Accents, Punctuation or Cantillation Marks?

A Study of the Linguistic Basis of the ṭəʿāmīm

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יִרְאַ֣ת יְ֭הוָה רֵאשִׁ֣ית דָּ֑עַת (Proverbs 1:7)

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Abstract

This thesis discusses different strategies for interpreting the placement of the *ṭəʿå̄mīm* in Masoretic Text of the Hebrew Bible. After introducing the signs and their distribution in the text, the thesis looks at different levels of linguistic analysis where the *ṭəʿå̄mīm* provide interesting information. At the word level, word stress and vowel length are discussed. At the phrase level, the different types of phrases are analyzed in light of a closest constituent analysis. At the verse level, the distribution of the *ṭəʿå̄mīm* is shown to depend on simple rules which maximize the most common structures of Tiberian Hebrew. Prosodic structure is also evaluated to show what bearing that it has on the placement of the *ṭəʿå̄mīm.* Finally, the *ṭəʿå̄mīm* are discussed in relation to discourse features.

The goal of the thesis is to show that the *ṭəʿå̄mīm* are not simply musical notation, but have a linguistic basis, and provide insight into linguistic features of Tiberian Hebrew.

Forword

This thesis is the culmination of work I have done while living in three countries on two continents – but the research has always been based in the text of the Hebrew Bible. Though the research required no travel, my life did. I feel privileged to be able to work with such ancient texts and carry them with me around the world. I certainly would never have embarked on this scholarly work had it not been for Professor Lutz Edzard, University of Oslo. Professor Edzard has been my advisor, teacher, mentor, motivator, tour guide and friend over the past few years, and I have greatly benefited not only from his vast knowledge, keen eye for detail and relaxed style of tutoring, but also from his love for what he does and his encouragement for me to become a "hardcore Semitist". For all this I give my sincere thanks.

My wife Maria and three children Andreas, Petter and Mia have stood by my side throughout this process, allowing me to stay up late, leave the house early and be lost in thought at the dinner table without ever criticizing my work. Even now as I put the finishing touches on this thesis, the three children are at home alone with me, quietly playing while I work. I am ever grateful that they put up with my peculiarities and love of books.

In the end, any shortcomings or mistakes are all mine.

Drøbak, Norway

May 24, 2012

Contents

Transliteration

Transliterations follow the style sheet of the Encyclopedia of Hebrew Language and Linguistics (EHLL)[1] except where otherwise noted. In addition, primary word stress is marked with an *acute accent* (é) and secondary stress with a *grave accent* (è). Short vowels are unmarked, long vowels are marked with a *macron* (ē) and ultra-short vowels are marked with a *breve* (ĕ). The following chart shows the Hebrew letters with their transliteration in the EHLL standard.

Heb.	EHLL	Heb.	EHLL	Heb.	EHLL	Heb.	EHLL
א	ʾ	ח	*ḥ*	פ	*p*	◌ְ	*a̋*/å
ב	*b*	ט	*ṭ*	פ	*p̄*	◌ַ	a
ב	*b̲*	י	*y*	צ	*ṣ*	◌ֶ	*ɛ*
ג	*g*	כ	k	ק	*q*	◌ֵ	ē
ג	*ḡ*	כ	*k̲*	ר	*r*	◌ֹ	*ō*
ד	*d*	ל	l	שׁ	*š*	◌ֻ	*ū*/u
ד	*d̲*	מ	*m*	שׂ	*ś*	◌ִ	*ī*/*i*
ה	*h*	נ	*n*	ת	*t*	◌ְּ	*ă̋*
ו	*w*	ס	*s*	ת	*t̲*	◌ַּ	*ă*
ז	*ẓ*	ע	ʿ			◌ֶּ	*ɛ̆*
						◌ָ	*ə*

[1] Geoffrey Khan (forthcoming)

1 Introduction

Through a period of over 1000 years, the traditional reading of the Hebrew Bible (HB) was transmitted orally, from teacher to pupil, rabbi to student, in order preserve the text. During the Masoretic Period, 500-950 CE,[2] this reading tradition was written down. The text of the HB, which had up to this point been only consonantal, was marked with vowels and other signs which served to aid others in reading the text as the rabbis had handed it down. One group of signs is the *ṭəʿåm̄īm,* traditionally called accents or cantillation marks. The purpose of this thesis is to investigate Masoretic *ṭəʿåm̄īm* and their linguistic basis in light of modern linguistic theory.

As the title implies, the *ṭəʿåm̄īm* have been alternately explained as being marks of word stress, punctuation and musical notation for the Masoretic Text (𝔐) of the HB.[3] The *ṭəʿåm̄īm*, which are 27 in number for the prose books of the HB and 21 for the poetic books, are superimposed on the consonant text, just like the vowels of 𝔐, and with other signs (e.g. *dåg̲eš*, *maqqep̲*, etc.) make up the Masoretic pointing system.[4] These diacritic signs are of a later date than the consonant text itself (cf. 1.2 below), thus the placement of the *ṭəʿåm̄īm* must be in relation to the already established consonant text of the HB and the Masoretic understanding of that text.

[2] Yeivin (1980:1)

[3] All citations from the HB are from Kittel and Elliger (1967/1977)

[4] Gesenius, Kautzsch and Cowley (1963:54-65)

Despite over a thousand years of research, there is no consensus on the system which the Masoretes used to place the *ṭəʿå̄mīm*, leaving the accentual system largely untouched by the broader community of Hebraists and Semitists. This thesis will discuss the different understandings of the *ṭəʿå̄mīm* which have developed over time, at different linguistic levels. The goal is not to present new qualitative research but to collect the various strands of research on the *ṭəʿå̄mīm* and present them together – evaluating their relevance from a modern linguistic perspective. The *ṭəʿå̄mīm* are placed in such a careful manner as to open a window into the Masoretic understanding of Hebrew grammar, making the *ṭəʿå̄mīm* an uncanny resource for understanding the text of the HB as well as its grammar.

1.1 Scope and Method

The starting point for this thesis is the fact that this is not simply a question of which came first, the chicken or the egg. In fact, we know that the Hebrew language existed long before the Masoretes began their work (cf. 1.2 below). The rules for phonology, morphology, syntax and prosody in the Hebrew language are not a result of the Masoretic work, but are prerequisites for it. Thus, we can assume that the Masoretic pointing system is a tool to maintain the quality of the text, or at the very least to establish it, instead of the consonant text being set up to reflect the pointing system. Because the system of the *ṭəʿå̄mīm* is so complex (cf. 1.4 below), it stands to reason that there is a purpose to that complexity and the placement of the *ṭəʿå̄mīm*. Based on these reflections, I will examine the use of the *ṭəʿå̄mīm* on different linguistic units with a twofold goal. The first goal is to describe different bases for

the use of the *ṭəʿa̱mīm* and what information can be garnered from them. The second goal is to compare their uses in relation to different linguist units with modern linguistic theories which arose 1000 years later.

1.1.1 Linguistic Terminology

Up to this point, I have used the term *modern linguistic* as a term for the theoretical framework I will use to evaluate the *ṭəʿa̱mīm*. This is purposefully imprecise. In this thesis I will not be restricting the work to a specific strand of linguistic research, for example *Generative Linguistic* or *Cognitive Linguistic* methodology for one particular reason: research into the accentuation of the HB has not been done from a single perspective. The point is rather to see in which ways the use of the *ṭəʿa̱mīm* compares with any modern linguistic model. Researches have taken different perspective in their work, and thus I will follow their lead. For example, in section 2.2 I will touch on Churchyard's use of autosegmental phonology in the discussion of primary and secondary word stress in Hebrew, in chapter 4 I will work with Aronoff's interpretation of syntax in the nearest constituent theory and in chapter 5 I will look at Lode's work with discourse analysis and the *ṭəʿa̱mīm*. The goal is not to prove the Masoretes to be anachronistically adept at modern linguistics, but to see how the work of the Masoretes can be useful and insightful in light of various modern theories.

1.1.2 Methodology

I will be discussing the *ṭəʿå̄mīm* both in relation to the information we can garner from the text based on their usage and in comparison with modern understandings of linguistic theory. To this end, I have divided the remainder of this thesis into 5 chapters, one for each of the different linguistic features investigated followed by a concluding chapter. In each chapter I will discuss the unit from a linguistic and grammatical point of view before discussing how the *ṭəʿå̄mīm* are used in relation to the structure. The discussions will be based on research from a number of different scholars who, as is expected, have focused on some but not all elements of the *ṭəʿå̄mīm*. Thus, chapter 2 looks at the *ṭəʿå̄mīm* as they relate to the TH word. Chapter 3 deals with the TH phrase, both verbal and nominal. Chapter 4 is concerned with the *ṭəʿå̄mīm* and the syntax of TH. Chapter 5 looks at how the *ṭəʿå̄mīm* can be give clarity in relation to prosody and discourse features. In chapter 6, I review the different conclusions from each chapter and summarize a unified understanding of the uses of the *ṭəʿå̄mīm*.

Before moving into the body of the thesis, I will present a brief history of 𝔐 to aid in understanding where the *ṭəʿå̄mīm* come from (1.2). In 1.3 I will outline a history of research on the *ṭəʿå̄mīm* upon which I will build in each of the following chapters. Finally, in 1.4 I will present the *ṭəʿå̄mīm* and a formal explanation of their distribution in 𝔐.

1.2 History of the Masoretic Text

The Masoretic text is in many ways a very important text for the study of the HB. The Masoretes worked to preserve the text of the HB in many different ways. In addition to adding the diacritical signs indicating vowels, accents, and other features, they developed an apparatus to aid in the understanding of difficult readings or linguistic phenomena. This apparatus is traditionally called the *Masorah*,[5] from the root **m-s-r* meaning 'to transmit' or 'to hand on', and is "the collected body of instructions used to preserve the traditional layout and text of the Bible unchanged."[6] The enormous amount of notes and explanations shows the detail to which the Masoretes went in order to hand on the correct text to coming generations.

There are several different layers to 𝔐 which need to be discussed separately in order to understand its history as a whole as the different layers represent different stages of the evolution of the text. Tov[7] cites 5 different features of the text that together comprise 𝔐. For the purposes of this paper, I will not discuss two of Tov's proposed 5 layers: the "para-textual elements" and "the apparatus of the *Masorah*." That leaves us with the consonantal framework (1.2.1), the vocalization (1.2.2) and the accentuation (1.2.3). After discussing these issues I will discuss the "language" of the Masoretes – Tiberian Hebrew, and what this term implies (1.2.4).

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[5] The *Masorah* is divided into two parts, the *Masorah Parva* is printed in Kittel and Elliger (1967/1977) The *Masorah Magna* is printed in a separate volume: Weil (1971).

[6] Yeivin (1980:63)

[7] Tov (2001:23)

1.2.1 The Consonant Text

𝔐 grew over time and the consonant text of the HB was well known before the end of the Second Temple Period (70 CE).[8] 𝔐 builds on a group of texts that show a great degree of stability and reliability over a period of several hundred years. The consonant text served as the basis for the addition of other signs, vowels and accents among them. There are three types of evidence for the oldest texts of the HB, Hebrew manuscripts, translations and citations. The indirect evidence of the translations and citations serves to establish the validity of the Hebrew manuscripts, as they are often of an older date but still confirm the readings of 𝔐.

The evidence of Hebrew manuscripts from before 900 CE has changed dramatically since the discovery of texts in the Judean desert from the middle of the 20th century and onward.[9] The existence of texts dating to the 3rd century BCE provides compelling evidence of the antiquity of the text of the HB, and thus the consonantal framework of 𝔐. The earliest manuscripts of the HB found to date were preserved in the Judean desert and provided Biblical texts dating as far back as 250 BCE and up until the 2nd century CE. These manuscripts provide a point of comparison for the later manuscripts and confirm the reliability of the consonant text. These earliest manuscripts do not have the Masoretic vocalization or accentuation.[10]

Indirect evidence to the credibility of the consonant text of the HB is found in ancient translations and citations of the text. The translation of the HB to Greek is

[8] Tov (2001:28-29)

[9] Tov (2001:100-108)

[10] Tov (2001:40)

very old, and is for many passages the oldest extant source. Direct and indirect evidence suggest that the translation into Greek took place in the 3rd century BCE.[11] In addition to the translations, there are as many as 55 citations of HB texts in the New Testament book of Matthew alone[12], not to mention other early Christian writers, as well as the use of the text in Midrashic literature. All this comes in addition to the Talmud and other Jewish writings. The value of the translations and the citations is not proof of the consonant text in itself, but shows that the meaning was established. There are few major discrepancies between what is found in the translations and citations and the text 𝔐.

The consonant text was from an early date divided into paragraphs and, eventually, verses. The *pisqot* or paragraph divisions are explicitly mentioned in the Talmud written at by the 3rd century CE and based on other evidence, were likely already in place before the 1st century CE.[13] There is also evidence for the further division into verses during the Talmudic period,[14] and certainly verse divisions were in place by the time of the addition of the accents (cf. 1.2.3 below). The reliability of the text as established by the direct evidence and supported by the others shows that the consonant text of the HB is reliable from a very early date.

[11] Tov (2001:136-137)

[12] Blomberg (2007:1)

[13] Yeivin (1980:41-42)

[14] Yeivin (1980:42)

1.2.2 Vocalization

As the Hebrew language became less and less well known, there developed a need to indicate in the text the vocalization in order to preserve the "correct" reading where the consonant text was ambiguous. In some texts, especially some found at Qumran, extensive use of *matres lectionis*, consonant signs placed to indicate a long vowel, lessened the need for vowel symbols.[15] The tradition that became 𝔐, however, worked to maintain the consonant text as it was received and did not add *matres lectionis.* Thus, the need for vocalization arose as time passed and uncertainties about pronunciation arose.

There were at least three different vocalization traditions, called the *Palestinian, Bablyonian* and *Tiberian* traditions. It was the Tiberian system that became the basis for 𝔐, and the other systems are not greatly represented among ancient manuscripts. The manuscripts discovered at Qumran do not show vocalization,[16] meaning that this addition must be later than the latest Qumran texts. Later, Jerome (342-420) explicitly claims that the HB does not contain vowel signs.[17] There is no evidence for the vowel signs in the Talmud either, making the earliest date for the use of the system after 600 CE.[18] The vocalization is thus quite late in comparison with the consonant text.

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[15] Tov (2001:40-41)

[16] Tov (2001:40)

[17] Wickes (1887:5)

[18] Dotan (1981)

1.2.3 The *ṭəʿåm̄īm* and Other Signs

In this discussion of the accentuation of the HB, I am referring to the Tiberian accentuation system. There are, in fact, at least three different systems of accentuation that were developed and are represented in the manuscript evidence. The three systems are generally termed, as with the vowel signs, *Babylonian*, *Palestinian* and *Tiberian.* The relationship between the systems is not clear, and at least some scholars[19] are of the opinion that the Tiberian system is a development of the Palestinian system. 𝔐 represents the culmination of the Tiberian system and is the standard up to this day. As the theme of this thesis is the Tiberian *ṭəʿåm̄īm*, I will not delve into the complexities of the other systems nor present a systematic comparison with them.

The term *ṭəʿåm̄īm* refers specifically to the diacritical marks in 𝔐 to which are associated melodies. Etymologically speaking, the word *ṭəʿåm̄īm* (pl; *ṭaʿam* sg.) comes from the Hebrew and common Semitic root **ṭ-ʿ-m.* The verb *ṭå̄ʿam* means 'to taste' or 'to savor' and the noun *ṭaʿam* can mean a 'taste' or a 'sense', among other things. This points in the direction that the *ṭəʿåm̄īm* were seen as adding *spice* or *flavor* to the text, by adding the melodies.

The exact date of the development of the Tiberian *ṭəʿåm̄īm* is not easy to determine. It seems likely that they are influenced by the accent systems found in ancient Greek and Syriac manuscripts,[20] which the Masoretes likely came into contact with. The

[19] Yeivin (1980:166)

[20] Segal (1953:6-10)

ṭəʿå̄mīm are completely lacking from the Qumran manuscripts, but there are references in both the Jerusalem and Babylonian Talmud that point towards an awareness of a system of accentuation.[21] Yeivin[22] interprets these references as being directed at the oral recitation the text, also possible using hand signals to indicate the accent.[23] Thus he dates the beginning of the accentuation of the text to after the close of the Talmud, ca. 600 CE.[24] Dotan,[25] on the other hand, argues that the allusions to the *ṭəʿå̄mīm* in the Talmud are ambiguous and do not exclude a written system. In addition, he argues that the placement of the *ṭəʿå̄mīm* indicates that they were in existence before the vowel signs, thus necessitating an earlier date for the *ṭəʿå̄mīm.* No matter what the earliest date is, it is clear that the need to properly accentuate the Biblical text was well known in Talmudic times.

