How did Ancient Israelites Perceive Time?:
A Theoretical Proposal from Language Study

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1. Introduction[1]

Biblical Hebrew (BH) has long been considered a tense-prominent language, whose verbs mainly express past, present, and future. This tradition can be traced to a Jewish medieval grammarian Saadia Gaon (940-1010).[2] It still serves as the standard explanation in grammars for BH. Against the traditional view, aspect theories have been sporadically introduced, from G.H.A. Ewald in 1870 and S.R. Driver in 1892 to John A. Cook in 2002 and 2012.[3] Furthermore, historical linguists have recently argued the development from aspect-

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1   This paper is not a proven research article due to my inexpertness of philosophical arguments on time and the lack of textual analysis, but rather a survey note, which earlier version was presented at the 2018 Society of Biblical Literature annual meeting in Denver, USA. I am grateful for the feedback received there. I acknowledge that this paper contains several insufficient or under-argued descriptions and am responsible for all opinions and errors herein. However, I believe that the ideas have originality that could be developed into a research paper. This is why I have submitted this paper to the category of research notes, not papers, in the bulletin. It is hoped that scholars with appropriate skills will develop and complete this study.

2   Leslie McFall, *The Enigma of the Hebrew Verbal System: Solutions from Ewald to the Present Day* (Sheffield: The Almond Press, 1982), 2–3.

3   G.H.A. Ewald, *Kritische Grammatik der hebräischen Sprache* (Leipzig: Im Verlage der Hahnschen Buchhandlung, 1827); S.R. Driver, *A Treatise on the Use of Tenses in Hebrew and Some Other Syntactical Questions* (Oxford: The Clarendon Press, 1892); John A. Cook, "The Biblical Hebrew Verbal System: A Grammaticalization Approach," (PhD diss., University of Wisconsin–Madison, 2002); John A. Cook, *Time and the Biblical Hebrew Verb: The Expression of Tense, Aspect, and Modality in Biblical Hebrew* (LSAWS 7. Winona Lake, IN: Eisenbrauns, 2012).

prominent verbal systems to tense-prominent systems in Semitic languages. According to their view, the verb in ancient Semitic languages, including BH, mainly expresses aspect, not tense.[4] The purpose of this paper is to provide another discussion to validate the aspect theory of the BH verbal system by examining the concept of time in the cognition and language of its speakers, based on the assumption of a weak hypothesis of linguistic relativity, by which how ancient Israelites perceived time could be revealed.

According to linguistic relativity, which is also known as the Whorfian hypothesis, the structure of a language affects its speakers' worldview or cognition. There are traditionally two versions in linguistic relativity: the strong hypothesis and the weak hypothesis. The strong version posits that language *determines* thought about the real world and that linguistic categories limit and *determine* cognitive categories, while the weak version postulates that language *influences* thought about the real world and that linguistic categories *influence* cognitive categories.[5] Though the strong hypothesis has been mostly abandoned today, the weak hypothesis continues to attract scholarly attention. In this paper, based on the weak hypothesis, I presuppose that the concept of time expressed by the BH verb should correlate with the ancient worldview of its speakers.

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4 Eg., Cook, *Time and the Hebrew Verb*; N.J.C. Kouwenberg, *The Akkadian Verb and Its Semitic Background* (LANE 2. Winona Lake, IN: Eisenbrauns, 2010); Vit Bubenik, *Development of Tense/Aspect in Semitic in the Context of Afro-Asiatic Languages* (CILT 337; Amsterdam/Philadelphia: John Benjamin Publishing Company, 2017).

5 Strictly speaking, the strong-weak distinction is now considered an oversimplification. There are, in fact, seven versions of the hypothesis: language as language-of-thought, linguistic determinism, thinking for speaking, language as meddler, language as augmenter, language as spotlight, and language as inducer, of which Phillip Wolff and Kevin J. Holms rejects the first two versions based on both theoretical and empirical grounds: Philip Wolff and Kevin J. Holms, "Linguistic Relativity," *WIRE's Cognitive Science* 2 (2011), 253–65. In this paper, however, in order to avoid complicated issues of linguistic relativity, I shall use the traditional term, the strong and weak hypotheses.

