָּל־הַנְּחָלִים אוּלַי ׀ נִמְצָא חָצִיר וּנְחַיֶּה סוּס וָפֶרֶד וְלוֹא נַכְרִית מֵהַבְּהֵמָה: 6 **וַיְחַלְּקוּ** לָהֶם אֶת־הָאָרֶץ לַעֲבָר־בָּהּ אַחְאָב הָלַךְ בְּדֶרֶךְ אֶחָד לְבַדּוֹ וְעֹבַדְיָהוּ הָלַךְ בְּדֶרֶךְ־אֶחָד לְבַדּוֹ: 7 **וַיְהִי** עֹבַדְיָהוּ בַּדֶּרֶךְ וְהִנֵּה אֵלִיָּהוּ לִקְרָאתוֹ **וַיַּכִּרֵהוּ וַיִּפֹּל** עַל־פָּנָיו **וַיֹּאמֶר** הַאַתָּה זֶה אֲדֹנִי אֵלִיָּהוּ:

(It) **was** many days. Then the word of YHWH came to Elijah in the third year: "Go, show yourself to Ahab in order that I may give rain upon the surface of the ground." So, Elijah **went** to show himself to Ahab.

Now the famine was severe in Samaria. Ahab **summoned** Obadiah, who was over the house.

Now Obadiah exceedingly revered YHWH. And when Jezebel cut off the prophets of YHWH, Obadiah **took** one hundred prophets, **hid** them, fifty each in a cave, and nourished them with bread and water.

Ahab **said** to Obadiah, "Go through the land to all the water springs and to all the torrent streams. Perhaps we can find grass so that we can keep alive the horses and mules and we will not have to cut off some of the livestock." And they **divided up** the land for themselves to pass through it: Ahab went one way alone; Obadiah went one way alone. When Obadiah **was** on the road, right then and there Elijah came to meet him. And he **recognized** him, **fell** on his face, and **said**, "Is this you, my lord, Elijah?"

This text too leaps about in time. Although explicit temporal phrases such as "and it was many days" and "in the third year," indicate the passage of significant amounts of time, in other places the jumps must be deduced. It was after "many days" in the "third year" (presumably since the drought began) that YHWH commanded Elijah to appear before Ahab so that the drought could be ended.

Sometimes instead of temporal phases there are grammatical indicators. In verse three for instance we find a disjunctive construction (non verb + *qatal*) introducing a parenthetic paragraph, in which we meet Ahab's steward, Obadiah, a man who fears YHWH. The time of the events mentioned here is uncertain at this point in the narrative, but must predate that of the main narrative, which is tracing the movements of Elijah.

Then within this paragraph we jump backward to an even earlier time when Obadiah rescued one hundred true prophets from the clutches of Jezebel. Then the time jumps back to the uncertain time again, as the narrative recounts the efforts of Ahab and Obadiah to save the animals during the famine brought on by the supernaturally imposed drought.

Although time is not mentioned it seems to be passing at the usual rate as the search for fodder for the animals continued. And while Obadiah was so engaged (at the same time Ahab is doing this in another part of the country) he met up with Elijah on his way to appear before Ahab. And so we find ourselves on the timeline of the main narrative, with time and text seemingly marching in step once again.

ELISHA AND JOASH (2 KINGS 13:13–20)

וַיִּשְׁכַּ֨ב יוֹאָשׁ֮ עִם־אֲבֹתָיו֒ וְיָרָבְעָ֖ם יָשַׁ֣ב עַל־כִּסְא֑וֹ וַיִּקָּבֵ֤ר יוֹאָשׁ֙ בְּשֹׁ֣מְר֔וֹן עִ֖ם מַלְכֵ֥י יִשְׂרָאֵ֑ל׃ פ

‏¹⁴ וֶאֱלִישָׁע חָלָה אֶת־חָלְיֹו אֲשֶׁר יָמוּת בֹּו **וַיֵּרֶד** אֵלָיו יֹואָשׁ מֶלֶךְ־יִשְׂרָאֵל **וַיֵּבְךְּ** עַל־פָּנָיו וַיֹּאמַ֕ר אָבִי׀ אָבִי רֶכֶב יִשְׂרָאֵל וּפָרָשָׁיו: ¹⁵ **וַיֹּאמֶר** לֹו אֱלִישָׁע קַח קֶשֶׁת וְחִצִּים **וַיִּקַּח** אֵלָיו קֶשֶׁת וְחִצִּים: ¹⁶ **וַיֹּאמֶר׀** לְמֶלֶךְ יִשְׂרָאֵל הַרְכֵּב יָדְךָ עַל־הַקֶּשֶׁת **וַיַּרְכֵּב** יָדֹו **וַיָּשֶׂם** אֱלִישָׁע יָדָיו עַל־יְדֵי הַמֶּלֶךְ: ¹⁷ **וַיֹּאמֶר** פְּתַח הַחַלֹּון קֵדְמָה **וַיִּפְתָּח וַיֹּאמֶר** אֱלִישָׁע יְרֵה **וַיֹּור וַיֹּאמֶר** חֵץ־תְּשׁוּעָה לַיהוָה וְחֵץ תְּשׁוּעָה בַאֲרָם וְהִכִּיתָ אֶת־אֲרָם בַּאֲפֵק עַד־כַּלֵּה: ¹⁸ **וַיֹּאמֶר** קַח הַחִצִּים **וַיִּקָּח וַיֹּאמֶר** לְמֶלֶךְ־יִשְׂרָאֵל הַךְ־אַרְצָה **וַיַּךְ** שָׁלֹשׁ־פְּעָמִים **וַיַּעֲמֹד**: ¹⁹ **וַיִּקְצֹף** עָלָיו אִישׁ הָאֱלֹהִים **וַיֹּאמֶר** לְהַכֹּות חָמֵשׁ אֹו־שֵׁשׁ פְּעָמִים אָז הִכִּיתָ אֶת־אֲרָם עַד־כַּלֵּה וְעַתָּה שָׁלֹשׁ פְּעָמִים תַּכֶּה אֶת־אֲרָם: ס ²⁰ **וַיָּמָת** אֱלִישָׁע **וַיִּקְבְּרֻהוּ** וּגְדוּדֵי מֹואָב יָבֹאוּ בָאָרֶץ בָּא שָׁנָה: ²¹ **וַיְהִי** הֵם׀ קֹבְרִים אִישׁ וְהִנֵּה רָאוּ אֶת־הַגְּדוּד **וַיַּשְׁלִיכוּ** אֶת־הָאִישׁ בְּקֶבֶר אֱלִישָׁע **וַיֵּלֶךְ וַיִּגַּע** הָאִישׁ בְּעַצְמֹות אֱלִישָׁע **וַיְחִי וַיָּקָם** עַל־רַגְלָיו:

Joash **lay down** with his fathers; and, Jereboam sat on his throne. Joash **was buried** in Samaria with the kings of Israel.

Elisha had become sick with his sickness by which he would die. Joash, the king of Israel, **went down** to him, **wept** upon him and **said**, "My father, my father, the chariot of Israel and its horsemen!" Elisha **said** to him, "Take a bow and arrows." So, he **took** to himself a bow and arrows. Then he **said** to the king of Israel, "Mount your hand on the bow." So, he **mounted** his hand. Then Elisha **placed** his hands over the hands of the king and said, "Open the window on the east." So, he **opened** [it]. Then Elisha said, "Shoot!" So, he **shot**. And he **said**, "An arrow of victory for YHWH; an arrow of victory against Aram. You will strike Aram at Aphek until [you] finish [them]." Then he **said**, "Take the arrows." So, he **took** [them]. Then he **said** to the king of Israel, "Strike the ground!" So, he **struck** three times and **stopped**. The man of God **was angry** at him and **said**, ". . . to strike five or six times! Then you would have struck Aram until [you] finished [them]. But now, three times you will strike Aram." Then Elisha **died** and they **buried** him.

Moabite raiding parties would come into the land as a year came. Once they were burying a man and indeed they saw a raiding party. So they **threw** the man into the tomb of Elisha and **went**. The man **touched** the bones of Elisha and **came to life** and **stood up** on his feet.

Time jumps seem to be part and parcel of the narratives pertaining to the "prophetic twins," Elijah and Elisha. The bulk of these relate interactions between these prophets and the kings of Israel. Elijah principally confronted and castigated kings; Elisha supported and encouraged them. Consequently, whereas kings feared the appearance of the former and were relieved when he left, kings welcomed the latter and wept when he left. Above we saw one connected with Elijah; here we look at one connected with Elisha. [In the discussion below time

words are italicized and bold-face so that the movements of time can be clearly seen.]

In the text above, *time goes off a cliff* for the king with whom the prophet interacted. In fact, this text starts with the death and burial of the king, namely, Jehoash (the grandson of Jehu), whose son Jereboam II reigned in his stead. According to the pattern in the Book of Kings, we expect that the reign of Jereboam II will now be presented. But this text breaks the pattern, and with *a dramatic temporal leap* jumps back to the reign of Jehoash, in particular his dealings with Elisha in the latter's last days. The presentation per say of Jehoash's reign takes only four verses, which is unusually short, but his activities are covered as they pertain to the kings of Judah, in particular, Amaziah. So too here we learn more about Jehoash from this last time he spent with Elisha.

This text records the death and burial of Elisha, but first describes the last interaction between the king and the prophet. The kings knew that the prophet was sick and dying. Therefore, he went to him. When he saw him, he wept. Then Elisha placed his hands on those of the king and gave him a series of commands. They were a bit unusual, but Joash did everything Elisha told him to do. The only place he faltered was that he struck the ground only three times with the arrows, but in fairness to him: how was he supposed to know that he was to keep on striking the ground? In any case, after this incident, Elisha died and was buried. But curiously enough there would be one more miracle connected with him.

An unknown period of time passed, but, enough such that Elisha's body had become just his bones.

Some time after this there was a funeral procession, but those carrying the body of the deceased fled and tossed the body into the nearest burial cave when Moabite raiders showed up, which they regularly did *at a particular time of the year*. Then a singular eventuality occurred, which is recorded only here in the Bible—the resurrection of a dead man when his body touched the bones of a dead prophet. As soon as the body of the deceased touched the bones of Elisha, the man came back to life and stood up.

2.6 Concluding Summary

In this chapter so far we have studied four factors, which structure the temporal profile of a narrative: *coherence relations* between VPs; *compatibility* issues constraining *simultaneity*; the role of *connectedness*; and the possibility of temporal *discontinuity*. We founded our analysis of these factors which determine temporal sequence upon a number of assumptions regarding time: its continuity, its polarity, its constituency, etc. It is now time to raise these assumptions to a higher level and confirm them. We need therefore to attempt to better understand—however imperfectly this may be—the philosophy of physical time, our perception of time, and the properties of time. We also need to develop a mathematical model of time. This is not a trivial endeavor; nor can it be short-circuited. We must proceed carefully and thoroughly. Even so our treatment will be all too brief.

3. Issues Pertaining to Time

- 3.1 Introduction
- 3.2 Types of Time
- 3.3 Nature of Time
- 3.4 Model for Time

3.1 Introduction

Having defined, explained and copiously exemplified from the Hebrew Bible our heuristic set of *coherence relations*, we now turn to consider their temporal dimension. There are three types of sequences pertinent to this study: *verbs*, *eventualities*, and *time*. Knowledge of two determines the third. Our study so far has yielded eventuality sequences for each *coherence relation*. The sequence of verbs, which represent the eventualities, is what it is in the text. We expect therefore that we should be able to determine in a more or less straightforward manner the temporal sequences. But this may not necessarily be the case; we might need to take into consideration the situational aspect (Akagi, above) of the constituent verbs of the textual sequence.

But in order to ascertain the flow of time in biblical Hebrew narrative, we need to have a better understanding of time itself.[48] This section of the chapter will seemingly take us far off course [continuing our sea voyage metaphor] from the biblical texts we have been studying into the heavy seas of the study of the philosophy of time. This is necessary because we must have a fundamental grasp of the nature of time in order to properly comprehend how time works in an historical narrative, such as the Flood account. So hard to starboard.

3.2 Types of Time

There are three types of time: i) physical, real, or public time, which has three properties we exploit, duration, order and point; ii) phenomenological, psychological, or private time, which is our mental perception of time; and iii) perspectival, literary or narrative time, which is time controlled by an author. We have been exploring this last for most of this paper but will draw everything together in **Section 4** below.

- 3.2.1 Physical Time
- 3.2.2 Phenomenological Time

3.2.1 Physical Time

We govern our lives by physical time without knowing what it is. We wear wrist watches, we wake up to alarm clocks, we set timers, we time athletic competitions, and we use calendars and all sorts of day planners. We experience

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[48] The following is a synthesis of Markosian (2010) and Dowden (2011).

the duration of time. How long to cook a casserole, for instance; that students have fifty-five minutes to take their Hebrew examine. We understand temporal order, that January 2, 2013 is after July 4, 2012 and that George Washington was born before he died. We remember particular times and do things at particular times. Family birthdays. Wedding anniversaries. The time that the faculty meeting begins. What time the class starts. And so forth. Duration, order and point of time. We can measure time and are aware of the measure of time. How long it takes for a sprinter to run 100 meters we measure in seconds. The winner might only win by hundredths of a second. How long it takes for coffee to cool enough so that it can be drunk, for bread to rise before it can be baked, for grass seed to germinate, and for puppies to be born. But we cannot manipulate real time. "A watched pot never boils" is not true. Nevertheless, as we have seen above an author can manipulate perspectival time.

Exactly what is time? And what are its properties? The study of time is not a trivial study and a number of issues are hotly debated by those philosophers who have studied time: are the past and future as real as the present? does time flow? is tense basic or is tenselessness? does time exist apart from change? is time substantival or relational? is time basic or is it derived? The debate has centered on the issue of whether the ordering of the location of eventualities in time is objective, based on these eventualities having the *objective properties* of presentness, pastness or futureness, or is it based on *subjective relations*, now, before, and after: that is, whether there is an objective distinction between the present and the past and future or not.[49] Time philosophers thus basically support one of two theories, imaginatively named A and B, forming two camps: those that say that this ordering is objective, and those that say this ordering is by two-place relations (earlier than, later than, etc.); those that say that the present moment is objectively real, and those that say it is not; those that would say that from the perspective of January 3, 2013, the Battle of Hastings (A.D. 1066) has the *property* of being 947 years in the past, and those that would say that it occurred 947 years before the time this sentence was typed. According to the first view, one millennium ago, the Battle of Hastings would have the *property* of being fifty-three years in the future. According to the second camp it would be three years after A.D. 1063. These camps take their names from McTaggart's influential paper of 1908, in which he introduced the idea of two different ways of looking at time: the A-series and B-series of time.[50] Which theory is correct has profound implications, which will frame and inform our discussion below. On this foundation a theory of narrative time can be built.

This sub- subsection is organized as follows:

- History of the Study of Physical Time

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[49] (Zimmerman 2005); Fitzgerald.

[50] McTaggart concluded that time was not real, which philosophers of time have recognized to be his worst idea (1908). But in 1927 McTaggart launched the concept of A-series versus B-series of time, an idea which has the framed the debate ever since (1927).

- The Current Discussion

(1) Time through Time: A Brief History of the Study of Physical Time. To assist the reader we provide the following outline for this part:

- Aristotle
- Descartes
- Barrow/Newton
- Leibniz
- Kant
- McTaggart

The following subsection deals only with theories on the nature of time itself, not on the perception of time. Now, of course, there were those who insisted that the perception of time is all there is. Chief among these was Augustine, but following hard on his heels was Kant. We postpone our discussion of Augustine until further below; but, we will take up Kant here, because he interacted with Newton and Leibniz. Having said this, please note that this is a sampling of the various theories. It must also be said that this is not the place to debate their value or validity.