As to the terminal date, the earliest complete manuscripts use the fully developed system of the *ṭəʿå̄mīm.* Tov[26] places the date for The Cairo Codex of the Prophets to 896 AD and this manuscript is completely accented. Yeivin claims that a period of at least 100 years would be necessary for the full development of the accent system.[27] Though this figure is arbitrary, there must be a certain gap between the development of the accents and the writing of C. In broad terms, however, we can

[21] Yeivin (1980:163-164)

[22] Yeivin (1980:163-164)

[23] cf. b. Ber. 62a

[24] Neusner (2011:I, xxvi)

[25] Dotan (1981)

[26] Tov (2001:47) Cf. Yeivin (1980:20)

[27] Yeivin (1980:164)

say that the accent system began to be used on Hebrew texts sometime between 600 and 896 AD.

1.2.4 Tiberian Hebrew

I have regularly referred to the language of 𝔐 as *Tiberian Hebrew*. In this section I will briefly discuss what is meant by this term and how it affects this thesis.

In sections 1.2.1, 1.2.2 and 1.2.3 I have presented the basic outline of 𝔐 so that the background of the work of the Masoretes can be understood. I have argued that the consonant text of 𝔐 is ancient and that the addition of the vowels and the *ṭəʿāmīm* was done to aid in the understanding of the text. This means that the work of the Masoretes, over a millennium after the final books of the HB were written, was based on their understanding of Hebrew. The Hebrew that is found in 𝔐, the combination of the ancient consonant text with the Masoretic vowels and *ṭəʿāmīm*, is called *Tiberian Hebrew*. The name Tiberian comes from the city Tiberias, which was from some time in the 2nd century CE a seat of rabbinic scholarship. It was the final meeting place of the *Sanhedrin*, the Jewish high council, and it was where the most important post-Biblical Jewish writings, the Mishnah and the Talmud, were collected.[28] The language of 𝔐 is generally accepted to be reliable,[29] reflecting an understanding of Late Biblical Hebrew or dialectal differences,[30] though it clearly represents further developments after BH.

[28] Negev (1990:"Tiberias")

[29] Waltke and O'Connor (1990:27-28)

[30] Tov (2001:48-49)

Tiberian Hebrew can be reconstructed based on several sources other than the systems of vocalization and accentuation, for example grammatical treatises, manuscripts written in the Hebrew language but with the Arabic script and texts in other languages using Hebrew letters and Tiberian vocalization.[31] Developments after BH include a shift from *i* /i/ to *a* /a/ in word-initial unstressed closed syllables and the addition of an epenthetic vowel in nouns with the pattern CVCC. I will not undertake a systematic comparison of TH and BH here, but I will comment more on the vowel system in TH in section 2.3, below.

1.3 History of Research on the *ṭəʿå̄mīm*

I have divided this history of research into two themes, the musical values of the accents and the syntactic analysis of the accents. It is not meant to be an exhaustive list of contributions, but to define eras and thinking related to the *ṭəʿå̄mīm* throughout the past 1000 years.

1.3.1 The Musical Values of the *ṭəʿå̄mīm*

Scholarship on the accents is not limited to the modern period. The first account of the *ṭəʿå̄mīm*, albeit incomplete, is credited to Aharon ben Asher himself. His work, *Diqduqe ha-Ṭeʿamin*, lists the *ṭəʿå̄mīm* and some of the rules which govern the system.[32] Early accounts of the *ṭəʿå̄mīm* grouped them in categories based on musical

[31] Khan (1997:85-86) cf. Khan (1987:25-33)

[32] Yeivin (1980:160-161)

value.[33] The division was based on similar musical or tonal use of each of the *ṭəʿå̄mīm*. The study of the musical value of the *ṭəʿå̄mīm* is difficult, mainly because the original musical values are not known and impossible to reconstruct on the basis of the information available today. This phenomenon has been reconsidered during the late 1900's by French musicologist Suzanne Haïk-Vantoura whose book *The Music of the Bible Revealed*[34] claims to show the original melodies of the HB. The basic principle is that the *ṭəʿå̄mīm* placed below the consonants of the HB represent the "fixed pitches on a tonal scale"[35] and are in fact in the key of C. The *ṭəʿå̄mīm* placed above the consonants are *ornaments* of 1-3 notes. Reactions have been varied[36] and the scholarly response can be summed up with Aronoff's comment:

> Because of our ignorance of the original musical values of the symbols, it is difficult to understand much of the system from a musical point of view: we can tell that certain regularities must have been musically motivated originally, but can go no further. We cannot give a particular musical explanation without knowing the original melodies which motivated the phenomena. Thus, though the musical significance of these symbols is what people are most aware of when they use the accents, the study of this phenomenon holds less reward than one might expect.[37]

An important view on the development of the actual musical values of the *ṭəʿå̄mīm* is expressed by Joshua R. Jacobson in his learners guide, *Chanting the Hebrew Bible: The Complete Guide to the Art of Cantillation:*

> We don't know what the original melodies were for the *ṭəʿå̄mīm*. But we are reasonably sure that throughout the years of the Diaspora these original melodies evolved and mutated as they were passed on orally from one singer to the next. Inevitably, the

[33] Yeivin (1980:168)

[34] Haïk-Vantoura and Wheeler (1991)

[35] Haïk-Vantoura and Wheeler (1991:38)

[36] See Peter Daniels' review of Haïk-Vantoura's book: Daniels (1992:499)

[37] Aronoff (1985:33-34)

> chanting of the *ṭəʿå̄mīm* became tinted by the alien colors of non-Jewish music. Eventually the cantillation motifs sung by German Jews began to sound different from those sung by Syrian Jews. Furthermore, even within the community, each individual brought something of himself to the *ṭəʿå̄mīm*. No two Jews chanted the Bible in exactly the same way.[38]

Thus we must be careful not to attempt to find the original melodies and by doing so reinvent the system. The important matter here is that the melodies do influence the system, and were certainly a part of the original system by which the accents were placed. But finding the original melodies of the marks is unlikely, unless manuscript evidence from the 6th – 10th centuries should come to light.

1.3.2 1500 – 1880: Advent of Syntactic Analysis

Most scholarship up to the modern period is descriptive in nature, providing descriptions of the *ṭəʿå̄mīm* and the combinations in which they occur. In 1538 Eliahu Levita published his book *Ṭuv Ṭaʿam*. He gives a detailed account of the *ṭəʿå̄mīm* and notes that there are different rankings of the pausal value of the disjunctive *ṭəʿå̄mīm*.[39] R. Zalman Hanau began to develop the relationship between the *ṭəʿå̄mīm* and syntax which was furthered by Y.L. Ben-Ze'ev. Their analysis of the accent system claimed that the verse was first divided into two or three parts, marked by the major *ṭəʿå̄mīm*, *ʾaṯnå̄ḥ* if one division, *ʾaṯnå̄ḥ* and *segōltā* if two divisions. Then, each word was analyzed to see whether it was more connected to the word preceding it or following it. This led to the placement of the minor *ṭəʿå̄mīm*, both disjunctive and conjunctive.[40]

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[38] Jacobson (2002:514)

[39] Yeivin (1980:161)

[40] Yeivin (1980:171-172)

Another method employed in this analysis of the accent system was the development of a hierarchy based on the absolute pausal value of the *ṭəʿå̄mīm*. These categories were labeled *emperors, kings, dukes* and *counts* showing to show their strength. This view, that the *ṭəʿå̄mīm* showed absolute value, that the actual pauses in speech that followed each accent were absolutely defined, is now generally rejected by scholars. The fourfold division and the labels, however are still used, but in a modified way.

1.3.3 1880 – Present: Wickesian Scholarship

The end of the 19th century marks an important development for the study of the Tiberian accent system in the publication of W. Wickes' two studies[41] on the systems of the poetic and prose books, respectively. Wickes' main contribution to scholarship, which is indeed still important today, is his description of the dichotomy which is formed in each verse with the help of the disjunctive *ṭəʿå̄mīm* and the way in which this dichotomy is built on syntax.[42] Wickes opposed the view presented above that the verse was divided into two or three parts, saying that the verse was verse divided into two parts, and those parts were further divided into two parts each until there remained groups of no more than two words. This is termed "the law of continuous dichotomy" by Wickes.[43] The conjunctive *ṭəʿå̄mīm* were then used to indicate the connections where there were no disjunctive *ṭəʿå̄mīm*. Wickes continued to use the fourfold distinction between the *ṭəʿå̄mīm*, as described above, but now in relative terms. He claimed that the *ṭəʿå̄mīm* do not have absolute value,

[41] Wickes (1881) and Wickes (1887)

[42] Wickes (1887:2-4)

[43] Wickes (1887:29)

but mark different relative levels of pause. Thus, there is a complex system for choosing the placement of each of the *ṭəʿa̱mīm*. A few of the rules that guide the placement of the *ṭəʿa̱mīm* are as follows:[44]

- The main division is generally placed about the middle of a verse, at a major syntactic division which is also a semantic division.
- Two words which are subject and predicate, or have a similar grammatical relationship, are usually joined by a conjunctive accent.
- A word in construct to a following word is generally joined to it by a conjunctive.
- In lists, and similar cases of words in parallel syntactic usage, two words (or phrase) are joined by a conjunctive.

In addition, certain *ṭəʿa̱mīm* only follow or precede certain other *ṭəʿa̱mīm*, and others require a certain number of words or syllables before the next major *ṭəʿa̱mīm* in order to appear. I will present this formal analysis in 1.4, below.

Following Wickes, several scholars, including Spanier, Breuer, Cohen and Dotan,[45] have continued his work, but "have only amended the analysis which Wickes provided and have not questioned its basic tenets."[46]

[44] Wickes (1887:29-43) cf. Yeivin (1980:173-175)

[45] Cited in Yeivin (1980) See also the bibliography in Yeivin (1980:297-314)

[46] Aronoff (1985:34)

Yeivin's book on the Tiberian Masorah[47] provides a detailed description of the *ṭəʿå̄mīm* within the Wickesean framework and provides a great number of examples, but adds no new theoretical insight.

James D. Price has taken Wickes' research and gone a step further, adding the concept of near and remote subordination.[48] His analysis looks at every verse of the HB and seeks to provide a comprehensive "syntax" of the distribution of the *ṭəʿå̄mīm*. Interestingly, Price's work is focused on the accents their syntax and does instead of being focused on the syntax of Hebrew and the relation of the accents to it. In this way it is not helpful in understanding the underlying causes of the placement of the accents, outside of the framework he develops. It seems to me that Price fails to see the connection between the consistency in the underlying structure of the grammar of BH and the placement of the accents onto that structure. However, he adds a dimension to the analysis that is new, the discussion of *near* and *remote* segments, which are in his opinion a better way of explaining the distribution of the *ṭəʿå̄mīm*.

Aronoff[49] places Wickes' analysis of the accents in a linguistic framework and argues that the evidence suggests that the accents "do not represent … a direct codification of a traditional recitation."[50] Aronoff's analysis shows that the binary division of verses in the HB, first truly brought to light by Wickes, is a "Complete, unlabeled, binary, constituent structure analysis of each verse."[51] Thus Aronoff does what Price

[47] Yeivin (1980)

[48] Price (1990:26-29)

[49] Aronoff (1985)

[50] Aronoff (1985:67)

[51] Aronoff (1985:35, 70)

does not, he allows the syntax of TH to be the basis of the system onto which the *ṭəʿå̄mīm* were placed. I will go into more details on Aronoff's analysis and show extensive examples in chapter 4.

Recently, the *ṭəʿå̄mīm* have been interpreted in light of modern prosodic representation. The work of Dresher[52] claims the basis for the system of accentuation was not syntactic, but prosodic. Churchyard[53] uses a statistical analysis of the *ṭəʿå̄mīm* in relation to the *pausal forms* in the HB to discuss the prosodic basis of the *ṭəʿå̄mīm.* Both of these studies will be looked at in chapter 5.

Now that we have seen how we got to the state of research today, I will present the individual *ṭəʿå̄mīm.*

1.4 The *ṭəʿå̄mīm* and their Distribution

There are altogether 27 *ṭəʿå̄mīm* used in the Tiberian prose system. 18 of these are disjunctive and 9 are conjunctive. In this section I will present each of the disjunctive *ṭəʿå̄mīm*, define its distribution in terms of its relationship to the other disjunctive *ṭəʿå̄mīm* and note which of the conjunctive *ṭəʿå̄mīm* that may be used before it. First, I will present a list of all of the *ṭəʿå̄mīm*, divided into groups of disjunctive and conjunctive *ṭəʿå̄mīm* and the according to the 4 levels of the pausal hierarchy; this will be followed by a further discussion of each of the disjunctive *ṭəʿå̄mīm*. I will deal with other Masoretic signs, *maqqepō* and *gaʿyå̄,* in chapter two as

[52] Dresher (1994)

[53] Churchyard (1999)

they relate to the phenomena discussed there.[54] I have chosen to include this formal presentation here as an aid for the rest of this thesis. While I will argue below that the system is syntactic and prosodic in nature, not simply musical, the relationship between the accents provides the background for that discussion. In addition, I hope to present the data found in Yeivin's comprehensive treatment[55] in a more systematic and accessible way.

The pausal hierarchy is also important, as it helps explain the distribution and meaning of the accents. I have followed the older terminology here for the sake of clarity as well as including the more modern D_I – D_{IV} notation. I will provide a more systematic assessment of the accents as they relate to syntax below in chapter 4, here I will attempt to explain the distribution of the accents without focusing on syntax.

Wickes' original thesis is that each verse is at least governed by an *emperor* or D_I-accent. The domain created by the *emperor* can be divided by another *emperor* or by a *king* (D_{II}). A *king* domain may be divided by another *king* domain or by a *duke* (D_{III}). A *duke* domain may be divided by another *duke* or by a *count* (D_{IV}). Finally, a *count* domain may be divided by another *count.* This division is done in two directions at once: Words that are closely related to one another will usually be connected by conjunctive *ṭəʿā̄mīm* (*servants*) while at the same time the verse is broken into smaller and smaller pieces until all words have been marked. The following two

[54] Yeivin (1980:157)

[55] Yeivin (1980)

tables show the signs of each of the *ṭəʿā̱mīm,* their names and which rank they hold in the two different notations.

Figure 1: Disjunctive *ṭəʿå̄mīm*

Sign	Name	Level	
דְּבָר׃	*sillūq/sop̄ på̄sūq*	D_{I}	Emperor
דְּבָר֔	*ʾaṯnå̄ḥ*	D_{I}	Emperor
דְּבָרְ֕	*segōltā*	D_{II}	King
דְּבָ֣ר׀	*šalšɛlɛṯ*	D_{II}	King
דְּבָ֗ר	*zå̄qēp̄ qå̄ṭå̄n*	D_{II}	King
דְּבָ֤ר	*zå̄qēp̄ gå̄ḏōl*	D_{II}	King
דְּבֵ֥ר	*ṭipḥå̄*	D_{II}	King
דְּבָ֖ר	*rəḇīaʿ*	D_{III}	Duke
מֶ֫לֶךְ	*pašṭå̄*	D_{III}	Duke
דְּבָרֹ֑	*zarqå̄*	D_{III}	Duke
מֶ֫לֶךְ	*yəṯīḇ*	D_{III}	Duke
דְּבָ֣ר	*təḇīr*	D_{III}	Duke
דְּבָ֤ר	*på̄zēr*	D_{IV}	Count
דְּבָ֣ר	*på̄zēr gå̄ḏōl*	D_{IV}	Count
דְּבָ֫ר	*təlīšå̄ gəḏōlå̄*	D_{IV}	Count
דְּבָ֥ר	*gērēš*	D_{IV}	Count
דְּבָ֤ר	*garšáyim*	D_{IV}	Count
דְּבָ֣ר׀	*ləḡarmēh*	D_{IV}	Count

Figure 2: Conjunctive *ṭəʿå̄mīm*

Sign	Name	Level
דְּבָ֣ר	*mūnaḥ*	Servant
דְּבָ֣ר	*məhuppå̄ḵ*	Servant
דְּבָ֣ר	*mērəḵå̄*	Servant
דְּבָ֣ר	*mērəḵå̄ kəpūlå̄*	Servant
דְּבָ֣ר	*dargå̄*	Servant
דְּבָ֥ר	*ʾazlå̄*	Servant
דְּבָרְ֣	*təlīšå̄ qəṭannå̄*	Servant
דְּבָ֣ר	*galgal*	Servant
וַיֵּצֵא־נֹ֣חַ	*məʾayyəlå̄*	Servant

I will now look at each *ṭaʿam* in turn and discuss its place in the hierarchy and which accents it relates to. This section is based on Yeivin's overview.[56]

1.4.1 *Sillūq*

Sillūq is the *ṭaʿam* placed on the last word in a verse, under the stressed syllable. Following the word marked with *sillūq,* there is a *sop̄ på̄sūq,* written as 2 dots (:). *Sillūq* has the value *emperor*/D_I and is the strongest pausal *ṭaʿam*, generally associated with pausal forms.[57] The only conjunctive *ṭaʿam* which may precede *sillūq* is *mērəḵå̄* as seen in (1):

1 Genesis 1:1[58] וְאֵ֥ת הָאָ֖רֶץ׃
wə-ʾéṯ hå̄-ʾå̄rɛṣ
'and the Earth'

In 5 cases, *sillūq* is supplemented by *məʾayyəlå̄* on the same word as in (2):

2 Leviticus 21:4 לְהֵחַלֹּֽו׃
lə-hḗḥallṓ
'to defile himself'

Being the final *ṭaʿam* in each verse, *sillūq* is said to govern the verse. Most commonly, the unit governed by *sillūq* is divided by *ʾaṯnå̄ḥ.* In short verses, *ʾaṯnå̄ḥ* can be omitted and the unit is divided by either *ṭifḥå* (3) or *zå̄qēp̄* (4):

[56] Yeivin (1980:157-218)

[57] For a discussion of pausal forms, cf. section 2.3.