2. Concept of Time in Cognition

To begin with, it is necessary to reconsider our definition of time. Since the advent of modernity, time has often been considered according to a linear conception, in which narratives of progress and evolution (e.g., past, present, and future) are *a priori* supposed to exist. Thus, most modern people understand this time framework as their basic cognition of time. This is further confirmed by the fact that English is a tense-based language in which verbs always denote a temporal point in a given timeline that consists of a past, present, and future. Put differently, according to the weak hypothesis of linguistic relativity, the English tense-based verbal system influences its speakers to have a linear conception of time in their cognition.

However, this concept of linear time can be said a product of the Enlightenment and Western philosophy; it does not necessarily follow that all human beings have such a linear concept of time.[6] In fact, in the past century, a reconsideration of the concept of time has been suggested from various disciplines including philosophy, anthropology, history, psychology, linguistics, cognitive science, and physics.[7] Today, time can be interpreted as not only linear but also

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6　For example, Dipesh Chakrabarty, a historian, criticizes the domination of Western historicism in historical study and advocates provincializing Europe by which non-Western historicism, which shows a variety of concepts of time, can contest the modern Western notion of the linear time: Dipesh Chakrabarty, *Provincializing Europe: Postcolonial Thought and Historical Difference* (Princeton: Princeton University Press, 2000), 3–23.

7　For example, in modern physics, the theory of relativity proposed by Albert Einstein proved that time is relative, and the time intervals between two events will be measured differently according to the perspective of the observer: Albert Einstein, *Über die spezielle und die allgemeine Relativitätstheorie: Gemeinverständlich* (Braunschweig: Druck und Verlag von Friedr. Vieweg & Sohn, 1917). Put differently, time is not absolute, true, and mathematical of itself. In his comparative religious study, Mircia Eliade stated that ancient and pre-modern people had a different historicism. In his view, for archaic people, whichever actions done by human beings were the mere repetition or reproduction of the primordial actions performed at the beginning of time by gods, heroes, or ancestors, and there was the cyclical or sacred structure of time in which the original creation is repeated by ceremonies, festivals, or rituals: Mircia Eliade, *Cosmos and History: The Myth of the*

cyclic or spiral, and not only temporal but also as embodied and spatial cognition. Furthermore, time is not only described today as absolute, objective, concrete, and real, but as relative, subjective, abstract, and refined.

Since this paper deals with BH, an ancient non-Western language, an important starting point will be to assume that its speakers probably had a different cognition of time from the modern conception. Nevertheless, this necessary reconsideration of our concept of time has been rarely examined in biblical studies. One significant study discussing this issue was done by Sacha Stern. Stern first defines the difference between process and time. He writes:

> All we experience around us are concrete objects, engaged in certain relations which we call 'events'; events, in turn, are structured in sequences which we call 'process.' Time is only an abstract measurement of process: it is, primarily, a way of expressing how long a process is. . . . Time itself, however, is not an empirical experience, nor a palpable reality: it is only a generalized abstraction.[8]

Then, he proposes a process-based worldview as a more satisfactory representation of empirical reality. The process-based worldview no longer requires perceiving past, present, and future as the separate temporal zones of a subjective timeline. Rather, these are perceived as the status of events: past as an event in a state of completion or termination; present as an event in process; and future as an event in a state of being ready, due or about to occur.[9] Stern further argues

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Eternal Return (New York: Harper & Brothers, 1954), 17–26. In cognitive science, George Lakoff and Mark Johnson discussed "[m]ost of our understanding of time is a metaphorical version of our understanding of motion in space": George Lakoff and Mark Johnson, *Philosophy in the Flesh: The Embedded Mind and Its Challenge to Western Thought* (New York: Basic Books, 1999), 139.