(a) Aristotle. We begin this brief survey with Aristotle, because of his introspection on the concept of change and the ramifications thereof. And although others who preceded him interacted with this concept as well, they did not do so in the same way. Notably, Parmenides concluded that reality was changeless; whereas, Heraclitus, concluded that the essence of reality was change. Plato, in the *Timaeus* seems to equate time and motion: "... And so people are all but ignorant of the fact that time really is the wandering of these bodies [the planets]" (39d).

For Aristotle time is inexorably linked to the measure of motion. But unlike his predecessors, he "abstracted time from motion." This was his innovation. To him motion was change. So, his basic idea was that time is connected to change: "time is the measure of change" (*Physics* Book IV, chapter 12). But he clarified this idea: "time is not change [itself]" (chapter 10), because the rate of time does not change; the rate of change changes: "[change] may be faster or slower" (*Physics*, chapter 10). Thus, time is just the measure of change. Also he believed that time was continuous.

(b) Descartes. Descartes understood time differently, rejecting Aristotle's idea of the continuation of time. He did not think that the corporeal has the innate capacity of duration; God has to re-create the body at each successive moment.

(c) Barrow/Newton. Barrow rejected Aristotle's connection of time with change and movement. Sir Isaac Newton, his greatest pupil, in the Scholium of his *Principia* argued that time and space are a nexus of entities (not substances), an infinitely large container in which eventualities take place , but which is not dependent on them. This view is known as *substantivalism* (some prefer, *absolutism*), which is opposed by the idea of *relationalism*, initially espoused by Leibniz.

(d) Leibniz. Leibniz objected to Newton's understanding of time. He advanced his view in a series of letters between Samuel Clark (who defended Newton's view) and himself. Leibniz insisted that time does not exist apart from the sequence of non-simultaneous eventualities; that in fact this sequence *is* time. His view is known as *relationalism* or *reductionism*. We will delve into the contrast between Newton's view and Leibniz's much more below.

(e) Kant. Kant reacted to both Newton and Leibniz in his *Critique of Pure Reason*. Kant's innovations were often in the form of synthesis. It appears that from the disparate perspectives of British empiricism and French rationalism, he forged the idea that our minds are "wired" to perceive the empirical data. No less did he do this with Newton's concept of the nature of time, absolutism, vis-à-vis Leibniz's, relationalism.

> Now what are space and time? Are they actual entities [wirkliche Wesen, Newton's view]? Are they only determinations or also relations of things [Leibniz's view], but still such as would belong to them even if they were not intuited? Or are they such that they belong only to the form of intuition, and therefore to the subjective constitution of our mind, without which these predicates could not be ascribed to any things at all?[51]

Not surprisingly, his approach was to frame the discussion around the mind's perception of reality. As Dowden—I think—has stated it quite well:

> Immanuel Kant said time and space are forms that the mind projects upon the external things-in-themselves. He spoke of our mind structuring our perceptions so that space always has a Euclidean geometry, and time has the structure of the mathematical line. Kant's idea that time is a *form* of apprehending phenomena is probably best taken as suggesting that we have no direct perception of time but only the ability to experience things and eventualities *in* time.[52]

(f) McTaggart. We now come to McTaggart's seminal contribution, which has been the substance of the discussion ever since. He maintained that there are two different ways of looking at a sequence of eventualities. One, which he called the 'A-series', is a sequence of temporal positions running from the past through the present to the future. The other, which he called the 'B-series', is to see those positions as going from earlier than through simultaneous with to later than. The *properties* of being past, being present or being future are called 'A-properties.' The *two-place relations* of earlier than, simultaneous with, and later than are called 'B-properties.' And the corresponding theories are of course called the A-theory of time and the B-theory of time, respectively, and their proponents, A-theorists and B theorists. The former insist that there is an objective distinction of the present from the past and from the future apart from any other temporal context of an utterance, time or frame of reference. The B-theorists deny such an objectivity.

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[51] (Le Poidevin 2009).
[52] (Dowden 2011).

There are serious theoretical ramifications depending upon which theory is embraced, A or B: whether the present is all there really is or not; whether time flows or not; whether the truth of an utterance is time dependent or not; whether tense is semantically basic or not; whether reality is fundamentally three dimensional or four dimensional, and whether the time of eventualities is fluid or fixed. The bulk of the discussion below will continue to return to the A versus B issue and its repurcussions.

(2) The Current Discussion: Subsequent A and B Theories. McTaggart set the table for all subsequent discussion on the nature of time. Because of their basic stand, A or B, time philosophers divide on the following: the status of the present, the flow of time, and the time dependence of truth.[53] To clarify these concepts in our discussion below we will apply them to a real time series: the Battle of Hastings (A.D. 1066, when William the Conqueror of Normandy defeated King Harold of England), the signing of the Declaration of Independence (A.D. 1776), the writing of this sentence (THE PRESENT; or if you prefer, the time you are reading this sentence), and a manned mission to Mars (A.D. 2028?).

Again to assist the reader the following outline is supplied:

- Does the Present Have Special Status?
- Does Time Flow?
- Are the Truth of Propositions Time Dependent?

(a) Does the Present Have Special Status? A-theorists are of three stripes: the *presentists*, *growing blockers*, and *eternalists*. The first say that the present is all that there is, and the past no longer exists; and, that neither does the future, because it is not yet. William is not defeating Harold now, nor is the Declaration being signed, nor is man on Mars or on his way there. Therefore, these eventualities do not exist. The second group would only exclude the Mars mission from existence. The third group would accept the existence of all three, but would say the first two have the property of pastness, whereas the third has the property of futureness.

B-theorists accept the existence of all the eventualities. The first two happened earlier than the writing/reading of this sentence. The last will happen later than the writing/reading of this sentence.

The fundamental question for the theory of time is: does reality imply presentness? In other words, is existence equivalent to the portion of reality accessible to the senses, which is necessarily confined to the present? Or to put it another way: was/is the past real? Did it really happen? Did William defeat Harold? Without question! Did John Hancock sign the Declaration? His bold signature is blazoned below the famous text! And so it goes for all the past. If something is not present, but past, it is past; but, it is still real. Presentness and existence are wholly distinct. As far as the future is concerned, it is real in the sovereign purposes of God, which will come to pass.

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[53] On A-theory (Zimmerman 2005); B-theory, (Oaklander 2004).

One further thought: part of the problem might be linguistic. Many languages use relative spatial locations to refer to temporal realities. In English, the past is *behind* us; the future is *before* us. We say we are looking *back* at the past or looking *forward* to the future. And so it is with sundry languages. Think about, then, what perspective on time is expressed by this. We cannot see what is behind us, but we can see what is in front of us. We might question the existence or reality of what we cannot see or what is not immediately sensible to us. This is not the case however with the Semitic languages. In Hebrew, the same root, קדם, is used for one of the words for being in front of and the past. And the same root, אחר, is used for being behind and the future. In Hebrew, the past is seen; it is the future, which is not seen. So in a sense, the Hebrew mindset is that we back into the future. And reasoning as above: what we see, what is immediately sensible to us, we deem as real and existing.

(b) Does Time Flow? This is the penultimate topic in terms of its importance. A-theorists would say that in A.D. 1065 the Battle of Hastings had the property of futureness. In A.D. 1066 this changed to the property of presentness. And in A.D. 1067, to the property of pastness. For these theorists this obtains for every eventuality in time. This is the "flow" of time. Time is dynamic.

B-theorists say that this is an illusion, what they call "the myth of passage." Time does not flow. Time is static. All the eventualities are affixed to a time line. No properties change with time. Hence, it is appropriate to refer to the past and the future with "is." The times of events are relative to one another. Of A.D. 1065, one could say that the time of the Battle of Hastings is later. Of A.D. 1066 it could be said that the time of the Battle of Hastings is concurrent with this. Of A.D. 1067 it could be said that the time of the Battle of Hastings is earlier than this. The writing of the Declaration could be described as occurring earlier than my typing of this sentence. And the time of the Mars mission is later than all three: the Battle, the Declaration, and my typing/your reading.

I am going to suggest that reality evinces a blend of these. Time is static in the past, but it might not be in the present and the future. Past eventualities have happened: they were real, but they can longer change in any way, including the time they occurred. Moreover, an eventuality in the present moves into the past, where it then becomes static. But the performer or experiencer of the present eventuality moves from the present into what is the future from the perspective of the present. Eventualities and performers/experiencers move along what might be a static line—whether or not the entire line is static is irrelevant to this argument—and, thus, with respect to these, the line has a relative motion, as when driving, the scenery appears to be moving past.

(c) Are the Truth of Propositions Time Dependent? Now we come to the most interesting question of all: is the truth value of a proposition time dependent or not? In other words, is tense an integral part of truth? A-theorists say, "yes"; B-theorists say, "no." The latter objected to the idea that the truth of a proposition could change with time. Propositions were either true or false; not indeterminate. But there is no denying that many languages have a way of communicating tense. For example, the statement, "William defeated Harold," was not true in A.D. 1065. It certainly seems to be a time-dependent

proposition. B-theorists responded by translating all tensed propositions into tenseless ones. A-theorists claim that the new propositions do not have the same meanings as the originals. And so it goes. We will return to these issues later. Let me sum up the differences in the following table, after which we will look at our mental perception of time:

METAPHYSICAL CATEGORIES	A-THEORY	B-THEORY
Now	Objective	Subjective
Ontology	Presentism or Growing Past	Eternalism or Block Universe Theory
Flow of Time	Real	Illusory
Propositions	Neither true or false when uttered	Either true or false when uttered
Tenses	Semantically Basic: p is v at t, where p is the proposition, v is its truth value, t is the time	Not Semantically Basic: p is v
Ontology of Fundamental Objects	3 dimensional	4 dimensional

3.2.2 Time and Mind: Phenomenological Time

We now turn to our perception of time, or phenomenological time, for that is how we experience and perceive it.[54] Pöppel lists five ways we experience time: duration, non-simultaneity, past and present, change, and order.[55] We will briefly survey those who have reflected on this, consider these five ways, and then turn to contemplate the metaphysical issues involved. The outline for this subsection is as follows:

- Historical Survey
- The Experience of Time
- Metaphysical Issues

(1) Historical Survey. The following made the greatest contributions and this part is organized accordingly:

- Aristotle
- Augustine
- Kant

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[54] (Le Poidevin 2011).
[55] (Pöppel 1978).

(a) Aristotle. While deliberating on the nature of physical time—although he did not call it that—Aristotle appears to be commenting on phenomenological time, asking, "Whether, if soul (mind) did not exist, time would exist or not, is a question that may fairly be asked; for if there cannot be someone to count, there cannot be anything that can be counted…" (*Physics* Book IV, chapter 14). In other words, time requires a being with a mind to be able to count it. Dowden further adds that Aristotle seemed to be reflecting on his question as he qualified it—that it depends on whether time is the conscious numbering of movement or instead is just the capability of movements being numbered were consciousness to exist.

(b) Augustine. It will be helpful to begin this discussion with an understanding of how Augustine's approach to the study of time and observations on time greatly differ from Aristotle's. Callahan states:

> Aristotle examines motion and change in nature and finds that time is the number or measure of change. Augustine, looking form the beginning at the way we measure time, wonders how we can measure past and future time, which do not exist, or present time, which, strictly speaking, has no extension. Since a thing must exist in order to be measured, Augustine comes eventually to the conclusion that all time must now exist in the mind (1958).

Augustine extensively discusses the nature and experience of time in *Confessions* Book XI, concluding that we measure time in our minds. He also appears to be aware of the idea of the existence of time apart from our mental perception of it, but he rejects this idea:

> It is in you, O mind of mine, that I measure the periods of time. *Do not shout me down that it exists [objectively]*; do not overwhelm yourself with the turbulent flood of your impressions. In you, as I have said, I measure the periods of time (11.27.36) [emphasis mine].[56]

How did Augustine arrive at this conclusion? He begins by logically thinking through the nature of the passage of time, asking: what is the past; what is the future; and what is the present? It is only because the present passes into the past that there is a past; and, it is only because that something is coming with respect to the present that there is a future:

> Yet I say with confidence that I know that if nothing passed away, there would be no past time; and if nothing were still coming, there would be no future time; and if there were nothing at all, there would be no present time.

> But, then, how is it that there are the two times, past and future, when even the past is now no longer and the future is now not yet? But if the present were always present, and did not pass into past time, it obviously would not be time but eternity (11.14.17).

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[56] Translation from Albert Outler (1994). Henry Chadwick's 2011 translation is also highly recommended by Augustine scholars. Citation is by book.chapter.section.

He then reflects on the nature of eventualities in the past that were present; and the nature of eventualities in the future that are present: neither exists anymore:

> But we measure the passage of time when we measure the intervals of perception. But who can measure times past which now are no longer, or times future which are not yet--unless perhaps someone will dare to say that what does not exist can be measured? Therefore, while time is passing, it can be perceived and measured; but when it is past, it cannot, since it is not (11.16.21).

So, then, if they do not exist, how do we perceive them, since it is plain that we do? Augustine concludes that we perceive the *memory* of them for the past and the *anticipation* of them for the future:

> Although we tell of past things as true, they are drawn out of the memory--not the things themselves, which have already passed, but words constructed from the images of the perceptions which were formed in the mind, like footprints in their passage through the senses. . . . . [Past and future eventualities] coexist somehow in the soul, for otherwise I could not see them. The time present of things past is memory; the time present of things present is direct experience; the time present of things future is expectation (11.18.23; 11.20.26).

And he affirms that the memory of the past is in the present:

> I measure as time present the impression that things make on you as they pass by and what remains after they have passed by--I do not measure the things themselves which have passed by and left their impression on you. This is what I measure when I measure periods of time (11.27.36).

*(c) Kant.*Immanuel Kant, in reacting to both Newton and Leiebniz's ideas, expressed his concept of time in terms of our "intuiting" time. Furthermore, he appears to convey Aristotle's ideas that time does not exist except in this way:

> Or are they [time and space] such that they belong only to the form of intuition, and therefore to the subjective constitution of our mind, without which these predicates could not be ascribed to any things at all?[57]

As stated above, his philosophical approach was to frame discussions around the mind's perception of reality. And to repeat Dowden's quote from above: "Immanuel Kant said time and space are forms that the mind projects upon the external things-in-themselves. He spoke of our mind structuring our perceptions."

(2) The Experience of Time. We experience time in the following ways, which will be covered below:

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[57] Janiak (2012).

- Duration
- The Specious Present
- The Past, the Present, and the Passage of Time
- Change
- Order

(a) Duration. Our starting point for considering duration is Augustine. He wrestled with the concept of temporal duration, because, according to his analysis, to be able to measure time from the present we would have to start our measurement from the beginning of the period of a temporal interval. This "beginning" is in the past, which, he argued does not exist: "But in what sense is something long or short that is nonexistent? For the past is not now, and the future is not yet" (11.15.18). He continues:

> And yet, O Lord, we do perceive intervals of time, and we compare them with each other, and we say that some are longer and others are shorter. We even measure how much longer or shorter this time may be than that time. And we say that this time is twice as long, or three times as long, while this other time is only just as long as that other. But we measure the passage of time when we measure the intervals of perception. But who can measure times past which now are no longer, or times future which are not yet--unless perhaps someone will dare to say that what does not exist can be measured? Therefore, while time is passing, it can be perceived and measured; but when it is past, it cannot, since it is not (11.16.21).

An additional problem his contemplation exposes is that we only perceive the present moment, which has no duration. But, would not the present need to have duration to be able to measure duration? And yet it has none:

> If any fraction of time be conceived that cannot now be divided even into the most minute momentary point, this alone is what we may call time present. But this flies so rapidly from future to past that it cannot be extended by any delay. For if it is extended, it is then divided into past and future. But the present has no extension whatever (11.15.20).