[58] English references are taken from NRSV (1989) or are the author's own translations.

3 Genesis 46:23 :וּבְנֵי־דָ֖ן חֻשִֽׁים
ū-ḇnē-ḏå̄n ḥūšîm
‘The son of Dan, Hushim’

4 Genesis 23:12 :וַיִּשְׁתַּ֖חוּ אַבְרָהָ֑ם לִפְנֵ֖י עַ֥ם הָאָֽרֶץ
way-yištáḥū ʾaḇrå̄hå̄́m li-pnḗ ʿám hå̄-ʾå̄́rɛṣ
‘Then Abraham bowed down before the people of the land.’

The unit between *ʾaṯnå̄ḥ and sillūq* is divided regularly: if the main division immediately precedes the *sillūq* the accent is *ṭipḥå̄́* (3 above), which is the only disjunctive that may directly precede *sillūq*, except in situations where there are no intervening accents between *ʾaṯnå̄ḥ and sillūq*:

5 Genesis 1:3 :אֹ֖ור וַיְהִי־אֹֽור
ʾōr way-hī-ʾōr
“Light, and there was light”

When the main division is on the second word before *sillūq*, the division is made by either *ṭipḥå̄́* (6) or *zå̄́qēp̄*. When a *zå̄́qēp̄* is used there is always a *ṭipḥå̄́* before the *sillūq* (7).

6 Genesis 21:1 :לְשָׂרָ֖ה כַּאֲשֶׁ֣ר דִּבֵּֽר
lə-śå̄rå̄́ ka-ʾăšér dibbḗr
‘For Sarah, as he had spoken’

7 Genesis 2:15 :בְּגַן־עֵ֖דֶן לְעָבְדָ֥הּ וּלְשָׁמְרָֽהּ
ḇə-gān-ʿḗḏɛn lə-ʿå̄ḇḏå̄́h ū-l-šå̄mrå̄́h
‘in the garden of Eden to till it and keep it.’

If the main division is more than two words away from *sillūq*, *zå̄́qēp̄* is used (8). If there are several major divisions, *zå̄́qēp̄* is repeated, the furthest from *sillūq* having the greatest pausal value (9).

8 Genesis 1:4 וַיַּבְדֵּל אֱלֹהִים בֵּין הָאוֹר וּבֵין הַחֹשֶׁךְ׃
way-yaḇdḗl ʾĕlōhím bḗn hå̄-ʾṓr ū-ḇḗn ha-ḥṓšɛ̱ḵ
‘and God separated the light from the darkness.’

9 Genesis 2:5 עַל־הָאָרֶץ וְאָדָם אַיִן לַעֲבֹד אֶת־הָאֲדָמָה׃
ʿal-hå̄-ʾǻrɛṣ wə-ʾå̄ḏǻm ʾáyin la-ʿăḇṓḏ ʾɛṯ-hå̄-ʾăḏå̄mǻ
‘upon the earth, and there was no one to till the ground’

1.4.2 *ʾAṯnå̄ḥ*

ʾAṯnå̄ḥ is the only other *emperor*/D_I accent – like *sillūq* often found in conjunction with pausal forms. It is found in most verses and marks the primary division. It appears, like *sillūq,* only once per verse. In general *ʾaṯnå̄ḥ* takes only one conjunctive accent, *mūnaḥ* (10).

10 Genesis 1:3 וַיֹּאמֶר אֱלֹהִים יְהִי אוֹר וַיְהִי־אוֹר׃
way-yṓmɛr ʾĕlōhím yəhí ʾṓr way-hī-ʾṓr
‘Then God said, “Let there be light”; and there was light.’

In certain cases, *ʾaṯnå̄ḥ* can be preceded by two *mūnaḥs*, generally when preceded by a monosyllabic word (11). Like *sillūq*, and under the same circumstances, *ʾaṯnå̄ḥ* may also take *məʾayyəlå̄* on the same word (12). There is always a *ṭipḥå̄* preceding *ʾaṯnå̄ḥ,* even when a conjunctive accent would be expected (13) except when *ʾaṯnå̄ḥ* is the first accent in the verse (14):

11 Genesis 40:16 כִּי טֹוב פִּתָּר
kí ṭṓḇ på̄ṯǻr
‘that the interpretation was good’

12 Genesis 8:18 וַיֵּצֵא־נֹחַ
way-yéṣē-nṓaḥ ↑
'So Noah went out'

13 Leviticus 19:11 לֹא תִגְנֹבוּ
lṓ tiḡnṓb̲ū ↑
'You shall not steal'

14 Genesis 35:5 וַיִּסָּעוּ
way-yisså̄ʿū ↑
'As they journeyed'

For the division of the unit between the beginning of the verse and *ʾaṯnå̄ḥ*, the rules are the same as for the unit between *ʾaṯnå̄ḥ* and *sillūq,* except for one feature: in the unit governed by *ʾaṯnå̄ḥ*, a distant major division may be marked by *seḡōltā* instead of *zå̄qēp̄* (15). *seḡōltā* cannot be repeated and cannot follow *zå̄qēp̄*.

15 Genesis 44:1 לֵאמֹר מַלֵּא אֶת־אַמְתְּחֹת הָאֲנָשִׁים אֹכֶל כַּאֲשֶׁר יוּכְלוּן שְׂאֵת ↓
lē-mṓr mallé ʾɛṯ-ʾamtəḥṓṯ hå̄-ʾănå̄šī́m ʾṓḵɛl ka-ʾăšér yūḵlū́n śəʾḗṯ
'saying: fill the men's sacks with food, as much as they can carry'

1.4.3 *Seḡōltā*

Seḡōltā is a *king*/D_{II} accent, and can only mark the first division in a verse. In one case (16) it marks the main verse division, but in all others it marks the main division in the unit governed by *ʾaṯnå̄ḥ* (17). It cannot, however mark the accent on the first word of a verse. *Seḡōltā* be preceded by one or two *mūnaḥs* (16,18).

16 Ezra 7:13 מִנִּי שִׂים טְעֵם ↓
minnī́ śī́m ṭəʿḗm
'I decree that'

17 Genesis 1:28 וַיְבָרֶךְ אֹתָם֙ אֱלֹהִ֔ים וַיֹּ֥אמֶר לָהֶ֖ם אֱלֹהִ֑ים פְּר֣וּ וּרְב֗וּ וּמִלְא֛וּ אֶת־הָאָ֖רֶץ וְכִבְשֻׁ֑הָ

way-b̲ā́rɛḵ ʾōt̲ā́m ʾĕlōhī́m way-yṓmɛr lā́-hɛ́m ʾĕlōhī́m pərū́ ū-rb̲ū́ ū-milʾū́ ʾɛt̲-hā́-ʾā́rɛṣ wə-ḵib̲šū́hā́

‘ God blessed them, and God said to them, “Be fruitful and multiply, and fill the earth and subdue it;’

18 Isaiah 8:23 לַאֲשֶׁר מוּצָ֥ק לָ֖הּ

la-ʾăšér mūṣā́q lā́-h

‘for those who were in anguish’

Seḡōltā must be preceded by *zarqā́,* a duke/D_{III} accent. Thus, if *seḡōltā* is preceded by only one word, that word is marked with *zarqā́* (19).

19 Genesis 2:23 וַיֹּאמֶר֙ הָאָדָ֔ם

way-yṓmɛr hā́-ʾā́d̲ā́m

‘Then the man said’

If *seḡōltā* is preceded by two or more words with the major division being on the word before *seḡōltā* the major division is marked by *zarqā́* (20).

20 Genesis 1:7 וַיַּעַשׂ֙ אֱלֹהִ֔ים אֶת־הָרָקִ֖יעַ

way-yáʿaś ʾĕlōhī́m ʾɛt̲-hā́-rā́qīaʿ

‘So God made the dome’

If the major break is on the second word before *seḡōltā,* the accent it is usually marked by *zarqā́* (21) or alternatively by *rəb̲īaʿ* with *zarqā́* on the intervening division (22).

21 Genesis 6:4 בָּאָ֑רֶץ בַּיָּמִ֣ים הָהֵ֔ם

b̲ā́-ʾā́rɛṣ b-ay-yā́mī́m hā́-hɛ́m

‘on the earth in those days’

22 Deuteronomy 1:41 אֵלַי חָטָאנוּ לַיהוָה
ʾēlá-y ḥå̱ṭå̱nū la-YHWH
‘to me, we have sinned against the LORD.”

If the major division is three or more words removed from *seḡōltā,* the accent is *rəḇīaʿ,* followed by *zarqå̄* (23). *Rəḇīaʿ* may be repeated if necessary but always with a *zarqå̄* preceding the *seḡōltā* (24).

23 Isaiah 53:12 בָּרַבִּים וְאֶת־עֲצוּמִים יְחַלֵּק שָׁלָל
ḇ-å̄-rabbím wə-ʾɛṯ-ʿåṣūmím yəḥallḗq šå̄lǻ̱l
‘with the great, and he shall divide the spoil with the strong’

24 2 Chronicles 7:22 וְאָמְרוּ עַל אֲשֶׁר עָזְבוּ אֶת־יְהוָה | אֱלֹהֵי אֲבוֹתֵיהֶם אֲשֶׁר הוֹצִיאָם מֵאֶרֶץ מִצְרַיִם
wə-ʾå̄mrū́ ʿál ʾåšér ʿå̄zḇū́ ʾɛṯ-YHWH ʾĕlōhḗ ʾåḇōṯēhém ʾåšér hōṣīʾå̄m mē-ʾérɛṣ miṣráyim
‘Then they will say, ‘Because they abandoned the LORD the God of their ancestors who brought them out of the land of Egypt’

Two *rəḇīaʿs* cannot be separated by less than 3 words. When two *rəḇīaʿ* are required too close together the *rəḇīaʿ* that is closest to the *seḡōltā* is replaced by *pašṭå̄* (25). *Pašṭå̄,* however, must be separated from the following *zarqå̄* by at least two words, if not, that *pašṭå̄* is replaced by a *zarqå̄* (26).

25 Deuteronomy 12:18 תֹּאכְלֶנּוּ בַּמָּקוֹם אֲשֶׁר יִבְחַר יְהוָה אֱלֹהֶיךָ בּוֹ
tōḵlénnū ḇ-am-må̄qṓm ʾåšér yiḇḥár YHWH ʾĕlōhéḵå̄ ḇ-ṓ
‘you shall eat at the place that the LORD your God will choose’

26 Exodus 12:29 וַיְהִי | בַּחֲצִי הַלַּיְלָה וַיהוָה הִכָּה כָל־בְּכוֹר בְּאֶרֶץ מִצְרַיִם
way-hí ḇa-ḥåṣí hal-láylå̄ wa-YHWH hikkå̄ ḵå̄l-bəḵṓr bə-ʾérɛṣ miṣráyim
‘At midnight the LORD struck down all the firstborn in the land of Egypt’

1.4.4 *Šalšɛlɛṯ*

When *seḡōltā* would mark the accent on the first word of a verse, it is not possible for a *zarqa* precede it. In such cases, 7 in total, the *seḡōltā* is replaced by a *šalšeleṯ* (27).

27 Genesis 19:16 וַיִּתְמַהְמָּהּ׀
way-yiṯmahmǻh
‘but he lingered’

1.4.5 *Zå̄qēp̄*

Zå̄qēp̄, a *king*/D_{II} accent, is the most common disjunctive accent. *Zå̄qēp̄ qå̱ṭå̄n* and *zå̄qēp̄ gå̄ḏōl* share the same pausal value and are differentiated by a vertical line beside the *zå̄qēp̄* sign above the word. [59] *Zå̄qēp̄* can be preceded by one or two conjunctives, always *mūnaḥ* (28). When a *zå̄qēp̄* is preceded by a *mūnaḥ*, the *zå̄qēp̄ qå̱ṭå̄n* is used. When a *mūnaḥ* does not precede the word, a *zå̄qēp̄ gå̄ḏōl* is used (29).

28 Genesis 1:4 וַיַּבְדֵּל אֱלֹהִים
way-yaḇdél ʾĕlōhím
‘and God separated’

29 Jeremiah 31:3 מֵרָחֹוק
mē-rå̄ḥóq
‘from far away’

As for the distribution of accents in a *zå̄qēp̄* clause, if the clause contains two words and the word marked by *zå̄qēp̄* is long, it is preceded by *pašṭå̄* (30), if the word is short it is preceded by a *mūnaḥ* (31).

[59] I am grouping here the so-called *mūnaḥ- zå̄qēp̄* and *meṯīḡah- zå̄qēp̄* as variants of the *zå̄qēp̄ qå̱ṭå̄n,* but cf. Yeivin (1980:183-186)

30 Genesis 21:24 וַיֹּאמֶר אַבְרָהָם אָנֹכִי אִשָּׁבֵעַ׃
way-yṓmɛr ʾaḇrā́hā́m ʾā́nōḵí ʾiššā́ḇéaʿ
‘And Abraham said, “I swear it.”’

31 Genesis 15:3 וַיֹּאמֶר אַבְרָם
way-yṓmɛr ʾaḇrā́m
‘And Abram said’

In a clause with three or more words, if the major division is on the first word before *zā́qēp̄*, it is marked by *pašṭā́* (32).

32 Genesis 4:9 וַיֹּאמֶר יְהוָה אֶל־קָיִן
way-yṓmɛr YHWH ʾɛl-qáyin
‘Then the LORD said to Cain’

If the major division is on the second or third word before *zā́qēp̄*, a *pašṭā́*, may be used (33) or alternatively a *rəḇīaʿ* followed by a *pašṭā́* (34).

33 Genesis 1:31 וַיַּרְא אֱלֹהִים אֶת־כָּל־אֲשֶׁר עָשָׂה
way-yár ʾĕlōhī́m ʾɛṯ-kā́l-ʾăšér ʿā́śā́
‘God saw everything that he had made’

34 Genesis 22:3 בַּבֹּקֶר וַיַּחֲבֹשׁ אֶת־חֲמֹרוֹ
b-ab-bṓqɛr way-yaḥăḇṓš ʾɛṯ-ḥămōrṓ
‘in the morning, and saddled his donkey’

If the major division is four words or more from the *zā́qēp̄,* it is marked by *rəḇīaʿ* followed by a *pašṭā́* (35).

35 Genesis 1:9 וַיֹּאמֶר אֱלֹהִים יִקָּווּ הַמַּיִם מִתַּחַת הַשָּׁמַיִם אֶל־מָקוֹם אֶחָד
way-yṓmɛr ʾĕlōhī́m yiqqā́wṹ ham-máyim mit-táḥaṯ haš-šā́máyim ʾɛl-mā́qṓm ʾɛḥā́ḏ
‘And God said, “Let the waters under the sky be gathered together into one place’

1.4.6 *Ṭifḥå*

Ṭifḥå is a very common disjunctive accent, often appearing twice in a verse, before *aṯnåḥ* and *sillūq*. It is normally preceded by the conjunctive accent *mērəḵå̄* (36) but can also be preceded two: *dargå̄* and *mērəḵå̄ kəpūlå̄* (37).

36 Genesis 1:1 בְּרֵאשִׁית בָּרָא אֱלֹהִים אֵת הַשָּׁמַיִם וְאֵת הָאָרֶץ׃

bə-rēšīṯ bårå̄ ʾĕlōhīm ʾēṯ haš-šå̄máyim wə-ʾēṯ hå̄-ʾå̄rεṣ

‘In the beginning when God created the heavens and the earth’

37 Leviticus 10:1 אֲשֶׁר לֹא צִוָּה אֹתָם׃

ʾăšέr lṓ ṣiwwå̄ ʾōṯå̄́-m

‘such as he had not commanded them’

For the distribution of *ṭifḥå* in *aṯnåḥ* and *sillūq* units, see above 1.4.1 and 1.4.2, respectively. As for the distribution of the disjunctive accents within a *ṭifḥå* unit, if the major division is on the first word preceding the *ṭifḥå,* it is marked by *təḇīr* (38). If the major division is on the second word preceding *ṭifḥå,* it is usually marked by *təḇīr* (39) although *rəḇīaʿ* is also possible, followed by *təḇīr*, especially with long words (40). If the major division is three words or more from the *ṭifḥå*, it is always marked by *rəḇīaʿ* followed by *təḇīr* (41).