8 Sacha Stern, *Time and Process in Ancient Judaism* (Oxford: The Littman Library of Jewish Civilization, 2003), 18.

9 Ibid, 24.

that ancient Hebrew languages correlates with a process-based worldview.[10] His discussion includes Hebrew vocabulary and time-reckoning in biblical and rabbinic literatures. Regarding vocabulary, Stern asserts that there are no words that means "time" in a general sense in ancient Hebrew and redefines the meaning of some Hebrew vocabulary as it follows: עֵת and מוֹעֵד as "denot(ing) points in time, appointed times, and sometimes periods of time;" רֵאשִׁית and אַחֲרִית as referring to the limits of a process such as "beginning" and "end"; זְמָן as "not a self-standing or 'pure' entity, a universal dimension, a flow, or a continuum. . . , embracing only points in time and finite periods, . . . (and) the measurement of the occurrence and length of process, natural events, and human activities"; and עוֹלָם as "not temporal, but a permanent state" or referring to "distant periods in either the past or in the future."[11] None of these indicate the notion of universal time or the continuum of time as a whole. Regarding time-reckoning in the literature, Sterns states, "years, months, weeks, and days simply represent the duration, or length of either astronomical and seasonal process or socially sanctioned cycles of human activity."[12] Regarding historical writing, he indicates that dating events in Hebrew literature is not based on a system of numbered years, but purely relative terms based on specific events such as "Abraham was 48 years old when the Tower of Babel was built."[13] In summary, Stern has argued that the most basic cognitive component for speakers of ancient Hebrew is events, not time or timeline. Put differently, they primarily perceived their real world by spatial reality. Their cognition, then, consists of sequences of events, which Stern calls process. Time is rather secondary and functions as only an abstraction for the measurement of events and processes.

Given the weak hypothesis of linguistic relativity, the correspondence between the process-based worldview and the Hebrew languages observed by Stern is quite plausible. However, Stern's study lacks the most important se-

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10 The languages analyzed by Stern include not only BH but also Qumran Hebrew and Mishnaic Hebrew.

11 Stern, *Time and Process in Ancient Judaism*, 24, 29, 35, 107−8, 110.

12 Ibid, 36.

13 Ibid, 73.

mantic element expressing time in languages, the verb. Thus, this paper shall examine how time in the BH verb has been discussed by Hebraists.

3. The Concept of Time in the Tense Theory of the Biblical Hebrew Verb

In studies of the BH verb, the conception of time has troubled Hebraists. Whether or not the verb expresses tense has been long disputed.[14] This section will assess several modern theories of the BH verb alongside the assumption that the process-based worldview should underlie the verbal system.

First, several tense theories will be discussed.[15] Gesenius' grammar is probably the oldest modern work that takes a stand on tense theory. He wrote: "The verb has only two tense-forms (Perfect and Imperfect). … All relations of time are expressed either by these forms or by syntactical combinations."[16] Gesenius, therefore, presumed that past, present, and future times are ontological spheres. Therefore, the function of the BH verb directly situate the temporal point of an event to which the verb is referring on a given timeline. Put differently, the universal concept of time consisting of a past, present, and future *a priori* underlies Gesenius' grammar.

Hans Bauer discussed the concept of time in BH in the late 19th century. First, Bauer reconstructed the Proto-Semitic verb that there was the development from the prefix YQTL form to the suffix QTL form. The original imperfect YQTL was, in his view, timeless. However, according to his reconstruction, when the suffix perfect QTL emerged, it marks the end of timelessness and the beginning of the tense verbal system in the Semitic languages.[17] Put differ-

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14 One of the most recent discussions on the issue can be found in the articles by Joosten and Cook: Jan Joosten, "Do Finite Forms in Biblical Hebrew Express Aspect?" *JANES* 29 (2002), 49–70; John A. Cook, "The Finite Verbal Forms in Biblical Hebrew Do Express Aspect," *JANES* 30 (2006), 21–35.

15 In this paper, both absolute tense theories and relative tense theories will be discussed together.

16 Emil Kautzsch, *Gesenius' Hebrew Grammar* (translated by A. E. Cowley. 2nd ed. Oxford: Clarendon, 1910), 107.

17 Hans Bauer, "Die Tempora im Semitischen," *Beiträge zur Assyriologie und semitischen*

ently, the concept of universal time, which modern people *a priori* postulate, was introduced to speakers of Semitic languages with the rise of the suffix QTL in the ancient time. However, today, no Hebraist believes that the suffix QTL was evolved from the prefix YQTL, so there are no longer grounds to suppose his theory. Accordingly, his view on the rise of the concept of universal time in Proto-Semitic has been abandoned together.