Notwithstanding, we clearly do apprehend the measure of time. What was Augustine's solution to this conundrum? We measure the length of our memory of a temporal interval in the past: "Therefore I do not measure them, for they do not exist any more. But I measure something in my memory which remains fixed" (11.27.35). And further:

> It is in you, O mind of mine, that I measure the periods of time . . . . I measure as time present the impression that things make on you as they pass by and what remains after they have passed by--I do not measure the things themselves which have passed by and left their impression on you. This is what I measure when I measure periods of time. Either, then, these are the periods of time or else I do not measure time at all (11.27.36).

Was Augustine right? In any case, his thoughts on time have informed the discussion since they were penned. One of the keys to his thought is his understanding of the present. And to this issue we now turn.

(b) The Specious Present. Augustine's cogitations on time move us to ask a salient but strange question: how long is the moment when we directly perceive an object with our senses? Salient: because we only directly perceive then. Strange: because a moment is conceptually instantaneous; how can it have any duration? Le Poidevin suggests four possibilities for the specious present (a termed introduced by E.R. Clay but characterized by William James of Harvard):

1. the span of short-term memory;
2. the duration which is perceived, not as duration, but as instantaneous;
3. the duration which is directly perceived — i.e. not through the intermediary of a number of other, perhaps instantaneous, perceptions;
4. the duration which is perceived both as present and as extended in time

Let us look at each in turn and set all but the last aside, for speech would be a hopeless muddle if the hearing of words were simultaneous rather than being spread over an interval. But the reality is that the words are not blurred. Moreover, trying to fix one's eyes to see the wings of a hummingbird, where there is blurring, and the direct perception of duration seems precluded by Augustine's arguments. We are left with a paradox: an interval perceived as both instantaneous and extended. But this is the nature of reality. We perceive motion, which by definition cannot be instantaneous; but, we can only directly perceive the instantaneous.

(c) The Past, the Present, and the Passage of Time. We perceive the past, present and future and what appears to us be the passage of time in different ways. The first three are real; the fourth might not be. We have the capacity to perceive reality. We do not directly perceive the past with our senses, but as we stated above, this does not preclude its reality. We directly perceive the present. And we perceive the prophetic future by faith. But what of the last, the passage of time? Illusions can appear to be real. The rising moon appears to be much bigger than the moon at its zenith, but in fact, the image is no larger. Yes that which was the future becomes the present, which becomes the past, but the reality is that the times of eventualities are what they are. This leads us to consider a sequence of eventualities, which is the essence of change.

(d) Change. We also perceive change. Change is motion: spatial or metaphorical: change of place or change of state. Motion takes time. Depending on how rapidly we receive the information that a change has occurred, we will either distinguish the individual changes or not. And the latter is not limited to fast changes, which appear as a blur. Something can be moving too slow for us to see the changes over a short interval, in which case there does not appear to be any movement at all. This is related to the individual changes being too small. Both of these can be seen in the movement of the hour hand. But if the interval is lengthened out and the initial position is in our memory, we can see that the hour hand has moved. The same thing applies to the rotation of the earth. When we

gaze at the stars for a few seconds, to our eyes, they do not appear to move. But in the field of vision of a telescope eyepiece, they certainly do. Order is directional change. How do we perceive this?

(e) Order. Order is concerned with the direction of the change, not just the fact of the change. It is a vector, not a scalar. This is a different "kettle of fish" from perceiving the past or even change. This is perceiving different degrees of pastness. Cause can help. A cause precedes its effects. But what if there is not cause and effect relation? Mellor suggests that the brain represents time by time. But this has its problems, which we will not go into here. It remains a mystery, but, nevertheless, a reality. Besides we have abundantly illustrated its presence in texts above.

(3) Metaphysical Issues. These have been dealt with adequately above. So, we will be content to just define the issues below.

(a) Reality of Tense. The issue is this: is tense semantically basic or is derived? Can we express a tensed proposition without using tense?

(b) Presentism versus Eternalism. The issue is this: does the present only exist for us or do the past and future as well? Is the fact that only the present is sensible to us, mean that the past and future do not exist?

(c) The Temporal Asymmetry of Cause. The issue is this: why is it that causes always precede effects? This is often called "the arrow of time."

SUMMATION: Having briefly examined the types of time by surveying the historical and current discussions on physical time and phenomenological time, we now turn to consider the ontology of time. For our purposes the relationship between time and eventualities is most crucial and will therefore command our attention.

3.3 The Nature of Time

This subsection on the ontology of time will be broken down in the following way:

- Time and Space
- Time and Cause
- Time and Eventualities
- Time and Truth

3.3.1 Time and Space: The Topology of Time

The topology of time is the properties that time seems to possess, namely: time appears to flow; time appears to be linear; and time can be understood as consisting of instants or intervals. We will briefly touch on the first below, because it has been thoroughly discussed above. The second needs more discussion than given above and the third is entirely new and will be covered under **Subsection 3.4** below.

(1) The Flow of Time: "Myth of Passage" versus Dynamic. We experience the overwhelming impression that time flows. Is this due to the nature of time? Or is it an illusion, "the myth of passage"? To put in a different way: is time dynamic or static?

(2) The Shape of Time: Linear versus Circular. I discussed earlier in this chapter and in an earlier chapter the constraint, which the linearity of text places upon simultaneous eventualities. Time too is linear, although some cultures deny it and affirm its circularity. The Hebrew Bible stands out among its contemporaries in presenting eventualities as sequentially moving from the past, through the present to the future along a time line, instead of proceeding in cycles consonant with the seasons. And it is also distinct in advancing the idea that human history will have a culmination, instead of an endless circular sameness. The linearity of time was also held by the Zorastrians and Seneca. Augustine stated that time was a one-way journey from Genesis to Judgment regardless of the cyclical patterns in nature. Aquinas concurred. Francis Bacon referred to the linearity of time. Newton formulated the idea mathematically and geometrically, representing time by a line. And Leibniz, Locke and Kant followed suit—the latter maintaining that it was necessarily that.

What is this shape? A single line, non-branching, straight (that is, without curvature, so that it cannot form a closed loop). Does the line have a beginning? That is, is it a ray, rather than a line? Does it have an end as well, making it into a line segment? Theology informs these issues. God created time. So it has a beginning. But does it have an end? Is the eternal state part of time; and, thus the ray never ends?

3.3.2 Time and Cause

The relationship between time and cause has been discussed above in **Section 2** of this chapter, in particular what Aristotle, Hume and Reichenbach's had to say. The issue which piques our interest in this subsection is the so-called "arrow of time," a term coined in 1927 by the British astronomer, Arthur Stanley Eddington, about the unmistakable, seemingly inviolable asymmetry of time.[58] Stated succinctly: why do causes always seem to precede their effects? To be specific, why does a cup of tea always fall off a table, splinter into a million pieces, and spill its contents onto a rug, making a big stain. Why do stains not vanish from rugs, form into drops of tea, broken pieces assemble into a cup, the drops go back into the cup, and the cup with its tea whisk back onto the table? What is most curious is that the quantum mechanics equations, such as the Schroedinger Wave Function, the solutions of which describe reality at the sub-atomic and atomic level, admit time reversals. Furthermore, Maxwell's equations allow for the

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[58] Eddington commented that time has a one-way behavior, not shared by space: "Let us draw an arrow arbitrarily. If as we follow the arrow we find more and more of the random element in the state of the world, then the arrow is pointing towards the future; if the random element decreases the arrow points towards the past. That is the only distinction known to physics. This follows at once if our fundamental contention is admitted that the introduction of randomness is the only thing which cannot be undone. I shall use the phrase 'time's arrow' to express this one-way property of time which has no analogue in space" (1928).

convergence of electromagnetic waves instead of just their radiation, but such reversals as described above are not observed on the **macro-level**, and as far as we know have never been so. Referred to as the Second Law of Thermodynamics, it is the law of increasing entropy, the endless tendency to disorder. Times arrow is also manifested on a grand scale in the expansion of the universe. This phenomenon evokes seven questions: 1) Why there is an arrow? 2) Why do the laws of Physics not affirm its existence? 3) What is its connection to entropy? 4) Why is it not manifested in micro-processes? 5) Why does entropy increase in the future? 6) What would a physical theory look like, which selects a specific direction for time? 7) What is the relationship between disparate arrows, for example: entropy, cause, radiation, and knowledge?[59] We must let the matter rest for now, but suffice it to say that these questions figure large in the nature of time. What cannot rest and must be treated now is the altogether-relevant-to-this-study topic of the relationship between time and eventualities.

3.3.3 Time and Eventualities: Substantivalism versus Relationalism
As promised we will now try to elucidate the Newton-Leibniz debate over the nature of time and space, which has continued in one form or another until the present. This is not merely an arcane issue: splitting academic hairs. Its application will affect the mathematical model of time, which we will endeavor to explain below. But at this point we will concentrate on the two views themselves. We will start with Newton.

   (1) Newton—Absolutism/Substantivalism. Sir Isaac Newton, the great Cambridge physicist of the seventeenth and eighteenth centuries, was the father of classical mechanics, and perhaps best known for his theories of motion and universal gravitation. He based his theories of physics on a certain *philosophical* perspective on time and space: that space was an entity distinct from the objects in it, and, that time passed whether eventualities occurred in it or not. Consequently, he spoke of absolute space and absolute time, differentiating these from the measurement of these, which he called relative space and time.

   Newton's philosophy of time first appears in *De Gravitatione et æquipondio fluidorum*, but its main articulation occurs in a minor section (entitled *Scholium*) of his great work, *Philosophae Naturalis Principia Mathematica* (commonly known by the third word in the title). In this section he writes the following about time:

> Absolute, true and mathematical time, in and of itself and of its own nature, without reference to anything external, flows uniformly and by another name is called duration. Relative, apparent, and common time is any sensible and external measure (precise or imprecise) of duration by means of motion; such a measure—for example, an hour, a day, a month, a year—is commonly used instead of true time.[60]

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[59] Posed by Dowden (2011).
[60] The original Latin text can be found at the Newton Project (http://www.newtonproject.sussex.ac.uk).

Newton went beyond his statement on the nature of time to defend his view from the need for the so-called "equation of time" and celestial mechanics, the details of which we will not go into here. Suffice it to say that his view allowed absolute time to remain constant while relative time changed. He argued for the difference between absolute and relative motion by—among other things—his famous, rotating-bucket-of-water illustration [we will return to this later]. In addition, he maintains that it is necessary, not optional, to make the distinction between "true quantities" and "their absolute measure":

> ***But because the parts of space cannot be seen, or distinguished from one another by our senses, therefore in their stead we use sensible measures of them***. For from the positions and distances of things from any body considered as immovable, we define all places; and then with respect to such places, we estimate all motions, considering bodies as transferred from some of those places into others. And so, ***instead of absolute places and motions, we use relative ones***; and that without any inconvenience in common affairs; ***but in philosophical disquisitions, we ought to abstract from our senses, and consider things themselves, distinct from what are only sensible measures of them***.[61]

Furthermore, Newton's laws of classical mechanics themselves evince his ideas about time, assuming that all types of motion (straight line, circular, elliptical, and other trajectories and orbits) happen in space and in time, with time as the main independent variable. Location is time dependent. Velocity is time dependent. Displacement is time dependent. Physicists still use Newton's time-dependent notation today: $\dot{x}$ is the first derivative of x with respect to *time* (the infinitesimal change of the dependent variable x with respect to *time*); $\ddot{x}$ is the second derivative of x with respect to *time* (the infinitesimal change of the first derivative of x with respect to *time*); and, so forth. Even the more generalized theories of classical mechanics, of Lagrange and of Hamilton, have time as an independent variable.

Now on to Leibniz's view.

(2) Leibniz—Relativism/Reductionism. Leibniz did not respond directly to Newton, but rather to the latter's former student and friend, Samuel Clarke. The occasion for this series of correspondences was a letter Leibniz sent to an acquaintance of his, Caroline of Ansbach, the Princess of Wales, in which he warned her of the danger of Newton's ideas to natural religion:

> Natural Religion it self, seems to decay [in England] very much . . . . Sir Isaac Newton says, that Space is an Organ, which God makes use of to perceive Things by. But if God stands in need of any Organ to perceive Things by, it will follow,

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[61] In the Scholium of Newton's *Principia*, which is between the definitions and his laws of motion. Emphasis is mine.

that they do not depend altogether upon him, nor were produced by him. Sir Isaac Newton, and his Followers, have also a very odd Opinion concerning . . . .[62]

She responded by contacting her friend, Samuel Clarke, who engaged Leibniz in an exchange of twelve papers, six from each correspondent (Leibniz's first paper is the latter to the princess) from 1715–16. Clarke's arguments are his, not Newton's; but, most likely the latter reviewed and approved them. The idea that Newton was the ghostwriter, however, appears to be unfounded. Most likely, Newton did not respond directly because of the rancor he had for Leibniz, being convinced that the latter had stolen his ideas for the calculus. The acrimony was mutual. And thus, I suspect that the vehemence in Leibniz's papers is directed more at Newton than towards Clarke—although, in that Leibniz was responding to Clarke, they were also directed at him. The papers of both parties passed through the princess's hands. The repartee no doubt would have continued were it not cut short by Leibniz's death. Leibniz wrote in French. The following is Clarke's original translation of 1717 without any modern corrections. Clarke died two years later.

Leibniz advanced the argument of relationalism: that there is no such thing as absolute space, motion or time; rather everything was just related:

> These Gentlemen maintain therefore, that Space is a real absolute Being. But this involves them in great Difficulties; For such a Being must needs {sic} be Eternal and Infinite. Hence Some have believed it to be God himself, or, one of his Attributes, his Immensity. But since Space consists of Parts, it is not a thing which can belong to God.
> As for my Own Opinion, I have said more than once, that I hold Space to be something merely relative, as Time is; that I hold it to be an Order of Coexistences, as Time is an Order of Successions. For Space denotes, in Terms of Possibility, an Order of Things which exist at the same time, considered as existing together; without enquiring into their Manner of Existing. And when many Things are seen together, one perceives That Order of Things among themselves.[63]

Leibniz had a three-pronged argument against Newton's position: the principle of sufficient reason (PSR); the principal of the identity of indiscernibles (PII); and the principle of indetectible substance. The first of these is: "Nothing happens without a sufficient reason, why it should be So, rather than otherwise."[64] PSR, PII and his relational understanding of time are all evident in the following statement on time by Leibniz:

> The Case is the same with respect to Time. **Supposing any one should ask, why God did not create every thing a Year sooner; and the same Person should**

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[62] The original was in French. This letter is considered to be the first in the exchange of papers. The Newton Project has Clarke's translations of Leibniz's French originals.

[63] From Leibniz's third paper, originally titled by Samuel Clarke, *Mr. Leibnitz's Third Paper. being An Answer to Dr. Clarke's Second Reply*.

[64] Ibid.

infer from thence, that God has done something, concerning which 'tis not possible there should be a Reason, why he did it so, and not otherwise: The Answer is, That his Inference would be right, *if Time was any thing distinct from Things existing in Time. For it would be impossible there should be any Reason, why Things should be applied to such particular Instants, rather than to others, their Succession continuing the same. But then the same Argument proves, that Instants, consider'd without the Things, are nothing at all; and that they consist only in the successive Order of Things:* **Which Order remaining the same, one of the two States, viz. that of a supposed Anticipation, would not at all differ, nor could be discerned from, the other which Now is** [emphasis, mine: bold italics-PSR; italics-on time; bold-PII].[65]

Leibniz also argued against the idea of absolute space and time from the fact that it is indetectible. If it is a reality, we should be able to detect it. But since we cannot, it is not. He maintains:

If Space is a property or Attribute, it must be the Property of some Substance. But what Substance will That Bounded empty Space be an Affection or Property of, which the Persons I am arguing with, suppose to be between Two Bodies?

If infinite Space is Immensity, finite Space will be the Opposite to Immensity, that is, 'twill be Mensurability, or limited Extension. Now Extension must be the Affection of some thing extended. But if That Space be empty, it will be an Attribute without a Subject, an Extension without any thing extended. Wherefore by making Space a Property, the Author falls in with My Opinion, which makes it an Order of things, and not any thing absolute.[66]

Clarke parried each of Leibniz's thrusts. To PSR, he responded that it is due to the arbitrary sovereign will of God. As for PII, he did not concede Leibniz's point that that things done at different times are identical, and that space-time is a special kind of property/substance. Although it must be admitted that the last was his weakest defense: he kept on modifying his idea as Leibniz pressed the attack.