38 Genesis 1:4 וַיַּרְא אֱלֹהִים אֶת־הָאוֹר כִּי־טוֹב

way-yár ʾĕlōhīm ʾεṯ-hå̄-ʾṓr kī-ṭṓḇ

‘And God saw that the light was good’

39 Genesis 3:10 וָאִירָא כִּי־עֵירֹם אָנֹכִי וָאֵחָבֵא׃

wå̄-ʾīrå̄́ kī-ʿērṓm ʾå̄nṓḵī wå̄-ʾēḥå̄ḇé

‘and I was afraid, because I was naked; and I hid myself.’

40 Joshu 9:17 וַיִּסְעוּ בְנֵי־יִשְׂרָאֵל וַיָּבֹאוּ אֶל־עָרֵיהֶם בַּיּוֹם הַשְּׁלִישִׁי

way-yisʿū ḇənè-yiśrå̄ʾél way-yå̄ḇṓʾū ʾεl-ʿå̄rēhέm b-ay-yṓm haš-šəlīšī́

‘So the Israelites set out and reached their cities on the third day.’

41 Genesis 32:1 בַּבֹּקֶר וַיַּשְׁכֵּם לָבָן וַיְנַשֵּׁק לְבָנָיו וְלִבְנוֹתָיו

b-ab-bṓqɛr way-naššḗq lə-ḇå̄nǻw wə-li-ḇnōṯǻw

'in the morning Laban rose up, and kissed them'

1.4.7 *Rəḇīaʿ*

Rəḇīaʿ is a *duke*/D_{III} accent, generally dividing *ṭifḥå* and *segōltā* units. It may be preceded by up to three conjunctive accents: *mūnaḥ* if one, *mūnaḥ-dargå̄* if two, *mūnaḥ-dargå̄-mūnaḥ* if three (42).

42 Numbers 4:14 אֲשֶׁר יְשָׁרְתוּ עָלָיו בָּהֶם

ʾăšér yəšå̄rṯú ʿå̄lǻ-w bå̄hém

'which are used for the service there'

Four different disjunctive accents may be used to divide the *rəḇīaʿ* unit: *ləgārmēh, gērēš, təlīšå̄* and *på̄zēr*. When the second word before *rəḇīaʿ* is the major division, it is often marked by *ləgārmēh* (43). All four accents, however, may stand in different combinations preceding *rəḇīaʿ* and will not be dealt with in detail here.

43 Deuteronomy 14:28 מִקְצֵה׀ שְׁלֹשׁ שָׁנִים

mi-qṣḗ šå̄lṓš šå̄nī́m

'Every third year'

1.4.8 *Pašṭå̄*

Pašṭå̄ is a *duke*/D_{III} accent that generally divides *segōltā* and *zå̄qēp̄* units. It can be preceded by up to six conjunctive accents: if one, *məhuppå̄ḵ* or *mērəḵå̄*. If two, *məhuppå̄ḵ* or *mērəḵå̄* followed by *mūnaḥ* or *ʾazlå̄*. If three, the third from the *pašṭå̄* is *təlīšå̄ qəṭannå̄,* which is always followed by *ʾazlå̄*. If four, five or six, the fourth, fifth and sixth from *pašṭå̄* are *mūnaḥs* (44).

44 2 Kings 18:14 וַיִּשְׁלַח חִזְקִיָּה מֶלֶךְ־יְהוּדָה אֶל־מֶלֶךְ־אַשּׁוּר׀ לָכִישָׁה׀ לֵאמֹר׀ חָטָאתִי

way-yišláḥ ḥizqiyyǻ mɛlɛḵ-yəhūḏǻ ʾɛl-mɛlɛḵ-ʾaššúr lå̄ḵī́š-å̄ lē-mṓr ḥǻṭå̄ṯī

'King Hezekiah of Judah sent to the king of Assyria at Lachish, saying, "I have done wrong'

The *pašṭå̄* unit is divided in a very similar way to the *rəḇīaᶜ* unit. The exceptions are as follows. *Ləgārmēh* does not commonly precede *pašṭå̄. Gērēš* is much more common preceding *rəḇīaᶜ* than *pašṭå̄.* Otherwise, *på̄zēr, təlīšå̄* and *gērēš* can divide the unit in various combinations.

1.4.9 *Yəṯīḇ*

Yəṯīḇ has the same value as *pašṭå̄,* and occurs under the same conditions, except that it is only found where the *pašṭå̄* would occur on the first letter of a word and where there are no preceding conjunctive accents (45).

45 Genesis 4:10 קוֹל דְּמֵי אָחִיךָ
qṓl dəmḗ ʾå̄ḥīḵå̄
'The sound of your brother's blood'

1.4.10 *Zarqå̄*

Zarqå̄ is a *duke*/D_{III} accent that can be preceded by up to four conjunctive accents. *Mūnaḥ* is usually the first and the rules for the second, third and fourth conjunctive accents are the same as those for *pašṭå̄* and *yəṯīḇ,* cf. 2.9 above.

The main function of *zarqå̄* is to divide the *segōltā* unit, cf. 2.3 above. Further division of the *zarqå̄* unit is based on the same rules as *pašṭå̄* and *yəṯīḇ,* cf. 2.9 above.

1.4.11 *Təḇīr*

Təḇīr is a *duke*/D_{III} accent that may be preceded by up to four conjunctive accents: *dargå̄* or *mērəḵå̄* is used if there is only one accent. The second, third and fourth preceding conjunctive accents follow the same rules as those for *pašṭå̄,* cf. 2.9 above.

Təḇīr is used to mark a division of the *ṭifḥå* unit (46), cf. 2.7 above.

46 Genesis 1:4 וַיַּרְא אֱלֹהִים אֶת־הָאוֹר כִּי־טוֹב
way-yár ʾĕlōhḭ́m ʾɛṯ-hå̄-ʾṓr kī-ṭṓḇ
'And God saw that the light was good'

1.4.12 *På̄zēr*

På̄zēr is a common *count*/D_{IV} accent that may have up to 6 conjunctive accents preceding it, all of them *mūnaḥs* (47).

47 Esther 2:15 וּבְהַגִּיעַ תֹּר־אֶסְתֵּר בַּת־אֲבִיחַיִל דֹּד מָרְדֳּכָי

ū-b̲-haggíaʿ tōr-ʾestér ba̲t̲-ʾăb̲īḥayíl dṓd̲ må̄rdå̄k̲áy

'When the turn came for Esther daughter of Abihail the uncle of Mordecai'

1.4.13 *På̄zēr gå̄d̲ōl*

På̄zēr gå̄d̲ōl is an uncommon *count*/D_{IV} accent that occurs only 16 times in the Bible, never with fewer than 2 conjunctive accents preceding it. The first conjunctive accent is *galgal* and the rest are *mūnaḥs* (48)

48 Ezra 6:9 וּבְנֵי תוֹרִין וְדִכְרִין וְאִמְּרִין׀ לַעֲלָוָן׀ לֵאֱלָהּ שְׁמַיָּא

ū-bənḗ t̲ōrī́n wə-d̲īk̲rī́n wə-ʾīmmərī́n la-ʿălåwå̄́n lɛʿɛ̆lå̄́h šmayyå̄́

'young bulls, rams, or sheep for burnt offerings to the God of heaven'

1.4.14 *Təlīšå̄* *Gəd̲ōlå̄*

Təlīšå̄ is a *count*/D_{IV} accent that may be preceded by up to 5 conjunctive accents, all *mūnaḥs* (49).

49 Ezekiel 47:12 וְעַל־הַנַּחַל יַעֲלֶה עַל־שְׂפָתוֹ מִזֶּה׀ וּמִזֶּה׀ כָּל־עֵץ־מַאֲכָל

wə-ʿal-han-náḥal yaʿălɛ́ ʿal-śəpå̄t̲ṓ miz-zɛ́ ū-miz-zɛ́ kå̄l-ʿēṣ-maʾăk̲å̄́l

'On the banks, on both sides of the river, there will grow all kinds of trees for food.'

Təlišå̄ divides units governed by revia, pašṭå̄, təb̲īr and zarqå̄.

1.4.15 *Gērēš*

Gērēš is a *count* accent that occurs only when it is marked on a word that has penultimate stress or when it is preceded by *ʾazlå̄*. It takes up to two conjunctive

accents. The rules for the marking of the conjunctive accents are the same as for the second accents preceding *pašṭå̄, təb̲īr* and *zarqå̄.*

Gērēš divides the units governed by revia, pašṭå̄, təb̲īr and zarqå̄.

1.4.16 *Garšáyim*

Whereas the *gērēš* is marked on words with penultimate stress and when preceded by *ʾazlå̄, garšáyim* is used when there is word-final stress or when it is not preceded by a conjunctive accent. Otherwise the rules for distribution are the same.

1.4.17 *Ləgārmēh*

Ləgārmēh is a *count* accent that can be preceded by up to two conjunctive accents. The first is *mērək̲å̄* and the second is *mūnaḥ, mērək̲å̄* or *ʾazlå̄.*

Ləgārmēh usually serves to divide the *rəb̲īaʿ* unit (50), but can also divide units governed by *gērēš, pašṭå̄, təb̲īr* and *på̄zēr.*

50 Genesis 7:2 מִכֹּל | הַבְּהֵמָה הַטְּהוֹרָה
mik-kṓl hab-bəhēmå̄́ haṭ-ṭəhōrå̄
‘all clean animals’

2 The *ṭəʿå̄mīm* and the Tiberian Hebrew Word

2.1 Introduction

I will begin the discussion of the system of the Masoretic *ṭəʿå̄mīm* by looking at word-level issues. The *ṭəʿå̄mīm* are placed on words in a specific way which aids the reader and marks grammatically important information. I will be looking at two ways the *ṭəʿå̄mīm* shed light on word-level issues: first in relation to primary and secondary stress in the TH word and second in relation to vowel length.[60] Because of the complexity of the terminology, I will begin by discussing the concept of a "word" in TH in 2.2.1. In 2.1.2 I will briefly discuss modern theories of how word-stress is applied in TH. This sets the theoretical background for the discussion of how the system of *ṭəʿå̄mīm* is used in relation to stress in 2.1.3. Section 2.2.1 looks briefly at the question of phonemic vowel quality and vowel quantity in TH. 2.2.2 looks at the way the *ṭəʿå̄mīm* relate to the situation of long and short vowels in TH. In 2.3 I will reflect on what these findings may mean for the understanding of the *ṭəʿå̄mīm* thus far.

[60] Vowel length is dealt with during the discussion of the Hebrew word because there is no way to evaluate the place of the accents without words. The question of vowel length in Biblical and Tiberian Hebrew is influenced by many other factors than simply the accents, but I will here deal with the material relevant to the discussion at hand.

2.1.1 The Tiberian Hebrew Word

The term "word" carries different meanings. The most important distinction is between the *grammatical word* and the *phonological word*.[61] A grammatical word is defined as one of the "different forms of a single word that occur depending on the syntactic context."[62] The phonological word, however, is a unit that may contain more than one morphological word, it is "a string of sounds that behaves as a unit for certain kinds of phonological processes, especially stress or accent."[63] In the TH orthography, words that are phonologically dependent on other words are either connected directly, as is the case with *clitics* or they are connected by a *maqqep̄*.

Clitics

The term *clitic*[64] refers to a category of words that do not fit entirely into the categories of affixes or independent words.[65] Clitics are by definition attached to another word (the *host*) and are not able to receive independent stress. In this aspect clitics differ from (free) phonological words. The clitic and the host together comprise a phonological word. This fact makes it impossible to move the clitic to a different syntactic position independently of a host in order to provide emphasis, for example by clefting or topicalization. Clitics are thus prosodically dependent on a

[61] Aronoff and Fudeman (2005:36-39)

[62] Aronoff and Fudeman (2005:36)

[63] Aronoff and Fudeman (2005:39)

[64] This topic is further complicated by the lack of uniform terminology among Hebraists when it comes to what I here term *clitics* and *affixes*. Traditionally, Hebraists have used the term *particles* to refer to clitics. This discussion is meant to help clarify the fact that words that otherwise are not clitics are orthographically cliticized to a host word in 𝔐.

[65] This discussion is based on Haspelmath (2002:148-154)

free word form. The same can be said of *affixes*, which cannot be separated from the free form to which they are attached. There are several theoretical differences between clitics and affixes,[66] the most important being that affixes are generally abstract in meaning whereas clitics are considered word forms. Also, clitics will always be found further from the base than affixes. Both groups are bound prosodically to a host or base, but affixes cannot be separated from their base and generally have strict placement rules. The discussion here is on TH clitics and in that connection I will only emphasize that in 𝔐, it seems that clitics are able to appear as independent words when the phonological and prosodic restraints of the text require so. Dresher[67] outlines three broad reasons for cliticization: small words, simplification of phrasing and clash avoidance. These categories broadly cover phonotactic rules which require the movement of stress in closely related words and/or clitics. There is a variety of circumstances under which a word may be cliticized, but with certain words, for example the monosyllabic prepositions, cliticization is obligatory. To avoid cliticizing, however, a longer *full form* may be used (51), though these are rarely found in 𝔐 and are often cliticized to a host.[68]

51 כְּמוֹ תַנּוּר
kəmṓ ṯannṹr
'like an oven'

[66] Haspelmath (2002:155)

[67] Dresher (2009)

[68] Cf. Waltke and O'Connor (1990:189 = §111.181.182d) It is most likely that the "long form" prepositions are older as they are found in archaic texts. Through a process of grammaticalization they were cliticized and subsequently shortened.

I disagree with Dresher on the analysis of the clitics in that I believe there are (at least) two different types of clitics in TH. The first type is words which must be cliticized, like that of the monosyllabic prepositions. These forms cannot carry their own accent and thus are always cliticized.[69] The second group of clitics is comprised of words which are long enough to carry their own stress, both form and function words, which may or may not be cliticized depending on the same constraints as the first group. The difference here is that the first group is made up of default clitics which may be reanalyzed in the prosodic structure as free forms. The second group is comprised of free forms which may be cliticized in order to aid the prosodic structure.

Orthographically, the monosyllabic prepositions, the definite article and the interrogative particle can be attached directly to the host. All other clitics, including the full form prepositions, must be attached by other means, namely the diacritic sign *maqqepō*.

Maqqepō

The *maqqepō* is used orthographically to represent the cliticization of words, causing two grammatical words to be read as a single phonological unit. In fact, up to 4 words may be bound together by the *maqqepō*.[70] The form of the *maqqepō* in the MT is a raised hyphen:

[69] The use of full form prepositions is quite limited and the constraints are not well understood. Their use may be stylistic and prosodic but may also be a remnant of an earlier stage of Hebrew.

[70] Yeivin (1980)

52 Exodus 22:8 עַל־כָּל־דְּבַר־פֶּשַׁע
ʿàl-kå̄l-dəḇar-péšaʿ
‘In any case of a crime’

The *maqqepō* is a part of the accentual system, in that it was added at the same time as the *ṭəʿå̄mīm*. When *maqqepō* is marked, the first word(s) is(are) considered clitics and the unit is to be read as a single unit for the purposes of stress. Thus in example 1 above, the main stress is on the penultimate syllable of the entire phonological word. There is not yet a good enough understanding of the use of *maqqepō* to be able to entirely predict its placement. On the other hand, the placement of the *ṭəʿå̄mīm* in relation to *maqqepō* is understood. The *maqqepō* creates a single phonological unit which is accented accordingly. That is to say that main stress is not found on the proclitic element, but on the host. An example of this is the phrase consisting of *kī* and *yå̄rʾū́* found in two different contexts:

53 Exodus 1:21 כִּי־יָרְאוּ
kȉ-yå̀̄rʾū́
‘For they feared’
54 2 Kings 25:26 כִּי יָרְאוּ
kí yå̄rʾū́
‘For they feared’

In (38) the phrase is written with a *maqqepō* creating a single phonological unit while in (39) it is written without the *maqqepō*. Thus, in (38) we see two morphological words but only one phonological word whereas in (39) we find two morphological and phonological words. This is seen in the fact that both words bear stress in (39) while (38) has a single stress for the unit as a whole. Note that the meaning is identical, so there is no lexical change.

With regards to the discussion at hand, that of the system of *ṭəʿå̄mīm*, this is quite important. The system of *ṭəʿå̄mīm* in the MT is based not on the grammatical word, but on the phonological word. That is to say that when the Masoretic phonological constraints require several morphological words to be seen as a single phonological word, the result is accented as a single unit. Notice that in the first example above is word stress is marked with a *mērəḵå̄* under the *ʿalɛp̄* and secondary stress is marked by *gaʿyoṯ* under the *yōḏ* and *kå̄p̄*. In the second example, on the other hand, main stress is marked with a *mērəḵå̄* under the *kå̄p̄* as well as a *ṭip̄ḥå̄* under the *ʿalɛp̄*. I will return to the question of why identical phrases are accented differently later, but for now the important point is that the *ṭəʿå̄mīm* clearly are placed in relation to the phonological word, not the grammatical word.