Another classical advocate of the tense theory is G. R. Driver. In his theory, Driver explained ancient people's cognitive reality thusly: "It would seem *a priori* likely that primitive man would be occupied rather with present and future than with past events, i.e. with the needs of daily life rather than with history, … the first requirement of the early Semites would be present-future tense."[18] There are some unexplained or outdated speculations in his statement. This example illustrates that grammatical definitions of the BH verb are sometimes based on inappropriate speculations on cognitive reality of ancient people.

E. J. Revel also argued for the tense theory in the late 20th century. He stated: "(T)he indicative, QTL and YQTL, has been much debated. It seems to me that it is most easily presented as one of time reference: QTL 'past' versus YQTL 'present/future.' While the ease of such presentation is no doubt partly due to the fact that English uses a tense system, there is no real reason to suppose that Hebrew does not."[19] Here, Revel uncritically adopted the modern concept of universal time represented by the English verb to the BH verb without any of the necessary consideration. This is also a discernible example of how modern or English-based worldview has been influential on BH studies.

Jan Joosten is one of the most recent advocates of the tense theory. He has provided a clear theoretical concept of time in his verbal system. He states: "Tense is a deictic category: it designates the principle by which events are located in a given time-frame such as the past, the present or the future. Tense

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Sprachwissenschaft 8 (1910), 5–15.

18　G. R. Driver, *Problems of Hebrew Verbal System* (Edinburgh: T & T Clark, 1936), 28.

19　E. J. Revell, "The System of the Verb in Standard Biblical Prose," *Hebrew Union College Annual* 60 (1989), 3.

situates events on the timeline."[20] Here, Joosten clearly presupposes that there must be a given timeline consisting of past, present, and future in BH. Namely, he believes that there was a time-based cognition in ancient times. His ground for this view depends on his interpretation of temporal vocabulary in BH. On one hand, he admits that the "(m)ain function of Hebrew verbal forms is not to express tense," however, he continues "the indifference of Hebrew verbal forms to time-frames should not be interpreted to mean that speakers of [BH] had no notion of the timeline. [BH] has a full set of temporal adverbs showing that Israelites were perfectly capable of distinguishing the past, the present and the future."[21] Considering Stern's process-based worldview, however, there is room for further discussion regarding temporal adverbs, since Joosten concludes that temporal adverbs are the evidence that speakers of BH had a time-based cognition, while Stern uses the same linguistic properties to propose an event-based cognition. At this point, I consider that Joosten's verbal system is not yet as solid as it seems to be since his theoretical model of time mostly depends on a disputed matter, the temporal adverb.

Thus far, I have quickly assessed five works based on the tense theory. According to those theories, the function of the BH verb is to situate events on a given linear timeline or to indicate temporal points. This assumes that speakers of BH had the concept of universal time as one of their most basic understandings of the universe in parallel with modern people.

Furthermore, time-based cognition is *a priori* supposed in all those theories. Given the fact that there have been several criticisms against the modern concept of time as discussed in the previous section, the tense theorists need to address their theoretical grounding for presupposing the concept of universal, linear time among ancient peoples.

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20 Jan Joosten, *The Verbal System of Biblical Hebrew* (JBS 10; Jerusalem: Simor, Ltd., 2012), 22.

21 Ibid, 25.

4. The Concept of Time in the Aspect Theory of the Biblical Hebrew Verb

Next, this section will review three works representing the aspect theory. The most traditional proponent of aspect theory is Ewald in the 19th century. Regarding the main function of the BH verb, he wrote: "auf dem Grunde dieser allereinfachsten Zeitunterscheidung [i.e., vollendet: unvollendet] sind eine menge feinerer unterscheidungen und gebilde möglich" 'At the basis of this very simple time distinction [i.e. completed and uncompleted], a lot of finer distinctions and structures are possible.' [22] Here, Ewald clearly indicated that the distinction between completed and uncompleted is the main function of the verb. In linguistics, this is later interpreted as perfective and imperfective of viewpoint aspect. Ewald did not presuppose that the universal linear timeline underlines the temporal system of the BH verb. According to Leslie McFall, Ewald assumed only an absolute present time of speakers, and that each event expressed by BH verbs is not situated on a timeline, but rather relatively relates to each other event according to speaker's viewpoint.[23] Thus, Ewald supposed that ancient Hebrew speakers probably perceived their reality based on events, not time or a timeline.