At first glance it would appear that Einstein's theories have won the day for relationalism—his concept of inertial reference frames moving at constant velocity, the hallmark of Special Relativity, does away with the idea of absolute space, absolute velocity, and even simultaneity of instants —were it not for Newton's bucket, a thought experiment about a spinning bucket of water.[67]

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[65] Ibid.

[66] Leibniz's fourth paper to Clarke.

[67] Andrew Motte's English translation of 1729 from the original Latin: If a vessel, hung by a long cord, is so often turned about that the cord is strongly twisted, then filled with water, and held at rest together with the water; thereupon, by the sudden action of another force, it is whirled about the contrary way, and while the cord is untwisting itself, the vessel continues for some time in this motion; the surface of the water will at first be plain [plana], as before the vessel began to move; but after that, the vessel, by gradually communicating its motion to the water, will make it begin sensibly to revolve, and recede by little and little from the middle, and ascent to the sides of the vessel, forming itself into a concave figure (as I have experienced), and the swifter the motion becomes, the higher will the water rise, till at last, performing its revolutions in the same times

The essence of the experiment and significance is as follows: Suppose that a bucket of water is suspended from a rope and then set spinning. What we will observe? At first the surface of the water will remain flat, with the sides of the bucket rotating around the mass of water, because of the inertia of the water. This is Newton's first law of motion. At this point the water is rotating with respect to the bucket and vice versa, but the water is not rotating with respect to the earth. After a while, because of surface tension, the water will start to rotate as well until its angular velocity is the same as that of the bucket. It will no longer be moving with respect to the bucket, but the fact that the water will start to go up the sides of the bucket proves that is moving with respect to some absolute reference frame. Newton called this absolute space. Now rotational motion is accelerated motion, with the direction of the velocity changing, rather than the magnitude.

Even Einstein's General Theory of Relativity seems to gulp at Newton's bucket. Substantivalism is still alive.[68] Moreover, common everyday language—not sophisticated linguistics—suggests that in one way or another time is absolute, as in the sentence: *We went to the store on Saturday*. Suppose today is Sunday. Then relationalism would argue that if it were Monday and the utterance were *We went to the store on Sunday*, given that the sequence and span between the going to the store and the time of speaking is the same for both, that they are the same. This is clearly not the case.

We will return to these two views later when we formulate a mathematical model for time, because each must be handled differently. But for the present, however, "Time and Truth" is before us.

3.3.4 *Time and Truth: Tensed or Tenseless: Is the Truth of Propositions Dependent on Time?*

Although certainly an indispensable aspect of the ontology of time, this issue was adequately covered above. Moreover, it is not immediately germane to our purpose in this chapter: to elucidate the factors that determine temporal sequence

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with the vessel, it becomes relatively at rest in it. This ascent of the water shows [indicat] its endeavor to recede from the axis of its motion; and the true and absolute circular motion of the water, which is here directly contrary to the relative, becomes known [innotescit], and may be measured [mensuratur] by this endeavor. At first, when the relative motion of the water in the vessel was greatest, it produced no endeavor to recede from the axis; the water showed no tendency to the circumference, nor any ascent towards the sides of the vessel, but remained of a plain [plana] surface, and therefore its true circular motion had not yet begun. But afterwards, when the relative motion of the water had decreased, the ascent thereof towards the sides of the vessel proved [indicabat] its endeavor to recede from the axis; and this endeavor showed [monstrabat] the real circular motion of the water continually increasing, till it had acquired its greatest quantity, when the water rested relatively in the vessel. And therefore this endeavor does not depend upon any translation of the water in respect of the ambient bodies, nor can true circular motion be defined [definieri] by such translation.

[68] On the current state of the debate see Huggett and Hoefer (2009), Rynasiewicz (2012), and the series *Ontology of Spacetime*, begun in 2006, following the First International Conference on the *Ontology* of Spacetime, and continuing as papers published from subsequent conferences.

in texts. So we move on to a topic quite germane: exploring a mathematical model for time.

3.4 A Mathematical Model for Time

- Introduction
- Issues in Developing a Mathematical Model
- Temporal Structures

3.4.1 Introduction

This is a fascinating aspect of this study at large. We have talked above about moments of time, periods of time, overlapping intervals of time, eventualities starting at a certain point of time, overlapping eventualities, etc., knowing that we experience such things. We have assumed their reality for heuristic purposes. For this study, however, we must be much more precise.

We are now going to develop a mathematical model for time, called a temporal structure, to which we can attach eventualities. By this means, we will attempt to make the abstract ideas of the philosophy of time more concrete and more easily processed.

According to van Benthem (1984, 1) the type of tense logic developed by Prior (1967) has lacked mathematical precision. Most often it is *assumed* that time is made up of instants of time (these correspond to mathematical points), which are related to one another by strict precedence (less than or before). But these structures must be built in a systematic way.[69]

3.4.2 Issues in Developing a Temporal Model

To build a temporal structure we must have a set of *elements* (temporal entities) and one or more *binary relations* between the elements, which exhibit certain well defined *properties*. We will take up these and the issue of *the relationship of time to eventualities*, below.

(1) The Temporal Elements. We must ask what should be the temporal elements: instants (i.e. points) or intervals? We can build intervals from instants—as usual—or we can assume that they are primitives. Constructed from instants, they are a dense ordered sets of points, where dense means that there is always a point between any two points. Also the set is convex, meaning that when we move from one point to another we will always pass through points in the set.

Van Benthem shows how temporal structures built on the usual assumptions fare in their ability to yield the well-known properties of time, such as linearity. Of interest for our purposes is van Benthem's development of temporal structures, in which he proposes that the temporal elements are intervals instead of points. This choice makes sense, because we experience intervals of time, simultaneous eventualities will always have an interval when they are both occurring (if they begin and end at exactly the same time, the intervals will be the same as the

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[69] This will be our task, following (van Benthem 1984), (van Benthem 1991), and (Dünges 1998).

intervals for both eventualities), and a point is just the limit of shorter and shorter intervals.[70] It is plain that we will also need instants in our model, because *achievements* theoretically occur at an instant of time. So if we opt for intervals as our primitive element, we must have some way to derive instants from them.

(2) The Temporal Relations. What should the temporal relations be? Our intuition and experience of time informs us that temporal intervals associated with events or states can be *ordered* (preceding or following one another), *simultaneous* (both instants and intervals), overlap (intervals only), *nested* (one interval included within another), and *juxtaposed* (one interval abuts the other).[71] These correspond to the relations of strict **precedence** (hereafter "precedence," unless qualified otherwise), **equality** (superposition of intervals), **overlap**, **inclusion**, and **abutment**, respectively. Which of these should we use? Should we employ a combination of more than one? It is fairly obvious that we need fewer relations to represent instants than intervals. In fact, one will do: **precedence**. But there is a difference of opinion on intervals, regardless of their origin: **precedence** and **overlap** (Kamp 1993), **precedence** and **inclusion** (van Benthem 1984), or **precedence**, **overlap** and **inclusion** (Dünges 1998).

Having chosen intervals as the temporal element, van Benthem then selects the appropriate relations by which they can interact. He opts for strict **precedence** and **inclusion** (although, he could have chosen **overlap**). The latter is added to accommodate the fact that intervals—unlike points—are extended and therefore, an interval can be entirely contained within another. Moreover, he shows that **overlap** relations can be derived from **inclusion** relations; and, that points can be derived from intervals.

Let us see how these divers temporal relations can be derived from one another. (in the discussion below uppercase letters (X, Y, Z, and V) refer to intervals; lowercase, to instants). First of all, **precedence** of temporal intervals ($<$) can be understood in terms of temporal instants as follows: for intervals X and Y, $X < Y$ if and only if (abbreviated, iff) for all ($\forall$) t_x which are elements of ($\in$) X and $t_y \in Y$, $t_x < t_y$. Secondly, both **overlap** (O) and **inclusion** ($\sqsubseteq$) can be derived from **precedence**. **Overlap** obtains with two intervals X and Y iff they precede one another and their intersection is not the empty set ($\emptyset$). Another way to see this is that X and Y will **overlap** iff $\neg$ (not) $X < Y$ & $\neg Y < X$ & $X \cap Y \neq \emptyset$, which is simply affirming that intervals either precede or follow one another or they overlap; and, moreover, that inclusion is a kind of overlap. The final condition is to preclude the possibility of abutment, which is one instant away from being an overlap.

Inclusion occurs with two intervals X and Y ($X \sqsubseteq Y$) iff $\forall t_x \in X : t_x \in Y$. In this case X is the subinterval of Y. We can formally define this relation in terms of **precedence** as follows: $X \sqsubseteq Y$ iff $\forall Z$ ($Z < Y$ implies ($\rightarrow$) $Z < X$) & ($Y < Z \rightarrow X < Z$). Let us see how this excludes all other possibilities save nesting. If the intervals precede one another in either direction, they cannot overlap. If they abut, clearly X is not a subinterval of Y. If the intervals overlapped in such a way that X is not

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[70] (Van Benthem 1984, 5–10) makes a strong case for starting with intervals rather than points as the primitive temporal element.

[71] See **Figure 4** below for a visualization of these temporal relations.

nested in Y, Z could be nested within the overlap portion and therefore would precede Y but not X. The only thing left is X nested in Y.

Thirdly, **overlap** can be derived from **inclusion** and vice versa. Let us examine just the first of these. What is **overlap**? It means that a subinterval of one interval is also a subinterval of the other. And if there is a one subinterval in both, there will be a maximum subinterval in both, which will be the extent of the overlap. Formally: X O Y *iff* there exists $(\exists)$ Z $(Z \sqsubseteq X \ \& \ Z \sqsubseteq Y)$.

Finally, **abutment** appears to be a limiting case for both strict **precedence** and **overlap**. In fact, **abutment** is type of weak **precedence** $(\leqslant)$, and is—as I stated above—only one instant from **overlap**. How do we distinguish this temporal relation from the others? Informally, **abutment** is two intervals, X and Y, juxtaposed with no "space" in between. In set theory, it is the union of two sets to form a third set, in which the intersection of the first two sets is the empty set. Keeping in mind that these are time intervals, a third way is to recognize that instants $t_{i(nitial)}$ through $t_{f(inal)}$ form the endpoints of the first interval and , therefore are elements of it. **Abutment** obtains when $t_f + \Delta t \in Y$, where Δt is a liminal time increment, which we call an instant of time.

(3) Temporal Properties. Finally, we need to look at the temporal postulates, which come from these structures. **Precedence**, **overlap**, and **inclusion** each independently exhibit *symmetry* (or *asymmetry*), *transitivity*, *reflexivity*, *linearity*, *density*, and *convexity*; and when they are combined, they also manifest *monotonicity*, *freedom*, and *atomicity*. Let me explain each of these in turn and then examine their contribution to our overall analysis.

Asymmetry is best understood as the converse of *symmetry*, which is a = b → b = a. Obviously, we do *not* have symmetry for strict **precedence** in temporal structures (with instants or intervals): $t_a < t_b$ and $t_b < t_a$ are *not* the same; and X < Y $\nrightarrow$ Y < X. But, **inclusion** can be symmetric if the intervals are identical. Formally, X $\sqsubseteq$ Y $\&$ Y $\sqsubseteq$ X → X = Y. The same thing applies to **overlap**.

Transitivity of strict **precedence** is fairly simple. We certainly understand it with integers: if i < j < k, then i < k. The same applies to rational numbers and real numbers. It is similarly straightforward with instants and intervals (see **Figure 4** below). But, how this works with **inclusion** is not as obvious. Nevertheless, the concept can be illustrated simply. Imagine three mayonnaise jars: a small one, a medium sized one, and a large one. If we put the small one inside of the medium size one and then the medium with the small jar inside it into a big jar, clearly the small jar will be inside the large jar. This is the way it is with intervals.

Reflexivity for numbers is also easy to comprehend: for all x in the set of integers, rational numbers or real numbers x R x, where R (a relational operator in a set) is equality; that is, x = x. If on the other hand the relational operator is one of strict precedence (*less than*, or in temporal terms, *before*), then reflexivity does not hold: 3 < 3, for instance, is not true. The same thing applies to instants and to intervals. Both are *irreflexive*. But what of **inclusion**? Here our mayonnaise jar analogy fails us. But is not reflexivity simply affirming that x is equal to or within

itself? Indeed. This is self-evident. In addition, it is always the case that something overlaps itself.

Linearity is certainly one of the most important properties of temporal relations because of the patently linear nature of time. Applied to the instant structures we will present below, it is as follows: if two instants of time are not the same, the first must follow the second or the second the first. Formally, $t_1 \neq t_2 \rightarrow t_1 < t_2$ or $t_2 < t_1$.

Density is also an important property. When intervals are defined in terms of instants and not taken as primitives, they are said to be a dense ordered set of instants. Described informally above, here it remains for us to formalize: $t_1 < t_2 \rightarrow \exists t' (t_1 < t' < t_2)$. The only further comment that we must make is that the interval must not consist of a finite number of instants. In that case, *density* would not hold.

Monotonicity is a little more complicated. It is fairly comprehensible with functions such as $y = x^3$. A function is monotonically increasing if as x increases, y increases. But in our specific case of set theory—in which *monotonicity* is not nearly as straightforward as with functions—as x is included in y, which precedes z, x precedes z. To illustrate this let us go back in time to the fourth game of the 1926 World Series. Babe Ruth hit three homeruns. Of course the 1926 World Series preceded the 1927 season. And the fourth game was within that Series. Clearly, the fourth game of the 1926 World Series preceded the 1927 season. This is *monotonicity*.

Another interesting property is *conjunctivity*. It comes from the nature of **overlap**. As we said above, in this case, there is a maximum subinterval shared by two intervals. This property states that all subintervals shared by the two intervals will necessarily be nested within the maximum subinterval. As with other second order axioms, the formal structure is too complicated for our purposes.

Moreover, two additional properties are *freedom* and *atomicity.* I will just *describe* the first of these. If two intervals, X and Y, **overlap**, *freedom* is an axiom, which comes from the observation that unless the intervals entirely **overlap** one another, there will be a portion of each interval that is not in the maximum shared subinterval. Therefore, any subinterval in this portion within X will not be a subinterval of Y. And similarly, any subinterval in this portion within Y will not be a subinterval of X. *Atomicity* maintains that intervals are indivisible. I will not comment on this axiom any further at this point.

The last property we will look at is *convexity.* This is simpler than *monotonicity*—as simple as how the shape of a baseball or football differs from that of a donut. Imagine that we take a piece of string and join any two points on one of the two balls or within them. Every point on that piece of string will be within the volume of that ball. Now take the same string and join any two points on or within a donut. Every time the string crosses the hole in the donut, the points crossing the hole are not part of the donut. Therefore, a donut is not a convex set of points. Similarly, a set of intervals with inclusion and strict precedence is a convex set. Formally, we can state *convexity* as follows: if X, Y, Z, and V are intervals, $X < Z < Y$ implies that if X is nested in V and Y is nested in V, then Z is

nested in V. One final word: *density* and *convexity* are similar, in that they both concern an element between two other elements. But they differ in one important aspect and in this way they are somewhat the converse of each other: for the former, the existence of the in-between element is the issue at stake; for the latter, since the in-between element is a given, the issue is: is it in the set?

The result of the above discussion is that we could have a mathematical model of time using intervals as the elements of the temporal structure with the relations of strict **precedence** and **inclusion**.