2.2 Primary and Secondary Stress in TH

Word stress is the term used to describe the prominence a syllable in a word or phrase and plays an integral role in the grammar of some languages. A syllable may be prominent in volume, being louder than other syllables, in duration, being held longer than similar syllables in non-prominent context or may be pronounced more

clearly or forcefully. In addition, prominent syllables are often the point where change in pitch (accent) is situated in a word.[71] In TH (and for that matter BH) stress is contrastive, meaning that two words that are otherwise identical can only be identified by where the primary stress is placed.[72] A classic example is:

55 Genesis 11:5 בָּנוּ
bå̄nú
'they built'

56 Genesis 37:8 בָּנוּ
bå̄́-nū
'in us'

There is no simple rule stating where primary stress is always on certain syllable in TH. Stress is *often* on the ultimate syllable and *sometimes* on the penultimate. Due to complicated morpho-phonological constraints in combination with phonological changes over time, word stress can be found on different syllables. Diachronically, this is the result of several sound changes during the development of Hebrew.[73] Synchronically, it is possible to formulate a rule that helps identify the stressed syllable in a word:

> Main stress in Hebrew is assigned to the word-final syllable if the word is consonant-final at the stage of the phonological derivation when main-stress assignment applies, but is assigned to the penultimate syllable if the word ends in an open (CVV) syllable at the relevant stage of the derivation.[74]

Because the "relevant stage of the derivation" that Churchyard proposes is not the final stage of the derivational process, there are cases of what he calls "post-main-

[71] Spencer (1996:241)

[72] Blau (2010:143)

[73] For a thorough overview cf. Blau (2010:143-155)

[74] Churchyard (1999:11)

stress-assignment phonological processes."[75] In essence, this means certain processes, such as processes causing stress-shift and monophthongization of certain suffixes among other factors, cause opacity in main-stress assignment.

2.2.1 Word Stress and the *ṭəʿå̄mīm*

The *ṭəʿå̄mīm* are usually placed in such a way that they mark the main stress in the phonological word. This is one of the main functions of the *ṭəʿå̄mīm* and as seen in the discussion of TH word stress, is important in that it can differentiate between two otherwise identical words. In other cases, the position of the accent serves readers who are otherwise unfamiliar with the stress patterns of TH to be able to correctly place stress. In example 1 above (repeated here), contrastive stress is marked by the *ṭəʿå̄mīm*. The Genesis 11:5 example is marked with *ṭīp̄ḥå̄* on the second syllable while the Genesis 37:8 example is marked with *ʾaṯnå̄ḥ* on the first syllable:

57 Genesis 11:5 בָּנְוּ
bå̄nú
'they built'

58 Genesis 37:8 בָּנוּ
bå̄́-nū
'in us'

Another situation where the placement of word stress is important is the placement of the *ṭəʿå̄mīm* on the suffix-conjugation[76] verb forms. The suffix-conjugation is generally considered to be *perfective,* denoting a completed action.[77] In the HB, this

[75] Churchyard (1999:13)

most often denotes an event in the past. When the conjunction *waw-* is prefixed to a verb in the suffix-conjugation, the results can be interpreted in two different ways:[78]

59 1 Samuel 17:35 וְהִצַּ֣לְתִּי מִפִּ֑יו
wə-hiṣṣáltī mip-pī́w
‘And I rescued (the sheep) from its mouth.’

60 Exodus 6:6 וְהִצַּלְתִּ֥י אֶתְכֶ֖ם מֵעֲבֹֽדָתָ֑ם
wə-hiṣṣaltī́ ʾɛṯkɛ́m mē-ʿăḇōḏā̊ṯā̊́m
‘And I will rescue you from being slaves to them’

In the 1 Samuel text the accent is on the penultimate syllable of the verb and the verb denotes the perfective aspect and here an event completed in the past. The passage from Exodus, however, shows the accent on the ultimate syllable and the verb now denotes an event in the future. This is not the place to enter into a discussion on the tenses and aspects of the Hebrew verb, but it is important to note that the *ṭəʿā̊mīm* are used to mark the location of stress on the ultimate syllable of *waw* + suffix-conjugation forms in the first person singular and second person masculine singular.[79]

There is normally[80] no difference at the word level as it concerns which the *ṭəʿā̊mīm* is used. The choice is rather related to the other levels of analysis that will be seen later in this thesis. There is thus no difference as it concerns word stress between a word marked with, for example, *ṭīp̄ḥā̊* and one marked with *zā̊qēp̄ qā̊ṭā̊n*:

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[76] I use the terms suffix-conjugation and *waw* + suffix-conjugation to avoid labels which are not relevant to this discussion.

[77] Waltke and O'Connor (1990:479-496) cf. Comrie (1976:16-24)

[78] This example is taken from Waltke and O'Connor (1990:520)

[79] Other inflectional forms do not show that distinction because their main stress already falls on the ultimate syllable.

[80] However, for exceptions, see below §2.3 on vowel length.

61 Genesis 1:1 הַשָּׁמַיִם
haš-šå̄máyim
‘heaven’

62 Genesis 1:4 הַשָּׁמַיִם
haš-šå̄máyim
‘heaven’

Secondary stress in a word can also be represented in the Tiberian tradition. The *gaʿyå̄* symbol is a vertical line placed below a syllable and can show secondary stress or the lengthening of a non-main-stress vowel.[81] This can occur within the same word, as in example 6 or on a clitic as in examples 7 and 8:

63 Genesis 37:9 מִשְׁתַּחֲוִים
mìštaḥăẃím
‘bowing down’

64 1 Samuel 9:20 אֶת־לִבְּךָ
èṯ-libbəḵǻ
‘your heart’

65 1 Chronicles 5:10 עַל־כָּל־פְּנֵי
ʿàl-kå̄l-pənḗ
‘on the whole surface’

The importance of marking the stressed syllable is also seen in some of the postpositive and prepositive accents mentioned in §1.4 which are “doubled” in many manuscripts, being written above the stressed syllable as well as the initial or final syllable.[82] This is seen in the following example from Exodus 19:23 where the word is marked with postpositive *pašṭå̄* which is repeated over the stressed (first) syllable:

[81] Khan (1987:33)

[82] Cf. Yeivin (1980:194-195)

↓

66 Exodus 19:23 בְּנוּ

bå̊́-nū

‘in us’

The placement of the *ṭəʿå̄mīm* is thus a guide to the placement of word stress. This provided readers with a tool for pronouncing the words correctly, maintaining the contrastive nature of stress and aiding in the interpretation of some verb forms. Word stress in TB is closely related to another linguistic phenomenon, vowel length, to which I will now turn.

2.3 Vowel Length in TH

The issue of vowel length in TH is complex and a consensus among scholars has been difficult to reach. It is clear that TH is not a direct representation of the situation of BH phonology. As discussed in §1.2.4, TH has a different vowel system than that of BH. Whereas the PH vowel system almost certainly consisted of 3 vowel qualities and two vowel quantities: *i,ī,a,ā,u,ū* (IPA: /i,iː,a,aː,u,uː/)[83] the system in TH is comprised of 7 vowel qualities: *i,e,ɛ,a,å,o,u* (IPA: /i,e,ɛ,a,ɔ,o,u/).[84] In BH, vowel length is phonemic, but in marking of 𝔐 seems to only show non-phonemic differences in vowel length, though there are examples where vowel length is necessary to distinguish forms in TH.[85] There are two related factors that influence the length of vowels in TH, syllable structure and word stress. In general, long vowels are either found in stressed syllables or in unstressed open syllables. Short

[83] Rendsburg (1997:76-79)

[84] Khan (1997:91)

[85] Khan (1997:91-93) cf. Blau (2010:110) and for examples cf. Edzard (2012).

vowels are found in unstressed closed syllables.[86] Said differently, open syllables always contain long vowels while closed syllables are long when stressed and short when not stressed. Thus we can speak of quantitative differences in the following forms:[87]

67 Genesis 21:1 פָּקַד
på̄qā́ḏ
'he noted'

68 Jeremiah 23:2 פְּקַדְתֶּם
pəqaḏtém
'you attended to…'

In addition to this, in TH there is a phenomenon of lengthening of certain words when they precede a pause or break in the text. The traditional terms for the different forms in Hebrew Grammar are *contextual forms* referring to the standard forms and *pausal forms* referring to the lengthened forms.[88] There are several different changes that occur in pausal forms, retraction of primary stress, vowel lengthening and vowel change among them.[89] Thus, when the position in the verse demands it, the realization is the pausal form, not the contextual form. In example 12 the first form is contextual and the second is pausal:

69 Deuteronomy 33:9 שָׁמְרוּ
šå̄mrū́
'They watched over'

---

[86] Khan (1997:92) cf. Khan (1987:33) There are exceptions to these generalities but they do not pertain to the discussion at hand.

[87] The transliteration used for this example does not follow the EHLL standard in order to show the length of the *pataḥ* in the two words.

[88] Joüon and Muraoka (2006:106)

[89] Blau (2010:139)

70 Jeremiah 16:11 :שָׁמֶרוּ
šå̄mǻrū
'They watched over'

2.3.1 The *ṭəʿå̄mīm* and Vowel Length

The *ṭəʿå̄mīm* provide the primary means of discerning vowel length in the HB. The connection between word stress and vowel length is clear. The placement of the *ṭəʿå̄mīm* indicates which syllable bears primary stress and by doing so, which closed syllables contain long vowels. In addition to indication primary stress, a *gaʿyå̄* may be placed on another syllable earlier in the word to indicate secondary stress. Though it was more likely that secondary stress be placed on an open syllable, it was possible for secondary stress to be assigned to a closed syllable:

71 Exodus 1:10 נִתְחַכְּמָה
nīṯ̲ḥakkəmǻ
'let us deal shrewdly"

In the HB, contextual forms may occur when the word is marked with any of the accents. When, however, words that have undergone the lengthening described above are generally pointed with a strong disjunctive *ṭaʿam,* typically *sillūq* or *ʾaṯ̲nå̄ḥ,* although there are pausal forms marked with some of the lesser *ṭəʿå̄mīm.*[90] As noted above, word stress is determined based on a variety of factors, and the *ṭəʿå̄mīm* are used to note where stress is placed. Thus, the forms in example 12, repeated here, are distinguished by the fact that the first form is marked with a *pašṭå̄*, which is has

[90] Gesenius, Kautzsch and Cowley (1963:96-97)

a weak pausal value, while the second form is marked with a *sillūq* which has the strongest pausal value.

72 Deuteronomy 33:9 שָׁמְרוּ
šå̄mrū́
'They watched over'

73 Jeremiah 16:11 :שָׁמָרוּ
šå̄må̄rū
'They watched over'

2.4 Conclusion

This discussion of word level issues related to the *ṭəʿå̄mīm* has served to show that the *ṭəʿå̄mīm* were placed with care to indicate specific features which are not directly apparent to non-native speakers of BH. Working a several hundred years after the language of the HB ceased to be spoken in daily life, the Masoretes placed the *ṭəʿå̄mīm* on words specifically to draw attention to the stressed syllable. This served two purposes. The first was to indicate word stress which, being phonemic, was important for the correct interpretation of the text. The second purpose was to distinguish the non-phonemic length of vowels. The use of the accents to indicate vowel length would aid the reader in rendering a correct recitation of the text. In the next chapter, I will move from the word level to the phrase level, discussing how the conjunctive accents are used to identify closely related words.

3 The *ṭəʿå̄mīm* and the Tiberian Hebrew Phrase

3.1 Introduction

Now that I have shown that the *ṭəʿå̄mīm* are used at the word level to mark primary (and in many cases secondary) stress and mark non-phonemic vowel length, I will move onto the next largest linguistic unit, the *phrase*. Phrases are units larger than words but smaller than clauses.[91] The *ṭəʿå̄mīm* will be shown to be placed according to a specific understanding of the grammar of the phrase for two reasons. The first reason is the way the disjunctive *ṭəʿå̄mīm* divide the verse into its constituent parts, which will be touched on here, but discussed thoroughly in the next chapter. The second reason is because the division of the verse into parts is not limited to dividers, the disjunctive *ṭəʿå̄mīm*, but also connectors, the conjunctive *ṭəʿå̄mīm*. The placement of the conjunctive *ṭəʿå̄mīm* serves the purpose of connecting phonological words which then make up constituents in phrases.

I will begin by looking at what defines a phrase and a constituent (3.1.1) in order to establish the grammatical framework I am working with. I will also present the notational device that I will use here and onward in this thesis to graphically present the constituents of phrases, clauses and verses. Then I will look at the *ṭəʿå̄mīm* in

[91] In the tradition of Generative Linguistics this is not always the case, in that within the X-bar theory a word may project to the other levels of the phrase. I will not follow the generative tradition here as it overly complicates the situation. The Masoretes were not building a theory of syntax with projections and X-bars, so will work with surface level constituents only.

relation to the major types of phrases in TH, the Noun Phrase (3.2) and the Verb Phrase (3.3).

3.1.1 Phrases and Constituents

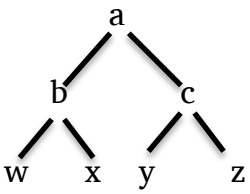
In order to continue the analysis of the *ṭəʿå̱mīm* as they relate to the grammar of TH I want to define some basic concepts. In chapter 2, I defined words as the smallest unit which can take word stress. Words can also be combined with other words and operate within the clause connected to those words. These larger units are phrases. I will here define a phrase as "a group of words which form a constituent"[92] where a constituent is defined as a word or "group of words which functions as a unit, especially with respect to word order."[93]

Without going into great detail, it is important to understand the difference between the word, the constituent and the phrase. In this thesis I have used the term *word* to mean the phonological word. A single word can make up a *constituent* in a *phrase*, and a *phrase* can make up a *constituent* in a clause. Thus, *words* and *phrases* are fixed terms referring to definable categories whereas a constituent is defined based on the nearest hierarchical level. Let us imagine words *w* and x make up phrase *b,* and words *y* and *z* make up phrase *c.* Phrases *b* and *c* make up a *clause,* clause *a:*

[92] Kroeger (2005:35)

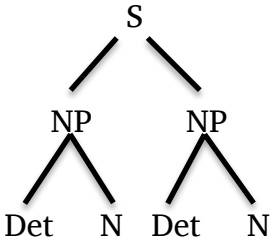
[93] Kroeger (2005:343)

74 Empty Tree Diagram:



Thus we can say that words *w* and *x* are constituents of phrase *b*, and words *y* and *z* are constituents of phrase *c*. Further, phrases *b* and *c* are constituents of clause *a*. Clause *a* could in reality also be a constituent in a larger unit and so on. Each letter here (*a,b,c,w,x,y,z*) represents a *node*. In the notation, each node represents a metalinguistic category and can be replaced with a symbol as in figure 4:

75 Tree Diagram with categories



Phrases can be grouped together based on shared features of the *head* of the phrase. The head is the word which gives grammatical properties to the phrase and is the obligatory element in the phrase.[94] That is why the phrases in (41) are NPs – the noun (N) is the head of the phrase. This representation is important, and plays a major role in the next chapter, on clause level issues and the *ṭəʿå̱mīm*.

In the languages of the world, there are many different ways to form phrases, so I will not attempt to give a full overview here. Nor is it my intent to promote a certain analytical model of grammar. This manner of representing the constituents

[94] Kroeger (2005:35-36)

of the phrase and the clause is a valid method today, but that is not why I take it in use. I use it for two reasons. First, it provides an easily interpreted visual representation of the structure of grammatical units and second, it is remarkably similar to the way in which the Masoretes marked the text of the HB over a thousand years ago. It is important to note that in TH certain constituents which are separate words in languages like English can be clitics or not expressed at all in TH. What I am looking at here is the way in which the smallest constituents of the Tiberian accentuation system, which is the phonological word, are marked in relation to one another. In this chapter I will only discuss at the way words are combined with the *ṭəʿā̄mīm* to show the constituents of phrases. In the next chapter I will look further at clause structure. Here, I will look at the two most important types of phrases, the Noun Phrase (NP) and the Verb Phrase (VP) in turn. First, a phonological feature connected to phrasing needs to be addressed, the spirantization of consonants over word boundaries.

3.1.2 Sandhi spirantization in conjunct phrases

One interesting aspect of the conjunctive accents is their relation to the realization of a cross word-boundary Sandhi phonological feature. When a word beginning with a *b,g,d,k,p* or *t* follows a word ending in a vowel, spirantization[95] can occur. In 𝔐, when the first word is marked by a conjunctive *ṭaʿam* spirantization occurs (76).

[95] *Spirantization* is the traditional Hebraist term for the process whereby certain stops become fricatives when following a vowel. cf. Blau (2010:78), Yeivin (1980:287).

However, when the first word is marked with a disjunctive *ṭaʿam,* spirantization does not occur (77).