S. R. Driver, another traditional advocate of the aspect theory, denied the tense theory and stated: "The tenses, then, in so far as they serve to fix the date of an action, have a relative not an absolute significance. . . . the Hebrew verb notifies the character without fixing the date of an action and, . . . its two forms, . . . one is calculated to describe an action as nascent and so as imperfect; the other to describe it as completed and so as perfect." [24] He further explicated that one of the peculiarities of the BH verb is "the ease and rapidity with which a writer *changes his standpoint*, at one moment speaking of a scene as though still in the remote future, at another moment describing it as though present to his gaze." [25] Put differently, in S. R. Driver's theory, speakers of BH described

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22　Ewald. *Kritische Grammatik der hebräischen Sprache*, 350.

23　McFall, *The Enigma of the Hebrew Verbal System*, 49.

24　Driver, *A Treatise on the Use of Tenses in Hebrew,* 5.

25　Ibid, 5.

events based on their viewpoint without assuming a given linear timeline.

In this century, John A. Cook has elaborately discussed the semantics of the BH verb with rigorous linguistic theories. His theory regarding time can be summarized as it follows: Each verbal form has a default temporality in direct-speech, i.e., QTL as past and YQTL as non-past, but those are not fixed (i.e. not functioning as tense), and temporality in discourse is determined by temporal or modal relationships between each event.[26] In his model, time functions as measurement between events: i.e., indicating relative temporal relationship between events such as prior, subsequent, inclusive, or simultaneous.[27] Put differently, Cook presupposes an event-based cognition for ancient BH speakers/writers.

In summary, there are several significant similarities between aspect theory and a process-based worldview. Both consider events as the most common cognitive reality for speakers of BH. That is, their cognition is event–based, not time-based. No given universal timeline consisting of past, present, and future underlies either the aspect theory or the process-based worldview. Time functions as an abstract notion expressing temporal relationships between events. Biblical writings can be described as the sequences of events observed by the speakers/writers, which Stern calls process, but can be described neither as the sequences of temporal events situated on a timeline nor the sequences of temporal points. All these similarities entail that the aspect theory better fits with an ancient process-based worldview.

5. Summary

In order to provide another perspective on the long-standing issue of tense

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26   Cook, *Time and the Hebrew Verb*, 268, 275–326.

27   Especially, see his analysis on temporality of several biblical passages: Cook, *Time and the Hebrew Verb*, 326–37. In order to indicate relationship between events, Cook uses various linguistic signs such as ⊆ (inclusion relationship: i.e. first event is included within the second), < (temporally precedence relationship), and ∩ (intersection: events with temporal overlap with each other).

or aspect in the BH verb, this short paper has discussed three presuppositions. First, it presupposes linguistic relativity between cognition and language, especially the weak hypothesis. That is, there is a correlation between the grammatical system of BH and its speakers' cognitive process. Second, given the structure of the language, it is very likely that the concept of time was different between ancient Hebrew people and modern people. Third, the process-based worldview proposed by Stern has explicated a plausible cognitive reality for speakers of BH. Based on these presuppositions, I have further discussed how Hebraists have argued the concept of time in their grammatical or linguistic studies. This paper has detailed how proponents of tense theory have often *a priori* adopted modern concept of universal time as their theoretical grounds. The tense theory assumes that the cognition of speakers of BH is time-based and that events expressed by verbs are to be situated on a given timeline. On the other hand, aspect theory presupposes that cognition is event-based, and that time functions as measurement of events, which perfectly coexists with the process-based view.

The implications for future studies are threefold. First, since there are still few studies on the concept of time in ancient Israel, academic endeavor to clarify the cognitive background of speakers of BH needs to continue. Second, advanced lexical studies on temporal vocabulary in BH are necessary to support the ancient concept of time because there is, for example, a contradiction between the works of Stern and Joosten regarding the definition of temporal vocabulary in BH. Third, textual analysis on the passages that contain key ideas on time in the Hebrew Bible is required.