(4) The Relationship of Eventualities to Time: Relationalism versus Substantivalsim

(a) The Two Positions. We must necessarily revisit the issue of the relationship of eventualities to time on this occasion, because it affects the mathematical model, specifically how eventualities can be mathematically localized in time. If on the one hand, relationalism/reductionalism (hereafter *rr*), the view of Aristotle and Leibniz (that time is nothing more than the measure of change; that time does not exist apart from eventualities; that there is no empty time) is right, then the embedding of an eventuality structure in a temporal structure—although not a trivial task—is fairly straightforward, as we will see below. If on the other hand, substantivalism/absolutism (hereafter *sa*), held by Barrow and Newton (that time is an independent entity; that time is independent of eventualities; that there is empty time) is correct, then the embedding is much more difficult, as we will also see below.

(b) Effect on the Model. Which view of time is adopted will affect the mathematical model of time in three ways: how time is defined in the model, how instants and intervals are related to the maximum pairwise intersection of eventualities in the model, and how eventualities are embedded in time in the model. We will examine the first and third of these below as we look at the respective temporal structures, but it is important that we look at the second right now. Note the following contrast, due to time being independent of eventualities in *sa*: from the perspective of *rr*, the intersection of all pairwise overlapping eventualities is an *instant*; but, from the perspective of *sa* the intersection of these is an *interval*.

3.4.3 Temporal Structures

We will look at the two fundamental *temporal elements* needed to understand the way eventualities interact with time, *instants* and *intervals*; the structure of *eventualities*; and how the latter is *imbedded in time*.[72]

(1) Instants. For *rr,* we can define a set of instants, T, with one temporal relation, **strict precedence** (‹). This set with the given binary relation is an instant structure, $T = (T, ‹)$, which has the following properties (which we call axioms, all defined above): *asymmetry*, *transitivity*, *linearity*, *irreflexivity*, and *density*.[73] In *sa*

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[72] Dünges lays out the strategy for her whole paper in her introduction (1998, 2–5).
[73] Ibid., 5–7.

instants are the limiting case of intervals, if the latter are considered to be the temporal elements.

(2) **Intervals.** We can look at temporal intervals as being constructed from instants or as primitives. If the former, then let us define **I** as a *convex* set of instants with the temporal relations of precedence, overlap and inclusion. Formally, $I = (I, <, O, \sqsubseteq)$. Within this structure **precedence** is *irreflexive*, *asymmetric*, *transitive*; **inclusion** is *transitive*, *reflexive*, *asymmetric*, and satisfies *conjunctivity*; and together they are *monotonic*.[74]

(3) **Eventualities.** Now we need to build an eventuality structure from the observations we made above on the way time works in narrative in general and biblical narrative in particular. Since eventualities can follow and precede one another, abut, overlap, and nest in time, our structure will need **precedence**, **overlap** and **inclusion**. We will be able to derive abutment from these. So let **E** be the set of all eventualities **e**, then for the structure $E = (E, <, O, \sqsubseteq)$, the following axioms will hold:[75]

for **precedence** *asymmetry* $e_x < e_y \nrightarrow e_y < e_x$;
    transitivity $(e_x < e_y \ \& \ e_y < e_z) \rightarrow e_x < e_z$;

for **overlap**   *reflexivity* $e_x \, O \, e_x$;
    symmetry $e_x \, O \, e_y \rightarrow e_y \, O \, e_z$;

for **mixed**   *precedence* $e_x < e_y \nrightarrow e_x \, O \, e_y$;
    monotonicity $(e_x < e_y \ \& \ e_y \, O \, e_z \ \& \ e_z < e_w) \rightarrow e_x < e_w$;
    linearity $e_x < e_y$ or $e_x \, O \, e_y$ or $e_y < e_x$.

Furthermore, **inclusion** can be defined in terms of **precedence** as follows:

$e_x \sqsubseteq e_y$ *iff* $(e_x < e_y \rightarrow e_w < e_x) \ \& \ (e_y < e_w \rightarrow e_x < e_w)$.

And, in addition, **overlap** can be derived from **precedence** as follows:

$e_x \, O \, e_y$ *iff* $\neg(e_x < e_y) \ \& \ \neg(e_y < e_x)$.

We can make three groups of observations about these axioms. The first group concerns what is there and how—if at all—they differ from temporal structures; and, why? *Asymmetry* and *transitivity* with **precedence** and *linearity* for **mixed** reminds us of the axioms for instant structures, although with the latter, all of these apply to **precedence**. *Linearity* requires further consideration, which will prove instructive. Instants, if they are not the same, must either follow or precede one another: this is *linearity*. But, with eventualities, there is a third possibility: **overlap**. In this way eventualities resemble an interval structure. It is

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[74] Ibid., 7–13.
[75] Ibid., 13–17.

not surprising that eventualities have characteristics of both instants and intervals. *Achievements* (eg. arrive, win, and die) occur at an instant, whereas other eventualities (*states*, *accomplishments* and *activities*) occur over an interval.

The second group of observations involves the axioms, which are missing or modified, and why that might be so. Several of the axioms that hold with temporal structures, do not with eventuality structures, namely: *convexity*, *asymmetry* with **inclusion**, *conjunctivity*, and *freedom*. For the sake of space, we will look only at the first two of these. The first is violated by *semelfactives*,[76] such as *Bob sneezed all day*. We understand that this sentence does not imply that Bob incessantly sneezed without talking, eating, drinking, breathing, etc. Rather, we mean that he sneezed off and on all day. Consequently, Bob's sneezing all day is a summary of the temporally discontiguous individual episodes of his paroxysms of sneezing. And if each of these is made up of two or more sneezes, then each episode itself is a summary. All of this to say that since eventualities can be spaced out in this way, in such cases there are times when there is no eventuality happening. And thus between sequential but discontiguous eventualities no eventuality is occurring. Consequently, eventuality structures do not have the property of *convexity*.

The second of these—one that is modified—is *asymmetry*. In eventuality structures **inclusion** can exhibit symmetry, because **inclusion** is not strict inclusion ($\sqsubset$). If it were, eventuality structures would be asymmetric. But since precedence is strict precedence, combining this with strict inclusion would exclude the possibility of identity. There must be the possibility of a complete overlap; therefore, **inclusion** cannot be strict inclusion.

The third group comprises modifications of the connection between the relations. As with temporal intervals, **overlap** can be derived from **inclusion**; but, note, that unlike with interval structures, the implication goes in only one direction: $\exists e_z (e_z \sqsubseteq e_x \ \& \ e_z \sqsubseteq e_y) \rightarrow e_x \mathrm{O} e_y$.

Now we turn to rigorously localizing eventualities in time.

(4) Embedding Eventualities in Time. To account for the two different theories of space-time, **rr** and **sa**, we must discuss two different approaches to localizing eventualities in time. We will not subject the reader to any of the proofs; these can be found in the literature. We will concentrate on the significance of these constructions—first, those for **rr**.

(a) Relationalism. The tenet of relationalism most germane for our purposes in this approach, in which time is dependent on eventualities, is that instants are "maximal sets of pairwise overlapping eventualities."[77] Formally, i will be an instant (which is a set) of the eventuality structure, E, if $i \subseteq E$; $e_x, e_y \in i \rightarrow e_x \mathrm{O} e_y$; and if H [a random set] $\subseteq$ E, $i \subseteq$ H and $\forall e_x, e_y \in$ H, $e_x \mathrm{O} e_y$, then H $\subseteq i$. Of course then i and H are identical sets. Call the set of instants thus defined I(E). This means **e** occurs at i iff $e \in i$. We want to define **precedence** for this set of instants so that instants will be in a given order if and only if there are eventualities, which are elements of these instants, such that the corresponding eventualities are in the

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[76] See Akagi **Chapter 11** above.

[77] Dünges (1998, 20–1).

same temporal order. Then the instant structure $I(E) = (I(E), \langle)$ is an instant structure of E, with **precedence** being *asymmetric*, *transitive*, and *linear*.

An interval structure, $I(I(E))$, can be composed from an instant structure, as above, to yield a localization function, such that every eventuality is sent to a set of instants derived from a pre-eventuality structure.[78] Formally: $L : E \rightarrow I(I(E)), e \mapsto \{i \in I(E) \mid e \in i.$

The mapping is not necessarily a bijection (one-for-one mapping of every member of the domain to the range). But possibly it is a surjection (at least one member of the domain for every member of the range). In addition, the intervals are not guaranteed to be closed; they might be open at one end or the other or both.

(b) Substantivalism. Because this approach assumes the independence of time, the task of embedding eventualities in time is mathematically much more formidable.[79] It requires an intermediate step of constructing pre-localization functions. With good reason, we can assume that eventualities will be localized at intervals, which are convex sets of instants. And the localization function will be a relation preserving function (called a *h(omomorphism)*), so that the binary relations (precedence, overlap, etc.) in the set of eventualities will be preserved among the intervals to which they are mapped. Formally, let $h : E \rightarrow I(T)$ be a homomorphism, that is $e_x \langle e_y$ *iff* $h(e_x) \langle h(e_y)$ and $e_x O e_y$ *iff* $h(e_x) O h(e_y)$. Also, we want the intersection of the localizations of all eventualities, I, to differ from that of the *rr* approach—in which it was an instant—and instead be an interval. With these things in mind, the pre-localization function with the relations of **precedence** and **overlap** can be defined formally as follows: $e_x \langle e_y \rightarrow L(e_x) \langle L(e_y); e_x O e_y \rightarrow L(e_x) O L(e_y);$ and $\forall i \in I(E) : \cap \{L(e) \mid e \in i\} \neq \emptyset$. The first expression says that the order of the eventualities determines the order of their temporal localizations. The second expression ensures a correspondence relationship for overlap. And the last expression ensures that the intersection discussed above is an *interval*.

Unlike with *rr*, with *sa* two eventualities can be simultaneous without being identical. Thus, the mapping is not an injection. Nor is it a surjection, which requires that every member of the range be mapped from members of the domain: there can be intervals which are not localizations of eventualities, because in *sa* time is independent of eventualities. Therefore in *sa* there can be *empty instants* into which no eventuality is localized. Let us call the set of empty instants connected with localization E(L). Formally, for $e \in E \exists t_e \in T$ and $\neg t_e \in L(e)$. The two approaches are connected, however by the following observation: that all *ra* localization functions are *sa* pre-localization functions.

It will be important for the development of full-fledged localization functions that we define the **abut** relation for a *sa* pre-localization function. It is in accordance with our intuitive idea of what this should be, namely: $e_x \supset\subset e_y$ *iff* $L(e_x) \supset\subset L(e_y)$. Since the right side of this expression is just two juxtaposed

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[78] Ibid., 20–2.
[79] Ibid., 22–31.

intervals of time, we know what this means: we have discussed it above. But what of the left side of this expression? It too is not unexpected given a little thought: e_x must precede e_y and no e_w exists to interpose between e_x and e_y.

In order to complete bridging the gap between eventualities and time we will need to work with the concept of equivalence relations and classes. An equivalence relation is a relation between any two members of a set, which is *reflexive*, *symmetric* and *transitive* and divides it up into separate subsets, so that each member of the set is in only one subset (called equivalence classes). Thus, the intersection of any two such subsets is the empty set. For example, suppose the set is all the people of the world. This would be a set with nearly seven billion members. Now let us consider the equivalence relation of common birthdays on this set. This creates a set with only three hundred sixty-five members, which are obviously non-intersecting subsets: everyone is born on only one day of the year. Or suppose that the set is the teams in the National League of Major League Baseball and the equivalence relation between teams is "be in the same division." This would divide up all the teams into three equivalence classes: Eastern, Central and Western.

The equivalence relation we are interested in is on the instant structure $T = (\mathbf{T}, \triangleleft)$, but pertains to the pre-localization function as follows: two instants will be in the same equivalence class $[t]$ if and only if they are elements of the localizations of the same eventualities. Formally, $t \sim t'$ *iff* $\forall e \, (t \in L(e) \leftrightarrow t' \in L(e))$; and the set of all such equivalence classes is $A = \{[t] \mid t \in \mathbf{T}\}$.

But it is not enough just to have the set of equivalence relations; we must also have the same binary relation of **precedence** on the set A (call it $\triangleleft^A$) that is on the set $\mathbf{T}$, and for our purposes it must be *well-defined*; that is, we *want* $[t] \triangleleft^A [t']$ in A if $t \triangleleft t'$ in $\mathbf{T}$. This only obtains when every instant in the equivalence class $[t]$ occurs before every instant in the equivalence class $[t']$. Formally, assuming that $[t] \neq [t']$, the following two conditions will ensure this: 1) $t \triangleleft t'$, $t_a \in [t] \to t_a \triangleleft t'$; and 2) $t \triangleleft t'$, $t'_b \in [t'] \to t \triangleleft t'_b$. In which case $t \mapsto [t]$ is a surjective homomorphism from $\mathbf{T}$ to A.

Let me illustrate this considerable abstraction with stars and Major League Baseball. Although, there are billions of galaxies with billions of stars in each, they fall into seven color types: blue, blue-white, white, yellow-white, yellow, orange, and red,[80] which can be looked at as seven equivalence classes on the relation "stars having the same color." But suppose we define a binary relation of absolute brightness between stars, called $\triangleleft^{\text{brightness}}$. If every red star were less bright than every orange star, and every orange dimmer than every yellow, and so forth—with blue white always being the brightest; then, the proposed **precedence** relation would be "well-defined." In fact, it is not, because brightness is determined by the mass of the star, not its color! Or falling back on our baseball analogy again, we could only say that the Eastern division is better than the Central, which in turn is better than the Western, if in every game between an Eastern team and a Central team the former wins, and every game between a Central and a Western,

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[80] Excellent descriptions of each stellar spectral type can be found at http://hyperphysics.phy-astr.gsu.edu/hbase/starlog/staspe.html.

the latter loses, and every game between the East and the West, the East prevails. Then the binary relation, "better than," would be *well-defined*.

How does all this help develop a model of time for *sa*? The answer: if the relation $<^A$ is *well-defined* on A, then the structure $A = (A, <^A)$ is a *homomorphic contraction* of $T = (T, <)$, into which the instant structure of *rr* can be imbedded.

Consequently, we want to determine the necessary and sufficient conditions on $L : E \rightarrow I(T)$, which will guarantee that A is a *homomorphic contraction* of T, that is, that it will be *well-defined*.[81] For this to be the case, we must ensure that the localizations of eventualities are ***not*** between equivalent instants. This unwanted situation can only obtain if both instants are empty or both not empty. Therefore we desire these instants to not both be empty and not both be non-empty. As for the first *desideratum*, we want our construction to allow for empty instants, but not on both sides of the localizations. Since they can exist, they must either precede or follow localizations of eventualities, because they cannot be within them by definition. Furthermore, if the non-empty sets of instants, which frame a localization of an eventuality are such that they are in different equivalence classes, then the second *desideratum* will be satisfied. So it can be shown that if the following two-part postulate obtains then both these *desiderata* will be satisfied. The first part applies immediately to empty instants but will figure in the second part as well. Formally, $E(L) \neq \emptyset \rightarrow E(L) < L(e)$ or $L(e) < E(L)$. And although the second part, which follows, is complicated, it is worth our attention, for it localizes an eventuality by positioning it between intervals of time, which are themselves localizations of other eventualities (underlined for emphasis). Formally, for $\forall t_x, t_y (\exists e_x (t_x \in L(e_x))$ and $\exists e_y (t_y \in L(e_y))$ and $\underline{\exists e (\{t_x\} < L(e) < \{t_y\}} \rightarrow (\exists e_x (t_x \in L(e_x)$ and $\neg t_y \in L(e_x))$ or $\exists e_y (t_y \in L(e_y)$ and $\neg t_x \in L(e_y))))$.

SUMMATION: An important result of this analysis is that it shows that every *rr* localization function is an *sa* localization function. But even more significant is that it shows that eventualities carry along time; and, thus, it is proper to speak of them interchangeably, as we have frequently above. In addition, we now have a precise nomenclature and understanding of temporal relations and their connection with eventualities regardless of which theory (*rr* or *sa*) is embraced.