76 Genesis 1:2 הָיְתָה תֹהוּ
hɔ̄yt̲ɔ́ t̲ṓhū
'it was empty'

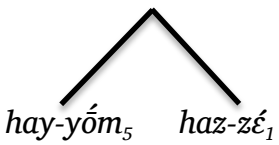
77 Exodus 15:14 יֹשְׁבֵי פְלֶשֶׁת
yōšb̲é pəlɔ́́šɛt̲
'the inhabitants of Palestine'

3.2 Noun Phrases

NPs in TH have two basic forms, one for the so-called *construct* phrases[96] and one for all others.[97] Non-construct NPs have a left-branching structure and the order of the constituents is:[98] *Numeral – Noun – Genitive Phrase – Adjective Phrase – Determiner.*

A simple NP with only a noun and a demonstrative is seen in (78), while a more complex NP with an adjective is seen in (79):[99]

78 Leviticus 23:30 הַיּוֹם הַזֶּה



'This day'

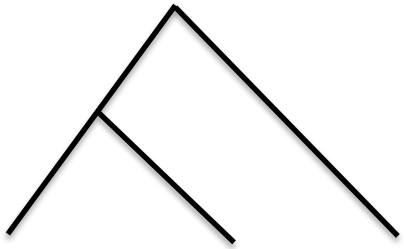
[96] For an overview of the so-called construct state in BH cf. Waltke and O'Connor (1990:138-156)

[97] This excludes relative clauses and numerals, cf. Aronoff (1985:42-43)

[98] Aronoff (1985:42)

[99] Aronoff (1985:43) The adjective here could be represented as a AdjP with its own level of analysis but I have chosen to reduce the levels for the sake of clarity

79 Jonah 1:12 הַסַּעַר הַגָּדוֹל הַזֶּה



has-sáʿar$_5$ *hag-gā̊ḏól*$_3$ *haz-zέ*$_2$

'This big storm'

The constituency trees above are not only a key to the grammar of the NP, but they also provide the schema by which the NP is accented. In (78), the first word, a noun *hay-yōm*, is marked with a conjunctive (level 5) *ṭaʿam*, *mūnaḥ.* The conjunctive *ṭaʿam* shows the close relation between the two elements. The demonstrative then closes the NP and is marked with a stronger (level 1) disjunctive.

When we look at (79), where an adjective is found between the noun and the demonstrative, the accentuation is again the same as the structure. The first word, *has-saʿar* is marked with a conjunctive *dargā̊*, showing the connection between it and the adjective which follows. The second word, *hag-gā̊ḏol* is then marked with a disjunctive *təḇīr*, separating *has-saʿar hag-gā̊ḏol* from the following word(s) and making it a constituent. This is a case in point of the fact that closely related words are bound together by conjunctive *ṭəʿā̊mīm.* Based on this analysis, we can assume that where there are no intervening or otherwise intrusive elements, nouns will be marked with a conjunctive accent when occurring before an attributive adjective.

The main NP is closed by the demonstrative which is marked with a strong (level 2) disjunctive, which shows that it is superordinate to the disjunctive in the lower NP. This is an important feature in the phrase structure of the *ṭəʿā̊mīm.* When several

phrases combine within one larger phrase, the disjunctives will appear in the order, from lowest ranking (4) toward highest ranking (1).[100] It is also possible for a rank to repeat itself within the phrase.

3.2.1 Construct Phrases

One area of Hebrew grammar that differs from this analysis is the so-called construct phrase. In Hebrew grammar, they are traditionally named *smīk̲ūt̲* from the verb meaning "to support." A noun not in the construct state is considered to be in the *absolute state.*[101] A construct phrase is made up of a head and at least one other noun, its genitive. There are two interesting points from a grammatical perspective. The first is the fact that it is the head that undergoes morpho-phonological changes in the construct phrase, not the genitive.[102] The other point is related to my representations here, construct phrases are right-branching, in opposition to the other types of NPs. Because a construct phrase may theoretically include any number of constituents, these right-branching phrases within the left-branching NP structure can be quite large. (80) shows a simple construct phrase while (81)[103] shows a more complex embedded structure.

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[100] This is also the case in the analysis of the clause, cf. chapter 4, below.

[101] Some scholars operate with other states such as the *pronominal state* or the *postconstruct state.* I will not include these matters here. For the pronominal state cf. Blau (2010:265) And for the postconstruct cf. Merwe, Naudé and Kroeze (1999:191-193)

[102] cf. Joüon and Muraoka (2006:275-277)

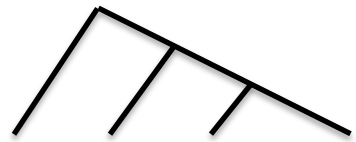
[103] Aronoff (1985:45)

80 Genesis 28:22 בֵּית אֱלֹהִים

bḗṯ$_5$ *ʾĕlōhḯm*$_1$

‘The house of God’

81 Genesis 47:9 יְמֵי שְׁנֵי חַיַּי אֲבֹתָי



yəmḗ$_3$ *šənḗ*$_3$ *ḥayyḗ*$_5$ *ʾăḇōṯáy*$_2$

‘The days of the years of the lives of my fathers’

The accentuation here is important. In (80), we find the head marked with a conjunctive *ṭaʿam* connecting it to the genitive. In (81), the head is marked with a disjunctive (level 3) *ṭaʿam,* and so is the first genitive. The next element is marked with a conjunctive *ṭaʿam* before the final genitive element. This creates the right-branching tree seen above, where the head is separated first, then the first genitive and so on. This is the norm for embedded genitive phrases.

In some cases the head is connected to the genitive by a *maqqepō*, especially if the head is monosyllabic and closely related to the genitive, as in (82). In such cases, discussed in chapter 2, the head is considered a clitic and is cliticized to the (first) genitive. The distribution of the *maqqepō* is not well enough understood to give rules, but the accentuation of the phrase on the phonological word, not on the would-be constituents.

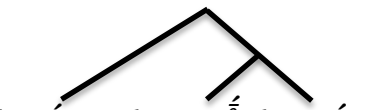
82 Genesis 2:9 כָּל־עֵץ

kå̄l-ʿḗṣ$_3$

‘every tree’

When a constituent of a construct NP phrase is modified, the modifier must follow the entire phrase. Adjectives and demonstratives must agree with the noun which they modify.[104] This means that there are two possible structures for the modified construct NP:[105]

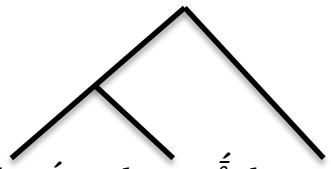
83 Deuteronomy 28:61 בְּסֵפֶר הַתּוֹרָה הַזֹּאת



bə-sḗp̄ɛr$_2$ *hat-tōrå̄́*$_5$ *haz-zṓ̲t*$_1$

‘in the book of this Torah’

84 Deuteronomy 29:20 בְּסֵפֶר הַתּוֹרָה הַזֶּה׃



bə-sḗp̄ɛr$_5$ *hat-tōrå̄́*$_2$ *haz-zɛ́*$_1$

‘in this book of the Torah’

The accentuation here follows that analysis as expected. In (83), *bə-sēp̄ɛr* is marked with a level 2 disjunctive while *hat-tōrå̄* is connected to the modifier, *haz-zō̲t,* with a conjunctive. The modifier here agrees with *hat-tōrå̄.* In (84), however, the modifier agrees with *bə-sēp̄ɛr.* Here, *bə-sēp̄ɛr* is marked with a conjunctive while *hat-tōrå̄* is separated from the modifier by a level 2 disjunctive. Note that in this example the

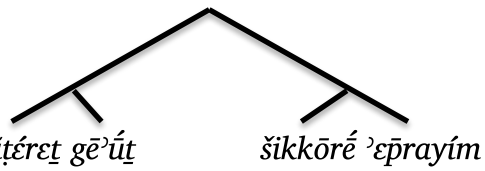
[104] Waltke and O'Connor (1990:258-259)

[105] Aronoff (1985:46)

consonant text shows that the modifier agrees with a different constituent of the construct phrase in the two examples. This shows that the accentuation reflects the understanding of the syntax of the phrase here, and is not an invention of the Masoretes.

The analysis of the genitive NP is also important for the discussion of the *ṭəʿā̊mīm* because when head of the genitive NP is itself a construct phrase, there is a different analysis, as in (85).[106]

85 Isaiah 28:1 עֲטֶ֤רֶת גֵּאוּת֙ שִׁכֹּרֵ֣י אֶפְרַ֔יִם



‘The garland of pride of the drunkards of Ephraim.’

The difference between the structure in (85) and that of (81) is an important one. Both phrases are made up of four nouns, three in the construct state with the final noun in the absolute state. This is important for the understanding of the motivation for the placement and distribution of the *ṭəʿā̊mīm:*

> The mere existence of such examples, however, is good evidence for the position that the essential purpose of the Masoretic accents was syntactic, rather than musical-since such differences in accent make little sense unless we assume them to have been motivated by a desire to bring out the proper relationships among the words, i.e. the syntax.[107]

[106] Aronoff (1985:45)

[107] Aronoff (1985:46)

3.2.2 Nominal Clauses

Before moving on to Verb Phrases there is one more type of nominal construction that needs to be dealt with, the nominal clause. A nominal (or verbless) clause is a clause in which the predicate is noun, or acts as a nominal.[108] Nominal clauses normally have the subject first, followed by the predicate, but there is a great deal of variation and the phenomena is not completely understood. It is not surprising, then that nominal clauses are not marked in a consistent manner by the *ṭəʿāmīm.*[109] In some cases, however, a disjunctive *ṭaʿam* on the initial subject can serve to distinguish a nominal clause from an NP consisting of a noun and an attributive adjective as in (86):[110]

86 Deutonomy 26:5 אֲרַמִּי אֹבֵד אָבִי

ʾărammī́$_3$ *ʾōḇḗḏ*$_5$ *ʾāḇī́*$_2$

'An Aramean was seeking to destroy my father'

3.3 Verb Phrases

The marking of VPs is somewhat different than that of NPs in that the VP may be modified in a number of ways, creating a more complex phrase. The rules which govern this will be looked at in the next chapter along with more complex VPs and

[108] Joüon and Muraoka (2006:V2, 564-577 = §154) Waltke and O'Connor (1990:130-135 = §138.134)

[109] Aronoff (1985:41-42)

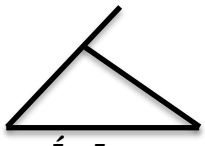
[110] Groom (2003:25)

clauses. The normal structure of a VP in TH is VS(O).[111] In TH, finite verbs are marked for aspect/tense/mood, person, gender and number.[112] These markers are part of a complex system of affixing and non-concatenative morphology that needs not be examined in detail here. The S can also be fronted or topicalized to the beginning of the phrase creating a SV(O) structure. This is also the case for the subject pronouns, which are not obligatory. Here, in 3.3.1 I will look at the normal accentuation of VS and VSO and in the 3.3.2 I will look at simple topicalized SV structure.

3.3.1 VS Phrases

The most common VP structure in HB narratives is the VS(O). The structure is as in (87) (VS) and (88) (VSO):[113]

87 Genesis 50:26 וַיָּמָת יוֹסֵף



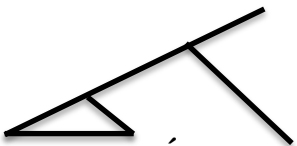
way-yā́mā̱t$_5$ *yōsēp*$_2$
'Joseph died'

[111] Waltke and O'Connor (1990:336)

[112] Merwe, Naudé and Kroeze (1999:67-68)

[113] The most common verb form in BH narratives has the form *wayyiqtol,* and can be called the *waw* + prefix-conjugation. The *waw*, which normally is the combining conjunction *and,* is not necessarily to be analyzed as a true conjunction here, but likely as a grammaticalized element which marks the form as being past tense (preterite).

88 Genesis 27:41 וַיִּשְׂטֹם עֵשָׂו אֶת־יַעֲקֹב



way-yiśṭṓm$_5$ *ʿēśa̋w*$_3$ *ʾɛ̱t-yaʿăqṓḇ*$_2$
‘Esau hated Jacob’

(87) shows the typical relationship between the V and S where they are connected by a conjunctive accent (*mūnaḥ*) on the verb. In (88) this is also the case. The V *way-yiśṭōm* is marked with a conjunctive, connecting it to the S, *ʿēśa̋w*. The VS phrase is marked with a level 3 disjunctive (*pašṭa̋*), separating it from the O, *ʾɛ̱t-yaʿăqōḇ*. The whole VSO phrase is marked with a level 2 disjunctive, *za̋qēp̄*.

3.3.2 Topicalized Phrases

Constituents may be fronted and precede the verb of a VP, in many cases these constituents are topicalized.[114] Here I will look at the basic constituents of the VP that may be topicalized, the S and O. Topicalization in the clause and sentence will be dealt with in chapter 4. Subject pronouns normally occur before the verb when they are used, and can be considered topicalized or not.[115] This is evident in the placement of the *ṭəʿa̋mīm*. Here I will look at four different examples of topicalized VPs – (89) shows a fronted proper noun in SVO, (90) shows a topicalized pronoun SV, (91) a non-topicalized fronted pronoun SV and (92) shows a topicalized object in an OVS:

[114] Bandstra (1992)C.f. Waltke and O'Connor (1990:346)

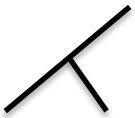
[115] Wickes (1887:45) cf. Aronoff (1985:41)

89 Genesis 6:8 וְנֹ֖חַ מָצָ֥א חֵ֖ן

wə-nṓaḥ$_2$ *må̄ṣå̄*$_5$ *ḥḗn*$_2$
‘But *Noah* found favor.’

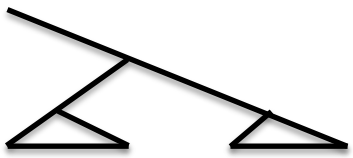
In this example, the S, *wə-nōaḥ,* is topicalized and marked with a level 2 disjunctive. This shows the strong emphasis placed on the topicalized element. The verb, *må̄ṣå̄*, is then connected with a conjunctive to the DO, *ḥēn.* The whole VP is separated from the following with a level 2 disjunctive.

90 Genesis 46:4 אָנֹכִ֥י אֵרֵ֛ד



ʾå̄nōx̱ḯ$_3$ *ʾērḗx̱*$_5$
‘*I* will go down’

91 Judges 6:18 אָנֹכִ֣י אֵשֵׁ֔ב עַ֖ד שׁוּבֶֽךָ׃

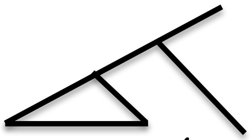


ʾå̄nōx̱ḯ$_5$ *ʾēšḗx̱*$_2$ *ʿáx̱*$_5$ *šūx̱ɛ́x̱å̄*$_1$
‘I will stay until your return’

In (90), like (89), we find a topicalized element, only this time it is a pronoun, not a proper noun. The pronoun is marked with a disjunctive, showing it receives force. In

(91),[116] however, the subject pronoun is not analyzed as a topicalized. The S pronoun is connected directly to the verb by a conjunctive.

92 Exodus 20:24 מִזְבַּ֣ח אֲדָמָה֮ תַּעֲשֶׂה



mizbáḥ$_5$ *ʾăḏā̊mā̊́*$_3$ *taʿăśɛ*$_2$
'An alter made from earth you shall make…'

Here, the O is fronted and topicalized. The O itself is a construct NP, so the head is marked with a conjunctive while the whole NP is marked with a level three disjunctive. The phrase is thus marked and is separated from the other elements of the VP. The entire VP is marked with a level 2 disjunctive.

3.4 Conclusion

This discussion of phrases has served two purposes. First, it has shown the structure of the phrase as well as a visual representation of the phrase, which will be useful in relation to clause structure in the next chapter. Second, this chapter has again shown that there is more to the Masoretic accentuation system than simply melodies. I have shown that at the phrase level, the *ṭəʿā̊mīm* are placed in such a way as to represent the phrase structure. Examples 83 – 85 showed strong evidence for the syntactic bases of the distribution of the *ṭəʿā̊mīm.* The Masoretes divided phrases which would be equal in terms of phonology and prosody in such a way that

[116] Aronoff (1985:41)

they show the underlying structure and make the correct interpretation obvious. VPs as well show signs of being purposefully marked to show relation. In the normal VSO phrase, the V and S are linked by conjunctives while in topicalized SVO and OVS, the topicalized elements are separated from the structure by means of a disjunctive. This shows attention to the fact that these syntactic models expressed something different than the normal VSO order. In the next chapter, we investigate how the Masoretes divided the entire verse in order and the rules which help make sense of these divisions.