It only remains now for us to integrate the temporal signatures of the different types of eventualities with those of the temporal relations between intervals or instants, which we will do in the next section of the chapter.

4. Issues Pertaining to Text, Event, and Time

4.1 *Temporal Relations of Temporal Elements in Texts*

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[81] According to the topologist, Saburo Matsumoto (in a private conversation), this is the most important and most difficult part of Dünges's paper.

From the discussion above we recognize that temporal intervals (or instants) can be related, that is, interact, in four concrete ways (although theoretically this can be reduced, as we will show below): **precedence**, **inclusion**, **overlap**, and **juxtaposition**. Furthermore, we have established above that these temporal elements are localizations of eventualities. In addition, we have discussed above the effect of compatibilityon temporal sequence, which in terms of temporal relations, precludes **inclusion** and **overlap**. We have also elucidated above and in an earlier chapter that texts constrain the verbs/VP representing eventualities to be linear. But even more precisely, this linearity is with respect to precedence in textual order, not necessarily in temporal order. This is epitomized by simultaneous eventualities, which must be presented linearly. Moreover, we have shown above that *coherence relations* in text can transform the temporal order of eventualities by reversing the normal polarity of time or halting its advance. We have seen that time progresses in *Result* and *Serialation*, but stops in *Elaboration* and *Contrast*. And when result precedes cause in a text, time is reversed. Thus, in a text each interaction can occur in both directions: x can be before y and y before x; x can be included in y, and y in x; x can overlap y (xOy), and y x; x can butt up against y, and vice versa. This yields eight possibilities, to which we must add one more, because x and y can be superimposed and be perfectly contemporaneous. Thus, there are nine ways in all.

How does our model hold up to the actual possibilities? First, xOy can be defined in terms of **inclusion** as follows: there exists an interval z, which is included within both x and y. This potentially reduces the number of temporal relations to three. Moreover, juxtaposition is the limit of **overlap**: zero **overlap** without separation of the intervals. Similarly, **superposition** is the maximum **overlap**. This brings us down to two distinct ways of relating. But this can be reduced to one, in that **inclusion** can be defined in terms of **precedence**: x is included within y means that for all z, z precedes y implies that z precedes x, and y precedes z implies x precedes z. All nine possibilities can be seen in **Figure 4** below, which is a visualization of the temporal relations in text (VTRT). The following are few simple rules to keep in mind when looking at the visualization: the x eventuality/temporal element is depicted by a blue bar, y by red; for **precedence**, **overlap**, and **juxtaposition**, the priority of a letter means that the temporal interval or instant begins before that of the second; and priority with **inclusion** signifies that the first is nested within the second.

PRECEDENCE

i.   x ‹ y

ii.   y ‹ x

OVERLAP

iii.   x O y

iv.   y O x

JUXTAPOSITION
v.   x ⊃⊂ y

vi.   y ⊃⊂ x

INCLUSION
vii.   x ⊑ y

viii.   y   ⊑   x

SUPERPOSITION
ix.   x = y
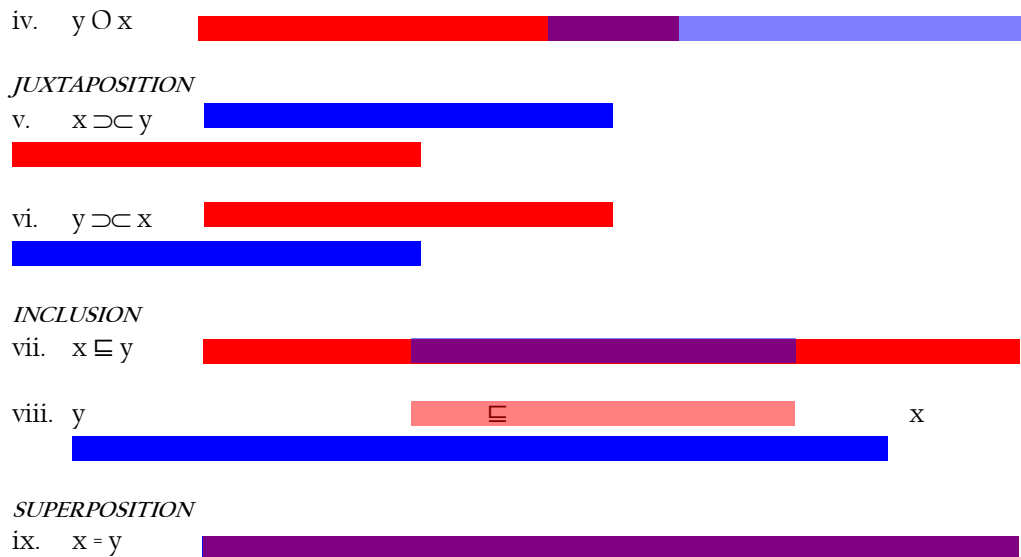
Figure 4. Possible Relationships of Temporal Elements.

The above VTRTs are subject to restrictions and are limited by **coherence relations**. Assuming that these are all attached (as we have discussed above), incompatibility would preclude VTRTs iii, iv, vii, viii, and ix. Also, VTRTs ii and iv occur when result precedes cause in a text. And VTRTs iii, viii, and ix obtain when the **coherence relation** is either *Elaboration* or *Contrast*.

4.2 Integration of Temporal Elements with Eventualities in Text

4.2.1 Eventuality-Temporal Element Configurations
To integrate the temporal element profiles in text with eventualities we adopt the model of situational aspect proposed by Akagi in his **Chapter 11** above. There are three components that make up each category of situational aspect: dynamicity, telicity, and durativity; each which can be positive or negative. Thus, mathematically speaking there are $2 \times 2 \times 2 = 8$ *theoretically possible* eventuality types. But from a real world perspective, the –dynamic-telic-durative category is *not* possible. So there are only the following seven categories of eventualities: **atelic states**, **point states**, **transitory states**, **semelfactives**, **activities**, **achievements**, and **accomplishments**. They break down by their component structure, with states (-dynamic) separated from events (+dynamic), as follows (from Akagi, to which I have added two sample sentences from each category, featuring a final appearance of the playground trio):

STATES
[– dynamic][– telic][– durative] Ø

s1. [– dynamic][– telic][+ durative] atelic state

a. *It was a cold and windy day on the playground.*
b. *It was a warm and calm day on the playground.*

s2. [– dynamic][+ telic][– durative] point state
a. *It was 10 o'clock, time for recess.*
b. *It was 10:18, recess was nearly over.*

s3. [– dynamic][+ telic][+ durative] transitory state
a. *Bob's beef stew was piping hot.*
b. *Bob's beef stew was too cold to eat.*

EVENTS
e1. [+ dynamic][– telic][– durative] semelfactive
a. *Al sneezed loudly to draw attention to himself.*
b. *Al coughed violently, because of the dust.*

e2. [+ dynamic][– telic][+ durative] activity
a. *Carl walked briskly.*
b. *Carl ran swiftly.*

e3. [+ dynamic][+ telic][– durative] achievement
a. *Bob let go of the bar (and dropped to the ground).*
b. *Bob dropped the ball.*

e4. [+ dynamic][+ telic][+ durative] accomplishment
a. *The boys built a fort from wind-blown boxes.*
b. *The boys wound the swings up on the top bar.*

Since each of the temporal elements can be a localization of any of these seven, and the former have nine possibilities for a two VP sequence, there are 9×7 = 63 possible temporal configurations in a two VP sequence. But are all of these attested?

4.2.2 Discussion
Let us start with the three types of states, determining *compatibility* with any of the *other* eventuality types for both states and events (holding in abeyance **compatibility** within a category). Atelic states can be represented by a ray or a line, because there is no required right hand end point and no necessary indication of the beginning of the state. Transitory states by definition will end: we cannot coherently assert that *Bob's beef stew was piping hot* after it had cooled off. Transitory states are a line segment. Point states, semelfactives, and achievements are a point—the last marking a change of state.

Also we must comment on how states interact with the instants or intervals in which they occur vis-à-vis how events do. Seligman and ter Meulen observed the following contrast (1995, 303). A particular state is in effect for every instant in an interval in which the state persists. We will call this *State Behavior* (SB). For an event the interval in which it occurs extends to the entirety of the event.

We will call this *Event Behavior* (EB). Let us illustrate how this works with states with "It was cold and windy on the playground that day." SB says that *all* that day it was cold and windy. Now let us look at EB, using "The boys built a fort out of boxes." EB says that the interval in which the boys built extended to the full duration of the event.

Now we must consider the integration of the levels.[82] First, let us peruse the eventualities between categories. The first three could be simultaneous (ix), overlap (iii and iv), or nest (vii and viii) in both polarities, because the subjects of the three sentences differ. But if the subjects of the three sentences are the same, then *compatibility* issues might arise, depending on the semantics of the individual verbs. As a matter of fact, it does so with the accomplishment sample sentence, if "boys" refers to the three. On the other hand it might just as readily refer to three other boys, in which case there is no issue. But are they viable if paired in the same category?

So we must turn to consider the interaction within the categories. I deliberately composed the "b" sentences above to conflict with their "a" counterparts in regards to *compatibility*. Since the former are just as plausible eventualities as the latter, this proves that interactions within categories are not necessarily compatible. But I could just as easily have composed compatible eventualities within each category. So it obviously depends on the specific pairings.

4.3 Concluding Summary: The Intergration of the Micro-, Macro- and Mega-levels: Application to the Flood Narrative

How will we apply our knowledge of the four factors and their integration with time to BH narrative and the Flood narrative in particular to determining the chronology of the text? By working up from the *micro-level* (individual VPs) through the *macro-level* (relationships between VPs) and on to the *mega-level* and back down again, pursuing a feedback approach to guard against false conclusions. There is no shortcut. Each VP will have to be analyzed, along with its relations with others, with the purpose of the narrative at large kept in mind. We will proceed as follows:

1. Ascertain the temporal profile of every VP in the narrative in question. Of most importance is the telicity and durativity of each.
2. Ascertain the *coherence relations* between VPs in order to determine where temporal progression is possible. *Serialation* and *Result/Cause* evince temporal progression, *Contrast* and *Elaboration* (and its siblings) do not.

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[82] Hinrichs ūoes this by discussing the nine temporal pairings that come from the three ways in which time can be indicated in a text: tense morpheme, temporal adverb, and temporal conjunction (1986, 63–64). Then he works his way through these, considering the situational aspect (Aktionsart) of the verbs and even the possibility of overlap and inclusion of eventualities—as well as the expected, precedence, of course—in terms of a Reichenbachian-like reference point for tense (64–80). He does not look, however, at **coherence relations**, **compatibility**, **connectivity** or **discontinuity**.

3. Ascertain trouble spots with respect to simultaneity by considering the *compatibility* of connected VPs (usually sequential, but see IV. below).
4. Ascertain the VP *connection* outline. Sequential verbs are not always temporally connected. In such cases, find where the place of attachment is. And, thus, organize the narrative according to its levels of attachment.
5. Ascertain the locations in the narrative, which could be hiding a temporal *discontinuity*.

5. Final Summation

Confronted with the reality that in not a few instances sequential *wayyiqtols* do not manifest temporal progression, perforce we conclude that it does not mark temporal progression.[83] Rather, it is *necessary* if progression is to be conveyed, but *not sufficient* to ensure that it is. This state of affairs charges us with a task, but also leaves us with a quandary. The task: if *wayyiqtol* does not indicate temporal progression, what does? We have outlined a semantic approach to answering that question. At all levels, *micro*, *macro*, and *mega* the temporal profile of a text is being shaped. We have attempted to clarify this process: on the *micro-level* with seven eventuality types, on the *macro-level* with four *coherence relations*, *compatibility* considerations, issues of *connection*, and *discontinuity*, and on the *mega-level*, the vagaries of which will be unfolded in the next chapter. And as for the quandry: what then is the function of *wayyiqtol* beyond the construal of simple past? Is there a beyond? Armed with a consideration of its origins, its congeners in the other Semitic languages, and its usage in the text, it would prove a worthy study indeed, for another place and another time.

Appendix A:

Below are some sample texts from biblical Hebrew narrative containing chains of *wayyiqtol* verbs. For each text there are four lines: (1) the Hebrew text, (2) Hebrew transliteration, (3) English glosses corresponding to each Hebrew word, and (4) English translation [in blue]. The English translation is deliberately woodenly literal to assist in following the Hebrew. The *wayyiqtol* verb forms and their rendering are in bold face. The English translation of *wayyiqtol* verbs consists of "and/then (alternatives) [meaning of verb]" except where the *wayyiqtol* form of היה

(*hyh*, "to be"), וַיְהִי, functions as a macro-syntactic marker in a temporal clause.

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[83] This is in keeping with the conclusions drawn by Alice ter Meulen and Susan Rothstein to sample *wayyiqtol* chains sent to them for their consideration. They said "... [with respect to the] documents analyzing specific Hebrew examples of temporal anaphora .... [it] seems we have a general consensus that w-marking is entirely independent of temporal progression ..." (personal communication). These sample chains are in **Appendix A.**

GENESIS 25:34

וַיֵּשְׁתְּ	וַיֹּאכַל	עֲדָשִׁים	וּנְזִיד לֶחֶם	לְעֵשָׂו נָתַן	וְיַעֲקֹב
wayyesht	wayyo'kal	'ǝdasim	ûnǝzid lechem	l'esaw natan	w'ya'ǝqob
and/then he drank	and/then he ate	of lentils	cooked food bread	to Esau he gave	and Jacob

And Jacob gave Esau bread and cooked food made from lentils. And/then he **ate**. And/then he **drank**.

הַבְּכֹרָה:	אֶת־	עֵשָׂו	וַיִּבֶז	וַיֵּלֶךְ	וַיָּקָם
habbǝkorah	'et	'esaw	wayyibez	wayyelak	wayyaqom
the birthright	(DO marker)	Esau	and/then he despised	and/then he went	and/then he got up

And/then he **got up**. And/then he **went away**. And/then Esau **despised** (his) birthright.

JOSHUA 2:23–24

מֵהָהָר	וַיֵּרְדוּ	הָאֲנָשִׁים	שְׁנֵי	וַיָּשֻׁבוּ
mehahar	wayyerdu	ha'ǝnashim	shǝne	wayyashubu
from the mountain	and/then they went down	the men	two	and/then they returned

And/then the two men **returned**. And/then they **descended** from the mountain.

נוּן	בֶּן־ יְהוֹשֻׁעַ	אֶל־	וַיָּבֹאוּ	וַיַּעַבְרוּ
nun	bin yǝhoshua'	'el	wayyabo'u	wayya'abru
Nun	son of Joshua	to	and/then they came	and/then they crossed over

And/then they **crossed over**. And/then they **came** to Joshua the son of Nun.

אוֹתָם:	הַמֹּצְאוֹת	כָּל	אֵת	לוֹ	וַיְסַפְּרוּ־
'ôtam	hammōts'ō̄t	kol	'ēt	lō	waysapp'ru
them	the things which found	all	(DO marker)	to him	and/then they recounted

And/then they **recounted** to him all the things that had happened to them.

הָאָרֶץ	כָּל־	אֶת־	בְּיָדֵנוּ	יְהוָה	נָתַן	כִּי־	יְהוֹשֻׁעַ	אֶל־	וַיֹּאמְרוּ
ha'arets	kol	'et	bǝyadenu	YHWH	natan	ki	y'hôshu'a	'el	wayyō'm'rû
the land	all	(DO marker)	into our hand	Yahweh	he gave	that	Joshua	to	and/then they said

And/then they **said** to Joshua, "Yahweh has given into our hand the whole land.

מִפָּנֵינוּ:	הָאָרֶץ	יֹשְׁבֵי	כָּל־	נָמֹגוּ	וְגַם־
mippanenu	ha'arets	yoshǝbe	kol	namogu	wǝgam
before us	the land	the dwellers of	all	they have despaired	and also

And also all those who live in the land have despaired because of us."

JUDGES 1:17–20

הַכְּנַעֲנִי	אֶת־	וַיַּכּוּ	אָחִיו	שִׁמְעוֹן אֶת־	יְהוּדָה	וַיֵּלֶךְ
hakkǝna'ǝni	'et	wayyakku	achiw	shim'on 'et	yehudah	wayelek
the Canaanite	(DO marker)	and/then they struck	his brother	Simeon with	Judah	and/then he went

And/then Judah **went** with Simeon his brother, and/then they **struck** the Canaanite

הָעִיר	שֵׁם־	אֶת־	וַיִּקְרָא	אוֹתָהּ	וַיַּחֲרִימוּ	צְפַת	יֹשֵׁב
Ha'ir	shem	'et	wayyiqra'	'otah	wayyachǝrimu	tsǝphat	yosheb
of the city	name	(DO marker)	and/then they called	it	and/then they destroyed	in Zephath	dwelling

dwelling in Zephath. And/then they **destroyed** it. And/then they **called** the name of the city

גְּבוּלָהּ וְאֶת־ עַזֶּה וְאֶת־ יְהוּדָה אֶת־ **וַיִּלְכֹּד** חָרְמָה:

gebulah wə'et 'azzah wə'et 'et yehudah wayyilkod khormah

its territory and (+DO marker) Gaza and (DO marker) Judah (DO marker) and/then he captured Hormah

the name of the city "Hormah." And/then Judah **captured** Gaza and its territory,

עֶקְרוֹן וְאֶת־ גְּבוּלָהּ וְאֶת־ אַשְׁקְלוֹן וְאֶת־ וְאֶת־

gebulah wə'et 'eqron wə'et gəbulah wə'et 'ashqəlon wə'et

Ekron and (+DO marker) its territory and (+DO marker) Ashkelon and (+DO marker)

and Ashkelon and its territory, and Ekron

וַיֹּרֶשׁ יְהוּדָה אֶת־ יְהוָֹה **וַיְהִי**: גְּבוּלָהּ וְאֶת־

wayyōresh Yəhudah 'et YHWH way°hî gəbulāh wə'et

and/then he took possession Judah with Yahweh and/then he was its territory and (+DO marker)

and its territory. And/then Yahweh **was** with Judah. And/then he **took possession of**

הָעֵמֶק יֹשְׁבֵי אֶת יֹשְׁבֵי לְהוֹרִישׁ לֹא כִּי הָהָר אֶת־

ha'emeq yoshəbê 'et ləhorish lo' ki hahar 'et

the valley dwellers of (DO marker) to dispossess not because the mountain (DO marker)

the mountain because (they were not able) to dispossess the inhabitants of the valley

חֶבְרוֹן כַּאֲשֶׁר אֶת־ לְכָלֵב **וַיִּתְּנוּ**: לָהֶם בַּרְזֶל רֶכֶב כִּי־

ka'asher Khebrôn 'et ləkaleb wayyittənu lahem barzel rekeb ki

as Hebron (DO marker) to Caleb and/then they gave to them of iron chariotry because

because they had iron chariotry. And/then they **gave** Hebron to Caleb as

הָעֲנָק: בְּנֵי שְׁלֹשָׁה אֶת־ מִשָּׁם **וַיֹּרֶשׁ** מֹשֶׁה דִּבֶּר

ha'ənaq bənê shəloshah 'et missham wayyoresh Mōsheh dibber

of Anak sons three (DO marker) from there and/then he dispossessed Moses he spoke

as Moses **had spoken**. And/then he **dispossessed** the three sons of Anak from there.

2 SAMUEL 4:5–7

כְּחֹם **וַיָּבֹאוּ** וּבַעֲנָה רֵכָב הַבְּאֵרֹתִי רִמּוֹן בְּנֵי־ **וַיֵּלְכוּ**

kəchom wayyabo'u uba'ənah rekab habbə'eroti rimmon b°nê wayyeləku

at heat and/then they entered and Baanah Rekab the Beerothite Rimmon the sons of and/then then went

And/then the sons of Rimmon the Beerothite, Rekab and Baanah, **went**. And/then they **entered**, in the heat of

הַצָּהֳרָיִם: מִשְׁכַּב אֶת שֹׁכֵב וְהוּא אִישׁ בֹּשֶׁת אֶל־בֵּית הַיּוֹם

hatstsohŏrāyim mishəkab 'et shokeb w°hu' 'îsh-boshet bêt 'el hayyôm

midday bed (DO marker) lying and he Ish-boshet house of to the day

the day, into the house of Ish-bosheth. And he was lying on his bed at midday.

וְהִנֵּה בָּאוּ עַד־ תּוֹךְ הַבַּיִת לֹקְחֵי חִטִּים **וַיַּכֻּהוּ**

wᵊhēnnāh · bo'u · 'ad · tôk · habbayit · lōqᵊkhê · Khittim · ...wayyakkuhû

and there · they entered · as far as · middle of · the house · takers of · wheat · and/then they struck him

And there they entered as far as the middle of the house as people getting wheat [Hebrew text is unusual, LXX markedly different], and they **struck** him

אֶל־ הַחֹמֶשׁ וְרֵכָב וּבַעֲנָה אָחִיו נִמְלָטוּ:

'el · hachomesh · wᵊrēkāb · ûba'ᵃnāh · 'ākhîw · nimlātû

into · the belly · and Rekab · and Baanah · his brother · they escaped

in the belly. But Rekab and Baanah his brother escaped.

וַיָּבֹאוּ הַבַּיִת וְהוּא־ שֹׁכֵב עַל־ מִטָּתוֹ בַּחֲדַר מִשְׁכָּבוֹ

wayyabo'u · habbayit · wᵊhu' · shokeb · 'al · mittato · bachᵃdar · mishᵊkabo

and/then they entered · the house · and he · lying · on · his bed · in the chamber · his bed

And/then they **entered** the house. And he was lying on his bed in his bedroom.

וַיַּכֻּהוּ וַיְמִתֻהוּ **וַיָּסִירוּ** אֶת־ רֹאשׁוֹ

wayyakkuhû · waymituhû · wayyasîrû · 'et · ro'sho

and/then they struck him · and/then they put him to death · and/then they removed · (DO marker) · his head

And/then they **struck** him. And/then they **killed** him. And/then they **removed** his head.

וַיִּקְחוּ אֶת־ רֹאשׁוֹ **וַיֵּלְכוּ** דֶּרֶךְ הָעֲרָבָה כָּל־ הַלָּיְלָה:

wayyiqᵊchu · 'et · ro'sho · wayyelᵊku · derek · ha'ᵃrabah · kol · hallaylah

and/then they took · (DO marker) · his head · and/then they went · way of · the Arabah · all · the night

And/then they **took** his head, and/they **went** by the way of the Arabah all night.

2 SAMUEL 17:21–29

וַיְהִי | אַחֲרֵי לֶכְתָּם **וַיַּעֲלוּ** מֵהַבְּאֵר **וַיֵּלְכוּ** **וַיַּגִּדוּ**

wayᵊhi · 'achᵃrê · lektam · wayya'ᵃlu · mehabbᵊ'r · wayyelᵊku · wayyagdu

and/then was · after · they go · and/then they went up · from the cistern · and/then they went · and/then they told

After they went, they **climbed up** from the cistern. And/then they **went**. And/then they **told**

לַמֶּלֶךְ דָוִד **וַיֹּאמְרוּ** אֶל־דָּוִד קוּמוּ וְעִבְרוּ מְהֵרָה אֶת־ הַמַּיִם

lammelek · dawid · .wayyo'mᵊrû · 'el... · dawid · qumu · wᵊ'ibru · mᵊherah · 'et · hammayim

to the king · David · and/then they said · to · David · get up · and cross over · quickly · (DO marker) · the water

to King David. And/then they **said**, "Get up and cross quickly over the water

כִּי־ כָכָה יָעַץ עֲלֵיכֶם אֲחִיתֹפֶל: **וַיָּקָם** דָּוִד וְכָל־ הָעָם אֲשֶׁר

ki · kakah · ya'ats · 'ᵃlekem · 'ᵃkhitopel · wayyaqom · dawid · wᵊkol · ha'am · 'ᵃsher

because · thus · he advised · against you · Ahithophel · and/then he got up · David · and all · the people · who

the water because thus Ahithophel advised against you." And/then David and all the people who

וַיַּעַבְרוּ אִתּוֹ אֶת־ הַיַּרְדֵּן עַד־ אוֹר הַבֹּקֶר

'itto · wayya'abru · 'et · hayyardēn · 'ad · 'or · Habbōqer

with him · and/then they crossed over · (DO marker) · the Jordan · until · light of · the morning

were with him, and/then they **crossed over** the Jordan until the morning light,

וַאֲחִיתֹפֶל   הַיַּרְדֵּן: אֶת־ עָבַר לֹא־ אֲשֶׁר נֶעְדָּר לֹא אַחַד־ עַד־
wa'ªkhîtōpel   hayyarden 'et 'abar lo' 'ªsher ne'dār lo' 'akhad 'ad
and Ahithophel   the Jordan (DO marker) he crossed over not who missing not one until

until not one was missing from those who crossed over the Jordan. And Ahithophel

הַחֲמֹור   אֶת־ וַיַּחֲבֹשׁ עֲצָתֹו נֶעֶשְׂתָה לֹא כִּי רָאָה
hachªmor   'et wayyachªbosh 'ªtsato ne'eshtah lo' ki ra'ah
a donkey   (DO marker) and/then he saddled his advice done not that he saw

saw that his advice was not performed. And/then he **saddled** a donkey.

וַיְצַו   עִירֹו אֶל־ בֵּיתֹו אֶל־ וַיֵּלֶךְ וַיָּקָם
waytsaw   'îrô 'el bêtô 'el wayyelek wayyāqom
to and/then he gave instructions   his city to his house to and/then he went and/then he got up

And/then he **got up**. And/then he **went** to his house, to his city. And/then he **gave instructions** [presumably, an order to humanely kill him]

אָבִיו: בְּקֶבֶר וַיִּקָּבֵר וַיָּמָת וַיֵּחָנַק אֶל־בֵּיתֹו
'ābîw bªqeber wayyiqqābēr wayyamot wayyechanaq bêtô 'el
his father in grave and/then he was buried and/then he died and/then he was strangled his household to

to his household. And/then he was **strangled**. And/then he **died**. And/then he **was buried** in his father's grave.

הַיַּרְדֵּן אֶת־ עָבַר וְאַבְשָׁלֹם מַחֲנָיְמָה בָּא וְדָוִד
hayyarden   'et 'abar wª'abshalom machªnaymah ba' wªdāwid
he the Jordan   (DO marker) he crossed over and Absolom Mahanaim he came and David

And David came to Mahanaim, but Absolom crossed over the Jordan,

יֹואָב תַּחַת אַבְשָׁלֹם שָׂם עֲמָשָׂא וְאֶת־ עִמֹּו: יִשְׂרָאֵל אִישׁ־ וְכָל־ הֹוא
yo'ab   takhat 'abshalom śam 'ªmāśā' wª'et 'immo yisra'el 'îsh wªkol hu'
Joab instead of Absolom he put Amasa and(+DO marker) with him Israel man and every he

he and every man of Israel with him. And Amasa Absolom installed instead of Joab

אֲשֶׁר־ הַיִּשְׂרְאֵלִי יִתְרָא וּשְׁמֹו אִישׁ בֶּן־ וַעֲמָשָׂא הַצָּבָא עַל־
'ªsher   hayyiśrª'lî yitra' ûshmô 'îsh ben wa'ªmāśā' hatstsābā' 'al
who the Israelite   Yithra and his name man son of and Amasa the army over

over the army. Amasa was the son of a man and his name was Yithra the Israelite, who

יֹואָב: אֵם צְרוּיָה אֲחֹות נָחָשׁ בַּת־ אֶל־אֲבִיגַל בָּא
yo'ab   'ēm tsªrûyah 'ªkhôt nakhash bat 'ªbîgal 'el bā'
Joab the mother Zeruiah sister of Nachash daughter of Abigail to he went in

had gone in to Abigail, the daughter of Nachash, sister of Zeruiah, the mother of Joab.

דָוִד כְּבֹוא וַיְהִי הַגִּלְעָד: ס אֶרֶץ וְאַבְשָׁלֹם יִשְׂרָאֵל וַיִּחַן
Dawid kªbô' wayªhi haggil'ād 'erets wª'abshālōm yisra'el wayyikhan
David when came and/then was   Gilead land of and Absolom Israel and/then it camped

And/then Israel and Absolom **camped** in the land of Gilead. When David came

מַחֲנָיְמָה וְשֹׁבִי בֶּן־ נָחָשׁ מֵרַבַּת בְּנֵי־ עַמּוֹן וּמָכִיר בֶּן־ עַמִּיאֵל

‘ammi'el   Ben   ûmākîr   ‘ammon   bᵊnê   merabat   nachash   ben   wᵊshobi   makhᵃnāymāh
Ammiel   son of   and Machir   Ammon   sons of   from Rabbah of   Nachash   son of   and Shobi   to Mahanaim

to Mahanaim, Shobi the son of Nachash of Rabbah of the Ammonites, and Machir son of
Ammiel

מִלֹּא דְבָר וּבַרְזִלַּי הַגִּלְעָדִי מֵרֹגְלִים: מִשְׁכָּב וְסַפּוֹת וּכְלִי יוֹצֵר

yotser   ukᵊli   wᵊsappot   mishkab   merogᵊlim   haggilᵊ'adi   ûbarzillay   millo' dᵊbar
potter   and vessels   and bowls   bed   from Roglaim   the Gileadite   and Barzillai   from Lo-Debar

from Lo-Debar, and Barzillai the Gileadite from Roglaim presented beds, and
bowls, and pottery,

וְחִטִּים וּשְׂעֹרִים וְקֶמַח וְקָלִי וּפוֹל וַעֲדָשִׁים וְקָלִי: וּדְבַשׁ

ûdᵊbash   wᵊqāli   waʿᵃdashîm   ûpôl   wᵊqāli   wᵊqemakh   ûśᵊ'ōrîm   wᵊkhittîm
and honey   and roasted grain   and lentils   and beans   and roasted grain   and flour   and barley   and wheat

and wheat, and barley, and flour, and roasted grain, and beans, and lentils, and
roasted grain, and honey,

וְחֶמְאָה וְצֹאן וּשְׁפוֹת בָּקָר הִגִּישׁוּ לְדָוִדוְלָעָם אֲשֶׁר־ אִתּוֹ

‘itto   ‘ᵃsher   wᵊla'am   lᵊdawid   higgishu   baqar   ushᵊpot   wᵊtso'n   wᵊchem'ah
with him   who   and to the people   to David   they presented   herd   and   and flocks   cheese   and buttermilk

and buttermilk, and flocks, and cheese from cow's milk they presented to David
and the people who were with him

לֶאֱכֹל כִּי אָמְרוּ הָעָם רָעֵב וְעָיֵף וְצָמֵא בַּמִּדְבָּר:

bammidbar   wᵊtsame'   wᵊ'ayep   ra'eb   ha'am   ‘amru   ki   le'ᵊkol   wᵊtsame'
in the wilderness   and thirsty   and tired   hungry   the people   they said   because   to eat

to eat because they said, "The people are hungry and tired and thirsty in the
wilderness."