4 The *ṭəʿā̱mīm* and the Verse

4.1 Introduction

One of the most intriguing facts about the *ṭəʿā̱mīm* is that the limits of the system are not based on a set linguistic unit, i.e. one complete clause. As a matter of fact, they are based on the verse divisions of the HB. The verse divisions were known already by the time of the writing of the Talmud (completed by 500 CE)[117] though it us unknown at what point they were written down. In any case, the verse divisions were established before the Masoretes began the work of placing the *ṭəʿā̱mīm*. This fact leads to a situation where there is, in some cases, considerable skewing between a grammatical sentence and the phonological unit which is the basis of the Masoretic analysis.[118]

There are two basic tenets that govern the distribution of *ṭəʿā̱mīm* at the verse level. On the one hand are the rules for placement that were discussed in chapter one. For each *ṭaʿam*, there are certain circumstances where it may or may not be used. These rules provide the choices within the division into levels. The second tenet is what Aronoff calls *The Masoretic Parsing Principle* (MPP) which states:

> Given a constituent X_i of Category X, divide it into two continuous subconstituents such that one of them is the maximal continuous constituent of the same category X within X_i.[119]

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[117] Yeivin (1980:42)

[118] Lode (1994:158-159)

[119] Aronoff (1985:53)

Aronoff's principle is a continuation of the work of Wickes, who saw that division of the verse was binary according to a *law of the continuous dichotomy.*[120] The major difference is that where Wickes saw the division being "where the main logical pause of the clause or the rules for syntactical division require it"[121] Aronoff sees the division based the goal of keeping the largest constituents together.

This principle has already been shown in the analyses of NPs in chapter 3. In order to find the maximal continues constituent, a non-construct NP with an adjective and a demonstrative following the noun will be analyzed as N A/DEM not, N/A DEM. In addition, in construct NPs the head will be separated from the genitives.[122]

The ordering of the *ṭaʿå̱mīm* is also important here. As noted in section 1.4 above, the domain of an accent may only be divided (disjoined) by an accent of the same level, or exactly one level higher. This does not include the level 5, conjunctive *ṭaʿå̱mīm.* In the visual representation that I am using for this analysis this means that the final word will be marked with a subscript 1, which on the final word is always *sillūq*. The domain for *sillūq* is the second half of the verse.[123] The closest disjunctive *ṭaʿam* to *sillūq* will always be either the level 1 disjunctive, *ʾaṯnå̱ḥ*, or a level 2 *ṭaʿam*. The domain of a level 2 (if divided) will always be divided by either another level 2 or a level 3. A level 3 (if divided) will always be divided by either another level 3 or a level 4. A level 4 may be divided by another 4.

[120] Wickes (1887:29)

[121] Wickes (1887:31)

[122] Aronoff (1985:53)

[123] cf. Aronoff (1985:57)

The analysis begins at the level of the verse and moves toward the level of the constituent. As long as there are constituents remaining within each new level of analysis that have not been analyzed, the process must continue. I will here show how this analysis works beginning with the application of the MPP on verses with varying structures to show the basis of the analysis (4.2). From there, I will look at three specific constructions that vary from the normal sentence structure: direct discourse (4.3), relative clauses (4.4) and topicalization and coordination (4.5).

4.2 Sentence and Verse Structure

There are several different situations that can occur in the analysis of a single verse in the HB as the verse divisions do not always match up with syntactic analysis. Thus a verse may be one and only one sentence (93), more than one sentence (94) or a verse may end in middle of a sentence (95).

93 Genesis 8:18 וַיֵּצֵא־נֹחַ וּבָנָיו וְאִשְׁתּוֹ וּנְשֵׁי־בָנָיו אִתּוֹ׃
way-yḗṣē-nṓaḥ ū-ḇā̊nā̊́w wə-ʾištṓ ū-nšḕ-ḇā̊nā̊́w ʾitt-ṓ
‘So Noah went out with his sons and his wife and his sons’ wives.’

94 Genesis 1:28 וַיְבָרֶךְ אֹתָם אֱלֹהִים וַיֹּאמֶר לָהֶם אֱלֹהִים פְּרוּ וּרְבוּ וּמִלְאוּ אֶת־הָאָרֶץ וְכִבְשֻׁהָ וּרְדוּ בִּדְגַת הַיָּם וּבְעוֹף הַשָּׁמַיִם וּבְכָל־חַיָּה הָרֹמֶשֶׂת עַל־הָאָרֶץ׃
way-ḇā̊́rɛḵ ʾōṯā̊́m ʾɛ̆lōhī́m way-yṓmɛr lā̊hɛ́m ʾɛ̆lōhī́m pərū́ ū-rḇū́ ū-milʾū́ ʾɛṯ-hā̊-ʾā̊́rɛṣ wə-ḵiḇšū́hā̊ ū-rḏū́ bi-ḏḡā́ṯ hay-yā̊́m ū-ḇ-ʿṓp̄ haš-šā̊máyim ū-ḇ-ḵā̊l-ḥayyā̊́ hā̊-rōmɛ́śɛṯ ʿal-hā̊-ʾā̊́rɛṣ
‘God blessed them, and God said to them, “Be fruitful and multiply, and fill the earth and subdue it; and have dominion over the fish of the sea and over the birds of the air and over every living thing that moves upon the earth.’

95 Genesis 2:4 אֵ֚לֶּה תּוֹלְדוֹת֙ הַשָּׁמַ֣יִם וְהָאָ֔רֶץ בְּהִבָּרְאָ֑ם בְּי֗וֹם עֲשׂ֛וֹת יְהוָ֥ה אֱלֹהִ֖ים אֶ֥רֶץ וְשָׁמָֽיִם׃
ʾéllɛ tōlḏṓṯ haš-šå̄máyim wə-hå̄-ʾǻrɛṣ bə-hibbå̄rʾǻm bə-yṓm ʿáśṓṯ YHWH ʾĕlōhī́m ʾérɛṣ wə-šå̄mǻyim

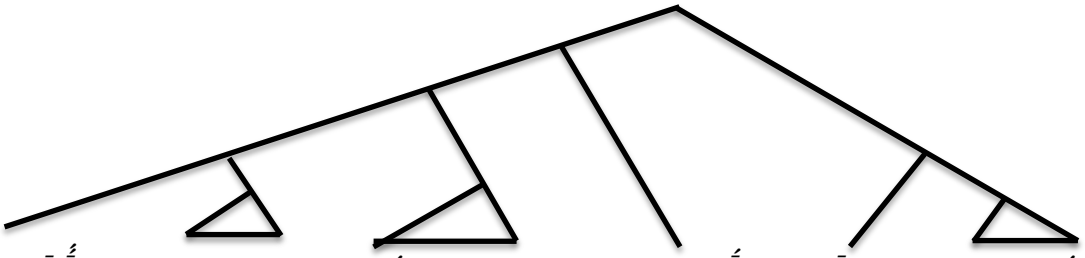
> ‘These are the generations of the heavens and the earth when they were created. In the day that the LORD God made the earth and the heavens,’

The latter is very rare and need not be dealt with here. In addition, each sentence may be made up of one or more clauses. Thus, the analysis of a verse may include the analysis of anything from a simple clause to several independent sentences. Here I will look at examples of different types of verses, ranging from simple to complex.

4.2.1 Verses with one Sentence

In Genesis 16:7 (96), the major break comes after the first complement to the main clause which is made up of two PPs, where the second complement is an explanation of the first and is also made up of two PPs. This keeps intact a complete VSOX structure (the O is suffixed to the V) and maximizing the VP of the sentence. The domain governed by *sillūq* is made up of two PPs which are separated by a level 2 disjunctive. The domain governed by *ʾaṯnå̄ḥ* is a VP with a two complement PPs. The second complement PP is separated from the VP and first complement PP by a level 2 *ṭaʿam,* maximizing the VP. The first PP is separated from the VP by a level 3 *ṭaʿam,* again maximizing the VP. Within the VP, the V is separated from the S which is a construct NP with two parts by a level 4 *ṭaʿam*.

96 Genesis 16:7 וַיִּמְצָאָהּ מַלְאַךְ יְהוָה עַל־עֵין הַמַּיִם בַּמִּדְבָּר עַל־הָעַיִן בְּדֶרֶךְ שׁוּר׃

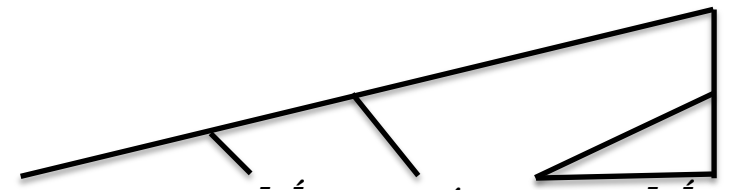


wayyimṣāʾåǻh$_4$ *malʾáḵ*$_5$ *YHWH*$_3$ *ʿal-ʿén*$_5$ *ham-máyim*$_2$ *b-am-miḏbǻr*$_1$ *ʿal-hå-ʿáyin*$_2$ *bə-ḏérɛḵ*$_5$ *šúr*$_1$

'The angel of the LORD found her by a spring of water in the wilderness, the spring on the way to Shur.

(97) shows a verse that is so short that it has been analyzed as a simple VSOX structure with no major break before the end of the verse. In this case the parsing principle still holds true, as it is the maximal realization of the sentence.

97 Genesis 23:12 וַיִּשְׁתַּחוּ אַבְרָהָם לִפְנֵי עַם הָאָרֶץ׃



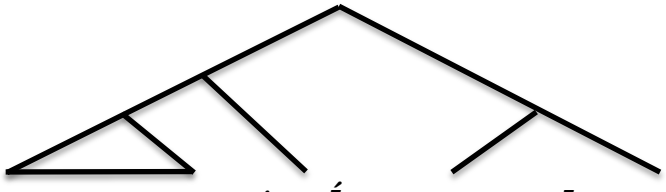
way-yištáḥū$_3$ *ʾaḇrǻhǻm*$_2$ *li-pnḗ*$_2$ *ʿám*$_5$ *hå-ʾǻrɛṣ*$_1$

'Abraham bowed before the people of the land'

4.2.2 Verses with Multiple Sentences

In verses with multiple sentences, the first division comes at the syntactic or logical break in the sentence. In a verse with two simple clauses, such as Genesis 31:45 in (98), the break comes after the first clause, marked by *ʾaṯnǻḥ*:

98 Genesis 31:45 וַיִּקַּח יַעֲקֹב אֶבֶן וַיְרִימֵהָ מַצֵּבָה׃



way-yiqqáḥ$_5$ *yaʿăqṓb̲*$_2$ *ʾå̄b̲ɛn*$_1$ *wa-yrīmɛ́hå̄*$_2$ *maṣṣēb̲å̄*$_1$

'Jacob took a stone and he set up as a pillar'

In a more complex verse with several sentences, the major division (marked with *ʾaṯnå̄ḥ*) is also placed at a major logical or syntactic break. In the case of Genesis 2:19 it is clear that the domain following *ʾaṯnå̄ḥ* is the logical result of the first half of the verse:

99 Genesis 2:19

וַיִּצֶר֩ יְהוָ֨ה אֱלֹהִ֜ים מִן־הָאֲדָמָ֗ה כָּל־חַיַּ֤ת הַשָּׂדֶה֙ וְאֵת֙ כָּל־עֹ֣וף הַשָּׁמַ֔יִם וַיָּבֵא֙ אֶל־הָאָדָ֔ם לִרְאֹ֖ות מַה־יִּקְרָא־ל֑וֹ וְכֹל֩ אֲשֶׁ֨ר יִקְרָא־לֹ֜ו הָאָדָ֤ם נֶ֙פֶשׁ֙ חַיָּ֔ה הִ֖וא שְׁמֹֽו׃

D_I	D_{II}	D_{III}	D_{IV}
way-yīṣɛ́r$_5$	*YHWH*$_5$	*ʾĕlōhī́m*$_4$	
			min-hå̄-ʾăḏå̄må̄́$_3$
		kå̄l-ḥayyáṯ$_5$	*haś-śå̄ḏɛ́*$_3$
		wə-ʾɛ́ṯ$_3$	
		kå̄l-ʿṓp̄$_5$	*haš-šå̄máyim*$_2$
	way-yå̄b̲ɛ́$_3$		
		ʾɛl-hå̄̀-ʾå̄ḏǻm$_2$	
	li-rʾō-ṯ$_2$		
	ma-yiqrå̄-l-ō$_1$		
wə-ḵōl$_5$	*ʾăšɛr*$_5$	*yiqrå̄-l-ō*$_5$	*hå̄-ʾå̄ḏå̄m*$_3$
		nɛp̄ɛš$_5$	*ḥayyå̄*$_2$
	hū$_5$	*šəmō*$_1$	

‘So out of the ground the LORD God formed every animal of the field and every bird of the air, and brought them to the man to see what he would call them; and whatever the man called every living creature, that was its name.’

4.2.3 Discrepancies

It is not always the case that a modern analysis of the syntax of a verse will give the same divisions as the Masoretes. These discrepancies, however, are generally the result of the application of the MPP.[124] An example[125] of this is Genesis 17:8 where the modern analysis would be as in (100) but the Masoretic marking gives the analysis in (101):

100 And I give you and to your descendants after you /
the land of your sojourn, all the land of Canaan.
101 And I give you and to your descendants after you the land of your sojourn /
all the land of Canaan.

Further, at the next level a modern analysis would give (102) while the Masoretic analysis yields (103):

102 And I give /
to you and to your descendants after you
103 And I give to you /
and to your descendants after you

The analysis of this verse is clearly not in line with a modern analysis, but it is clearly the result of the MPP. Each level of analysis seeks out the largest constituent part, which is then separated from the others. These examples show that the MPP is

[124] Aronoff (1985:55)

[125] The following builds on Aronoff (1985:54-55)

the governing principle behind the analysis of the Masoretes. By following this principle, we can see how the Masoretes viewed certain types of clauses, the following sections will look at two specific constructions: direct discourse (4.3) and relative clauses (4.4).

4.3 Direct Discourse

Direct discourse is a common feature of the HB. There are a range of dialogues and direct speech plays a major role in narrative sections of the HB. In the HB direct speech is usually accompanied by an introductory phrase (i.e. So says the LORD). This construction has not been given a lot of attention in modern syntactic theory but Aronoff points out that the punctuation of English shows an analysis where the direct speech is subordinate to the introductory Phrase.[126] This, however, does fit with the way the introductory phrase behaves within the sentence. It can be moved to certain syntactic positions in the same way as a Sentence Adverb.[127] Thus, it stands to reason the introductory phrase should be treated as such. This is also the way the Masoretic analysis of the verse treats the introductory phrase.[128] The introductory phrase is normally subordinate in the same was as adverbials, and do not necessarily make the main division in a verse. It is possible, however, that the adverbial will be analyzed as the maximal constituent, causing the main division to come after the introductory phrase. In (104), from a narrative passage in Exodus 6:2, the main division comes after the first clause which says “And God spoke to

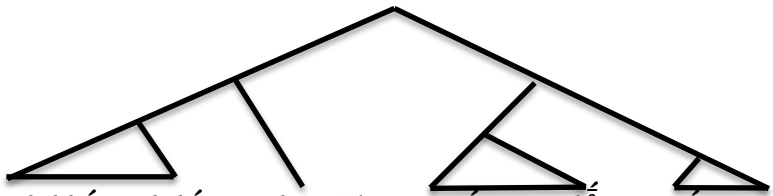
[126] Aronoff (1985:50)

[127] Aronoff (1985:51)

[128] Wickes (1887:35-36) C.f. Aronoff (1985:51)

Moses." The introductory phrase "he said" is subordinated the direct discourse in the second half of the verse:

104 Exodus 6:2 וַיְדַבֵּר אֱלֹהִים אֶל־מֹשֶׁה וַיֹּאמֶר אֵלָיו אֲנִי יְהוָה׃



4.4 Relative Clauses

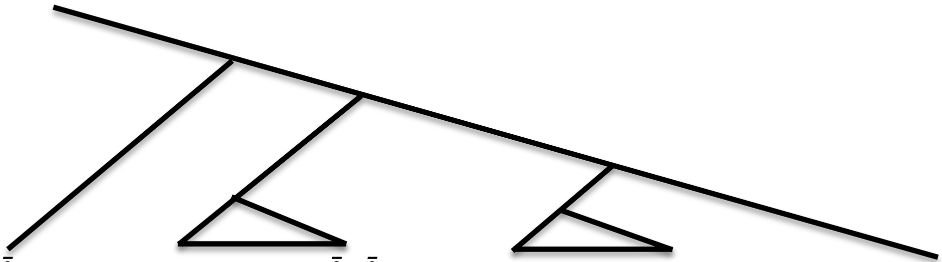
Another case where the MPP makes sense of seemingly difficult analysis is with relative clauses.[129] In the final position, a relative clause can be separated from its head by a major break,[130] which means that two very closely related words can be separated. This however, makes sense when seen from the perspective of the MPP. In (105),[131] from Deuteronomy 8:1, the major division in the verse comes after the object of the VP. The object, however is the head of the relative clause, which follows the major division:

[129] For a detailed overview of relative clauses in BH c.f. Waltke and O'Connor (1990:330-340)

[130] Aronoff (1985:54)

[131] Aronoff (1985:54) Only the final section of the verse is given here.

105 Deuteronomy 8:1 וּבָאתֶם֙ וִֽירִשְׁתֶּ֣ם אֶת־הָאָ֔רֶץ אֲשֶׁר־נִשְׁבַּ֥ע יְהוָ֖ה לַאֲבֹתֵיכֶֽם



ū-ḇå̄ṯɛm$_3$ *wī-rištɛm*$_5$ *ʾɛṯ-hå̄-ʾå̄rɛṣ*$_2$ *ʾăšɛr-nišbaʿ*$_5$ *YHWH*$_2$ *la-ʾăḇōṯēḵɛm*$_1$

‘and go in and occupy the land that the LORD promised on oath to your ancestors.’