1 Kings 22:34–37

וְאִישׁ מָשַׁךְ בַּקֶּשֶׁת לְתֻמּוֹ וַיַּכֶּה אֶת־ מֶלֶךְ יִשְׂרָאֵל

yisrael   melek   ‘et   wayyakkeh   lᵊtummo   baqqeshet   mashak   wᵊ'ish
Israel   king   (DO marker)   and/then he struck   in his innocence   on the bow   pulled   and a man

And a man drew his bow without intention, and/then it (an arrow)/he **struck**
the king of Israel

וַיֹּאמֶר הַשִּׁרְיָן וּבֵין הַדְּבָקִים בֵּין
הָפֹךְ לְרַכָּבוֹ

haphok lərakkabo wayyo'mer hasshirəyan uben
haddəbaqim ben

turn back! to his driver and/then he said the armor and
between the scales between

between the scales of his armor, and/then he **said** to his driver, "Turn back

יָדְךָ וְהוֹצִיאֵנִי מִן־ הַמַּחֲנֶה
כִּי הַחֲלֵיתִי:

hachəleti ki hammachəneh
min wəhotsi'eni yadəka

I have been wounded because the camp from
and take me out your hand

your hand and take me out of the ranks because I am wounded."

וַתַּעֲלֶה הַמִּלְחָמָה בַּיּוֹם הַהוּא
וְהַמֶּלֶךְ הָיָה

hayah wəhammelek hahu' bayyom
hammiləchamah watta'əleh

and he was and the king that in the day the
battle and rose

And/then the battle **increased** on that day, and the king was

מָעֳמָד בַּמֶּרְכָּבָה נֹכַח אֲרָם וַיָּמָת
בָּעֶרֶב וַיִּצֶק

waayitseq ba'ereb wayyamot 'aram nokach
bammerkabah ma'əmad

And/then it poured out in the evening and/then he died Aram in front
ofin the chariot stood up

stood up in the chariot opposite Aram. And/then he **died** in the evening, and

דַּס־ הַמַּכָּה אֶל־ חֵיק הָרֶכֶב: וַיַּעֲבֹר
הָרִנָּה בַּמַּחֲנֶה

bamachəneh harinnah wayya'əbor harakeb cheq 'el
hammakkah dam

the ranks the cry and/then passed through the chariot bottom
to the wound blood

the blood of the wound **poured out** on the bottom of the chariot. And/then the cry **passed through** the ranks

עִירֹו   אֶל־   אִישׁ   לֵאמֹר   הַשֶּׁמֶשׁ   כְּבֹא

וְאִישׁ   אֶל־   אַרְצֹו׃

'artso   'el   wə'ish   'iro   'el   'ish   le'mor
hasshemesh   kəbo'
his land   to   and a man   his city   to   a
man   saying   the sun   when went in
when the sun went down, saying, "Every man to his city, and every man to his land!"

וַיִּקְבְּרוּ   שֹׁמְרֹון   וַיָּבֹא   הַמֶּלֶךְ   וַיָּמָת

אֶת־   הַמֶּלֶךְ   בְּשֹׁמְרֹון׃

bəshoməron hammelek   'et   wayyiqbəru   shoməron   wayyabo'
hammelek   wayyamot
in Samaria   the king   (DO marker)   and/then they buried   Samaria   and/then
he entered   the king   and/then he died
And/then the king **died**, and/then he **entered** Samaria. And/then they **buried** the king in Samaria.

Psalm 78:55–58 [: marks a minor caesura in a poetic line]

נַחֲלָה   בְּחֶבֶל   וַיַּפִּילֵם   גֹּויִם   מִפְּנֵיהֶם| וַיְגָרֶשׁ

nachəlah   bəchebel   wayyappilem   goyim
mippənehem   waygaresh
an inheritance   by a line   and/then made them fall   nations   from
before the   and/then he drove out
And/then he **drove out** nations from before them, : And/then he **allotted** them an inheritance by a line, :

יִשְׂרָאֵל׃   שִׁבְטֵי   בְּאָהֳלֵיהֶם   וַיַּשְׁכֵּן

וַיְנַסּוּ

waynassu   yisra'el shibte   bə'ahəlehem
wayyashken
And/then they tested   Israel   the tribes of   in their tents
and/then he made dwell
And/then he **made** the tribes of Israel **dwell** in their tents. And/then they **tested**

עֶלְיֹ֑ון   אֱלֹהִ֣ים   אֶת־   **וַיַּמְר֖וּ**

וְעֵדֹותָ֥יו   שָׁמָֽרוּ׃   לֹ֣א

shamaru   lo'   wə'edotaw   'elyon   'əlohim
'et   wayyamru
they kept   not   and his testimonies   Most High   God   (DO
marker)   and/then they rebelled

And/then they **rebelled** against God, Most High, : And his testimonies they did
not keep.

Jonah 4:1–9

לֹֽו׃   **וַיִּ֖חַר**   גְדֹולָ֑ה   רָעָ֣ה   אֶל־יֹונָ֖ה   **וַיֵּ֥רַע**

וַיִּתְפַּלֵּ֖ל

wayyitpallel   lo   wayyichar   gədolah ra'ah   yonah
'elwayyera'
and/then he prayed   to him   and/then it burned great   evil
Jonah toand/then it was bad

And/then it was **bad** to Jonah as a great evil, and/then he was **angry**, and/then he
prayed

עַד־הֱיֹותִ֙י   זֶ֤ה   דְבָרִי֙   הֲלֹוא־   אָנָּ֤ה   יְהוָה֙   **וַיֹּאמַ֗ר**   אֶל־   יְהֹוָ֔ה

həyoti'ad   dəbari   zeh   həlo'   yahweh 'annah
wayyo'mar   yahweh   'el
I was   when   my word   this   not (+question marker)   Yahweh
Ah!   and/then he saidYahweh   to
to Yahweh, and/then he **said**, "Ah, Yahweh! (Was) this not my word when I was

אַתָּה֙ אֶל־   אַדְמָתִ֑י   עַל־כֵּ֥ן קִדַּ֖מְתִּי   לִבְרֹ֣חַ   תַּרְשִׁ֑ישָׁה   כִּ֣י   יָדַ֗עְתִּי   כִּ֤י   עַל־

'el   'attah   ki   yada'ti   ki   tarshishah libroach qiddamti   'al-
ken'admati 'al
God   you   that   I knew   because   to Tarshish   to flee   I was in
front therefore   my ground on
on my own turf. Therefore I fled at first to Tarshish, because I knew that you are
a

עַל־   וְנִחֵם   וְרַב־חֶסֶד   אַפַּ֫יִם֙   אֶ֫רֶךְ   וְרַח֔וּם   חַנּ֣וּן
הָרָעָֽה:

hara'ah   *'al*   *wənicham*   *chesed*   *wərab*   *'appayim*   *'erek*
       wərachum   *channun*

bad   concerning   and relenting   grace   and
greatnose/anger   long   and compassionate
merciful

favoring and merciful God, long-suffering [lit., long of nose], and great in grace, and relenting concerning calamity.

מִמֶּ֑נִּי כִּ֛י   נַפְשִׁ֖י   אֶת־   נָ֥א   קַח־   יְהֹוָ֗ה   וְעַתָּ֣ה
ט֥וֹב   מוֹתִ֖י   מֵחַיָּֽי:

mechayyay moti   *tob*   *ki*   *mimmenni naphshi*   *'et*   *na'*   *qach*
yahweh we'attah

than my life   my death   good   because   from me   my life   (DO marker)
please   take   Yahweh   and now

And now, Yahweh, please take my life away from me, because my death is better than my life.

לָֽךְ:   חָרָ֣ה   הַהֵיטֵ֣ב   יְהֹוָ֔ה   **וַיֹּ֣אמֶר**
      יוֹנָה֙   **וַיֵּצֵ֤א**

yonah   *wayyetse'*   *lak*   *harah*   *haheteb*   *yahweh*
     wayyo'mer

Jonah   and/then he went out   to you   to burn   be good (+question marker)Yahweh   and/then he said

And/then Yahweh **said**, "Is it good for you to be angry?" And/then Jonah **went out**

וַיַּ֨עַשׂ֙   לָעִ֑יר   מִקֶּ֣דֶם   **וַיֵּ֙שֶׁב֙**   הָעִ֔יר   מִן־
        סֻכָּ֗ה   שָׁ֣ם   ל֜וֹ

sukkah sham   *lo*   *wayya'as*   *la'ir*   *miqqedem*   *wayyesheb*
ha'ir   *min*

hut   there   to him   and/then he made   to the city   at
east   and/then he sat   the city   from

from the city and/then he **sat** at the east of the city. And/then he **made** a hut for himself there

וַיֵּשֶׁב   תַּחְתֶּיהָ   בַּצֵּל   עַד   אֲשֶׁר   יִרְאֶה
מַה־   יִהְיֶה   בָּעִיר:

ba'ir   yihyeh   mah   yir'eh   'əsher   'ad   batsel   tachteha   wayyesheb

in the city it would be what he would see when until in the shadow under it and/then he sat

and/then he **sat** under it in its shade until he saw what would happen in the city.

וַיְמַן   יְהוָה־   אֱלֹהִים   קִיקָיוֹן   וַיַּעַל   מֵעַל
לְיוֹנָה   לִהְיוֹת

wayman   yahweh   'əlohim   qiqaywn   wayya'al   me'al   ləyonah   lihəyot

and/then he appointed Yahweh God castor-oil plant and/then it went up from upon to Jonah to be

And/then Yahweh God **appointed** a castor-oil plant, and/then it **went up** above Jonah to become

צֵל   עַל־ראשׁוֹ   לְהַצִּיל   לוֹ   מֵרָעָתוֹ   וַיִּשְׂמַח   יוֹנָה
עַל־   הַקִּיקָיוֹן

haqqiyqayon   'al   yonah   wayyismach   mera'ato   lo   ləhattsil   tsel   ro'sho'al

tsel ro'sho'al ləhattsil lo mera'ato wayyismach yonah 'al haqqiyqayon
shade on his head to save him him from its harm and/then he rejoiced Jonah over the castor-oil plant

a shade over his head to save him from harm. And/then Jonah **rejoiced** over the castor-oil plant

וַיְמַן   הָאֱלֹהִים   תּוֹלַעַת   בַּעֲלוֹת   הַשַּׁחַר   לַמָּחֳרָת:
שִׂמְחָה   גְדוֹלָה

lammachərat   hasshachar   ba'əlot   tola'at   ha'əlohim   wayman   gədolah simchah

on the next day the dawn when go up worm God and/then he appointed great joy

with great joy. And/then God **appointed** a worm when the dawn came on the next day

וַיִּבַשׁ׃   הַקִּיקָיֹ֖ון   אֶת־   וַתַּ֥ךְ

וַיְהִ֣י   כִּזְרֹ֣חַ   הַשֶּׁ֗מֶשׁ

hasshemesh kizroch   wayəhi   wayyibash
haqqiqayon   ʾet   wattak
the sun when rose   and/then it was And/then it dried up the castor-oil plant
(DO marker)   and/then it struck
And/then it **struck** the castor-oil plant, and/then it **dried up**. And/then when the sun rose,

וַתַּ֥ךְ   חֲרִישִׁית֙   קָדִים֙ רֻ֣וחַ   אֱלֹהִ֜ים   וַיְמַ֨ן

הַשֶּׁ֛מֶשׁ עַל־

          ʾal   hasshemesh   wattak   chərishit   qadim ruach
ʾəlohim   wayman
          on   the sun   and/then it struck   scorching   east
wind God   and/then he appointed
and/then God **appointed** a scorching east wind, and/then the sun **beat down** on

אֶת־   וַיִּשְׁאַ֥ל   וַיִּתְעַלָּ֑ף   יֹונָ֖ה רֹ֣אשׁ

וַיֹּ֙אמֶר֙   לָמ֣וּת נַפְשֹׁו֙

wayyoʾmer   lamut   napsho   ʾet   wayyishʾal
wayyitʾallaph   yonah roʾsh
and/then he said to die   his life   (object marker) and/then he
asked and/then he became faint   Jonah   head
Jonah's head. And/then he **became faint**, and/then he **asked** to die. And/then he said,

טֹ֥וב מֹותִ֖י מֵחַיָּֽי׃   וַיֹּ֤אמֶר   אֱלֹהִים֙ אֶל־ יֹונָ֔ה

הַהֵיטֵ֥ב חָרָֽה־

charah   haheteb   yonah ʾel ʾelohim   wayyoʾmer   mechayyay
moti   tob
to burn   be good (+question marker) Jonah   to   God   and/then he said
than my life my death good
"My death is better than my life." And/then God **said** to Jonah, "Is it good

חָרָֽה־   הֵיטֵ֣ב   וַיֹּ֕אמֶר   הַקִּיקָיֹ֑ון   עַל־   לְךָ֖

לִ֖י   עַד־   מָֽוֶת׃

 mawet   ʾad   li   harah   heteb   wayyoʾmer
haqqiqayon   ʾal   ləka
death   until   to me   burning   it does good and/then he said the
castor-oil plant concerning   for you
for you to be angry about the castor-oil plant?" And/then he **said**, "It's good for me to be angry until death!"

Appendix B: Dynamic Aspect Tree Analysis of a Text

Short Story: "Winter Storm"

The menacing clouds barely visible in the vanishing twilight hung low in the northern sky. They were sporadically, but with increasing frequency, brilliantly lit by dramatic lightning. The man looked worriedly out the window at the swiftly approaching storm, unconsciously jiggled his keys and listened intently to the rumblings of thunder. His wife joined him and sensed his anxiety. He sighed in resignation. "What are you upset about, Honey?'" she asked. Almost as an answer the storm front hit. At first it was just an unusually strong wind, which howled relentlessly. The rain arrived with a particularly powerful downdraft. It drummed on the roof. The storm rapidly grew in intensity. A mighty gust shook the house and rattled the windows. The temperature plummeted. The earlier din steadily diminished to an ominous quieter sound. Wind driven snow stuck to the window in front of the silent couple. The man spoke his thoughts out loud, "It's going to take a while to dig out from this one." He was right. During the night the snow piled up into deep sculpted drifts around the house.

Key: Blue—stative
        Green (bud in tree)—atelic activities (directed or undirected)
        Red (berry in tree)—telic achievement or accomplishment

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Diagram:
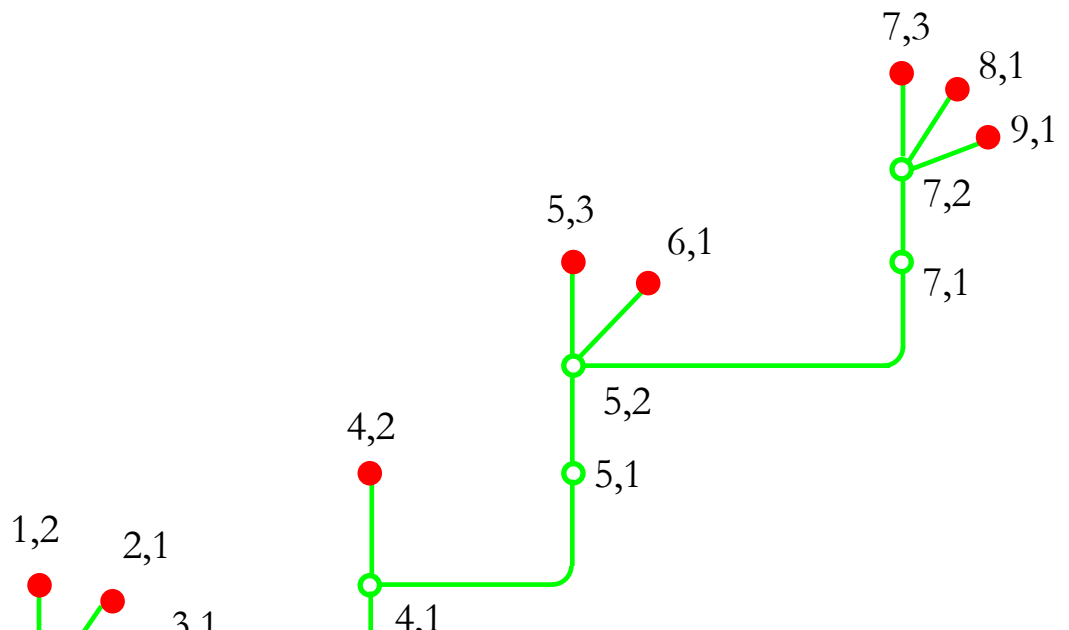
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