4.5 Topicalized Sentences and Coordination

In his analysis of the *ṭəʿå̄mīm*, Aronoff sees only two constructions that are not readily analyzable based on the MPP, topicalization and coordination.[132] I will look at each construction in turn.

4.5.1 Topicalized Sentences

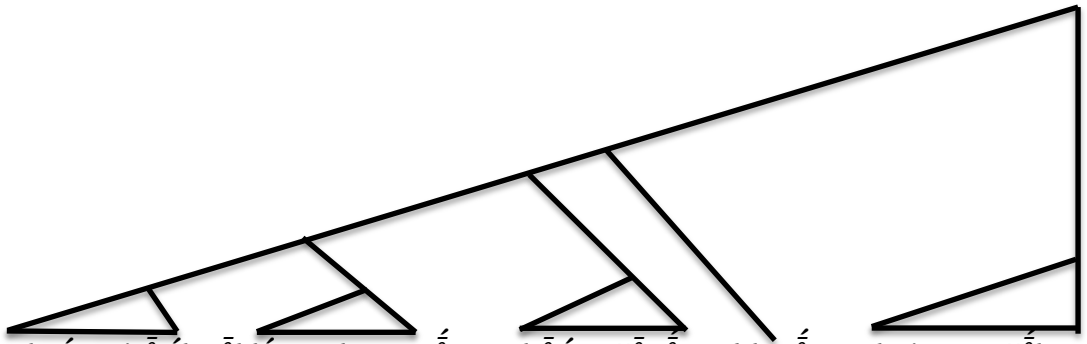
I have already looked at the topicalization of elements within the phrase in 3.3.2 above. There, it was shown that a topicalized S or O was separated with a strong disjunctive from the VP in order to maximize the VP. The same is true at the level of the verse. Topicalized sentences are often analyzed in such a way that the main division of the verse comes just after the topicalized element. This can cause situations where the division does not follow the idea of the maximum constituent. However, as Aronoff points out, this can easily be dealt with if we assume that MPP is based on the most common construction, the VSOX.[133] If that is so, then analyses

[132] Aronoff (1985:54)

[133] Aronoff (1985:54)

like that of 106, which is the most common analysis of a topicalized sentence, are maximizing what remains of the normal VSOX construction:

106 Exodus 16:35 וּבְנֵי יִשְׂרָאֵל אָכְלוּ אֶת־הַמָּן אַרְבָּעִים שָׁנָה עַד־בֹּאָם אֶל־אֶרֶץ נוֹשָׁבֶת



ū-bnḗ$_5$ *yiśrāʾḗl*$_3$ *ʾāklū́*$_5$ *ʾɛt-ham-mā́n*$_3$ *ʾarbāʿī́m*$_5$ *šānā́*$_2$ *ʿad-bōʾā́m*$_2$ *ʾɛl-ʾéreṣ*$_5$ *nōšāḇɛt*$_1$

'The Israelites ate manna forty years, until they came to a habitable land;'

4.5.2 Coordination

Coordination is the other construction that is difficult to explain with an amendment to the MPP. The accentuation of conjuncts can be summarized by a rule given by Aronoff:[134]

> MASORETIC CONJUNCTION RULE: X → X CONJ X
>
> Condition: expand from left to right at each level of analysis.

This analysis is valid for all types of conjuncts, from the word level to the clause level. To accommodate this in the MPP, Aronoff adds the simple phrase:[135]

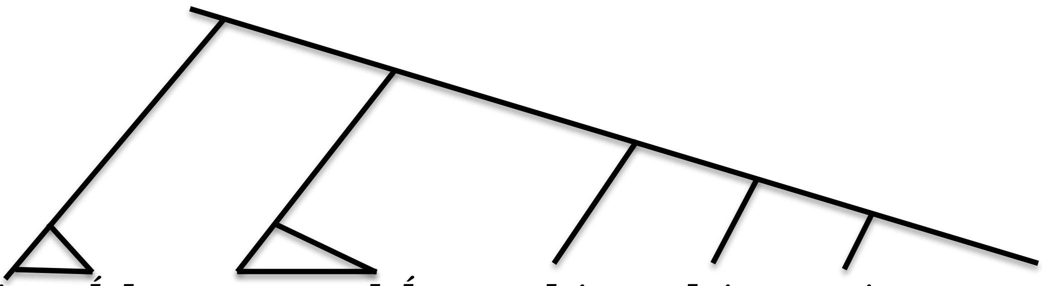
> Given a constituent of the category X, divide it in two in such a manner as to maximize its continuous subconstituent(s) of the category X.

(107) shows the Masoretic analysis of a string of 8 conjuncts in Genesis 24:35:[136]

[134] Aronoff (1985:47)

[135] Aronoff (1985:54)

107 Genesis 24:35 צֹ֥אן וּבָקָר֙ וְכֶ֣סֶף וְזָהָ֔ב וַעֲבָדִם֙ וּשְׁפָחֹ֔ת וּגְמַלִּ֖ים וַחֲמֹרִֽים:



ṣṓn$_5$ *ū-ḇā̊́qā̊r*$_3$ *wə-ḵέsεp̄*$_5$ *wə-zā̊hā̊́ḇ*$_2$ *wa-ʿăḇā̊ḏī́m*$_3$ *ū-šp̄ā̊ḥṓṯ*$_2$ *ū-ḡmallī́m*$_2$ *wa-ḥămōrī́m*$_1$

4.6 Conclusion

This chapter has shown two important elements of the Masoretic accentuation system. On the one hand, the guiding principle behind the placement of the *ṭəʿā̊mīm,* the Masoretic Parsing Principle has been shown to operate at all levels of the verse. This simple principle explains the divisions of the verse into constituents which are in turn divided until there remain no unanalyzed constituents. The MPP is an elegant way of describing what is in reality a very difficult task. The fact that verses are constructed from a varying number of clauses and phrases makes a normal verse difficult to define. By using the MPP we have seen that the accentuation of the HB is done in an orderly and specific manner.

The other important element of the system of the *ṭəʿā̊mīm* that has been shown in this chapter is the syntactic bases for the analysis at the highest level. There is no *a*

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[136] Aronoff (1985:49)

priori reason for the analysis of constructions such as the conjuncts and relative sentences based on phonology or prosody. The fact that they are systematically treated shows once again that the Masoretes used a specific syntactic model for the placement of the *ṭəʿå̄mīm*.

In the next chapter, I will look at the verse and further toward the paragraph by looking at prosodic and discourse analyses of the *ṭəʿå̄mīm*. This will help shed light on the relationship between syntax and phonology.

5 The *ṭəʿå̱mīm*, Prosody and Discourse

5.1 Introduction

In this chapter, I will be looking at two types of analysis of the *ṭəʿå̱mīm* that are based on features above the level of syntax in the verse. Up to this point, I have been working with models that look at the relationship between words (syntax) as the best way of understanding the system of the *ṭəʿå̱mīm.* This chapter looks beyond this at the way the two areas of prosody and discourse linguistics.

We do not have to stretch our imaginations to understand why the study of prosody and the study of the *ṭəʿå̱mīm* have been connected.

The first section (5.2) is devoted to a discussion of prosody and the way in which the *ṭəʿå̱mīm* can be seen as marking the prosodic structure in the verse. The second section (5.3) is concerned with discourse features of the *ṭəʿå̱mīm.*

5.2 The Prosodic Basis of the *ṭəʿå̱mīm*

The term *prosody* generally refers to aspects such as rhythm and intonation in language. One of the features of prosody is that it "divide[s] up the stream of speech into chunks or phrases of one sort or another."[137] These phrases (prosodic phrases, ProsPs), however, do not always correspond with syntactic or semantic units in the text. In fact, a major difficulty in prosodic linguistic analysis has

[137] Ladd (2008:288)

traditionally been derived from "…the twin assumptions that (a) the division of sentences into ProsPs in some way reflects syntactic, semantic, or discourse constituency, but that (b) prosodic structure is somehow fundamentally simpler than syntactic structure."[138]

The connection here between prosodic analysis the *ṭəʿå̄mīm* is not difficult to grasp. This relationship has been examined in detail by Dresher[139] and Churchyard,[140] who both look the system of *ṭəʿå̄mīm* as a prosodic parsing of the HB. Dresher's goal is to show that prosody, rather than syntax, is the basis for entire system of accentuation. Churchyard, after discussion prosody and the *ṭəʿå̄mīm* is interested in the relationship of the *ṭəʿå̄mīm* and the pausal forms. I will begin by looking Dresher's work.

The *ṭəʿå̄mīm* do not always follow the syntactic or semantic divisions of the text of the HB. In chapter 4, I discussed Aronoff's approach to this problem, which was the Masoretic Parsing Principle. Dresher does not agree that Aronoff's explanation is sufficient or necessary as he claims that "to the extent that the Masoretic Parsing Principle is descriptively adequate, it is because it is part of a general theory of prosodic structure."[141] Instead, Dresher sees that "the hierarchical structures indicated by the Tiberian accents have striking points of contact with some

[138] Ladd (2008:288)

[139] Dresher (1994)

[140] Churchyard (1999:221-696)

[141] Dresher (1994:28 n31)

contemporary research into hierarchical prosodic structures."[142] His basis here is two comparisons 1) between the Phonological phrase of modern prosody the Conjunctive phrase of 𝔐 which is signaled by the conjunctive *ṭəʿå̄mīm* and 2) between the utterance of modern prosody and the verse of 𝔐.[143] There is no comparison, however, for the important hierarchical layer of the *intonational phrase.*[144] Having found the points of comparison, Dresher works to show that the system of the *ṭəʿå̄mīm* "deviate from syntax in ways that are typical of prosodic representation."

5.2.1 The Prosodic Phrase

At the level of the prosodic phrase, Dresher sees the deviations of the system of the *ṭəʿå̄mīm* to reflect two tenets of prosodic theory, edges and geometry.[145] I will look at each in turn.

The term *edges* refers to the boundaries between prosodic units,[146] and Dresher's analysis takes disjunctive *ṭəʿå̄mīm* to be edges in terms of the Masoretic prosodic system. Following an abstract *end parameter*[147] which states that only one end of a prosodic unit is able to form a prosodic phrase (for TH the right end),[148] Dresher proposes that the phrasing of (X[Y and –Z], X governs [Y and –Z]) depends on the semantic relationship between Y and –Z, as the complement may be analyzed with

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[142] Dresher (1994:28)

[143] Dresher (1994:8)

[144] Dresher (1994:13)

[145] Dresher (1994:16)

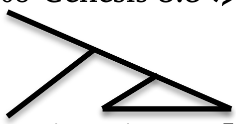
[146] C.f. for example Ladd (2008:44-47) on edge tones.

[147] Dresher (1994:17)

[148] Dresher uses the traditional terminology which terms *right* and *left* for the location of constituents in the sentence. Thus, the right end is in TH the final end, not the beginning.

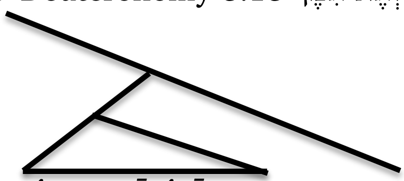
the head or with the other complement. Thus we find both (108) and (109). On the other hand, in phrases of the shape [Y and –Z] X, X governs [Y and –Z], Y and –Z must be phrased together as in (110). This is because the right end is maxed out before the head.

108 Genesis 3:5 יֹדְעֵ֖י ט֥וֹב וָרָֽע׃



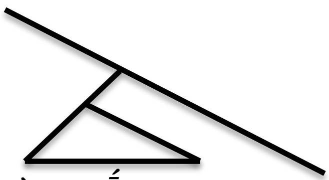
yōḏˁḗ$_2$ *ṭṓḇ*$_5$ *wā̊-rā̊́ˁ*$_1$
‘knowers of good and evil’

109 Deuteronomy 5:15 כַּבֵּ֤ד אֶת־אָבִ֙יךָ֙ וְאֶת־אִמֶּ֔ךָ



kabbḗḏ$_5$ *ʾɛṯ-ʾā̊ḇī́ḵā̊*$_3$ *wə-ʾɛṯ-ʾimmɛ́ḵā̊*$_2$
‘Honor your father and your mother’

110 Isaiah 7:22 כִּֽי־חֶמְאָ֣ה וּדְבַ֔שׁ יֹאכֵ֔ל



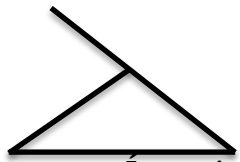
kì-ḥɛmʾā̊́$_5$ *ū-ḏḇáš*$_3$ *yōḵḗl*$_2$
‘For (everyone) shall eat curds and honey.’

Based on this analysis, Dresher sees the phrase structure of the *ṭəˁā̊mīm* as being better represented by a prosodic structure than a syntactic one.[149]

[149] Dresher (1994:19)

The other area in prosodic theory Dresher cites as being relevant is geometry. In prosodic theory, *geometry* refers to the way in which nodes branch in the prosodic representation. In the system of the *ṭəʿåmīm,* the normal prosodic phrase is two words, thus what would be syntactically analyzed as two phrases can be one prosodic phrase, as in 111[150] or conversely, a phrase consisting of three units may be divided in different ways as in 108 and 109 above.

111 Genesis 3:14 עַל־גְּחֹנְךָ תֵלֵךְ



ʿal-gəḥōnḵå̄₅ ṯēlēḵ₂

'On your belly you shall crawl'

Though Dresher goes into further detail on this issue, it will suffice to say that his understanding is that the branching restrictions in 𝔐 are right in line with a modern prosodic representation.

5.2.2 The Utterance

The *utterance* is the largest unit dealt with in prosodic theory. Dresher relates this to the Masoretic verse. Within traditional prosodic representation, grouping of ProsPs into larger phrases called Intonational phrases, which are grouped together to form an utterance, causing an *x-nary* structure, not necessarily the binary structure seen in 𝔐. The reason for this is that all breaks at a certain level of the hierarchy are located at edges of a phrase at the lower level and are thus of equal value, according to what

[150] Dresher (1994:21)

is known as the *Strict Layer Hypothesis* (SLH).[151] Dresher cites research into the pause duration[152] which analyzes prosodic structure in a way very similar to the *ṭəʿå̄mīm,* allowing for nodes at more levels on the hierarchy. I will not go into detail here on Dresher's analysis, as it seems to me that the representation of the verse as utterance in this way is at the same time a useless comparison and an obvious extraction. On the one hand, the verse is only at times one and only one utterance. Many verses are forced to fit the accentuation principles even though they are made up of only part of an utterance or more than one utterance. Thus the fact that all verses end with the same melody does not make them a prosodic unit in modern term. On the other hand, it is completely obvious that the *ṭəʿå̄mīm* provide a prosodic parsing of the verse – that is the musical argument. But it does not seem that the parsing of the *ṭəʿå̄mīm* and a modern representation are reconcilable. As Henry Churchyard puts it:

> Contrary to Dresher 1994, there is little support for a prosodic interpretation of the accentual parse that would obey the strict layering convention of recent generative prosodic phonological theory, that requires each constituent in the hierarchy of Utterance, Intonational Phrase, Prosodic Phrase, Clitic Group, etc. to be always exhaustively parsed by constituents of the next lower level only.[153]

Churchyard, however, does see that prosody plays a role in placement of the *ṭəʿå̄mīm.* He sees the rules outlined by Aronoff as resembling syntax-to-prosody mapping rules.[154] In general, the fact that the structure of the *ṭəʿå̄mīm* is so appealing from a prosodic standpoint has to do with the phonological/prosodic structure of Hebrew. Hebrew phrases in almost all cases show prominence on the last word of a

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[151] Dresher (1994:22) For a critique of the SLH and recent scholarship cf. Ladd (2008:288-309)

[152] Dresher (1994:23-24)

[153] Churchyard (1999:224)

[154] Churchyard (1999:243)

phrase. Thus, the embedding of phrases will mean that the last phrase will be the most prominent.[155] To show that the *ṭəʿå̄mīm* indeed to correspond to a prosodic analysis of the HB, Churchyard compares them to the pausal forms,[156] another area of the text that is well known to be prosodic in nature. The background for this comparison is the fact that not all pausal forms occur on level 1 *ṭəʿå̄mīm,* those with the greatest pausal value and conversely, some pausal forms even occur on conjunctive accents.[157] By using a statistical comparison of verses where both pausal and contextual forms occur, he examines how the hierarchy of the *ṭəʿå̄mīm* corresponds to the pausal forms. His conclusion on the statistical analysis is that "the absolute scale as a whole usually doesn't rank very high in overall degree of pausal/accentual correlation"[158] and that

> …basic disjunctive phrases will not be given a fixed prosodic significance within a single Biblical verse; and neither the Biblical verse as a whole, nor the basic disjunctive phrase level, will be assigned a fixed prosodic significance across verses (contrary to Dresher 1994).[159]

Churchyard does, however, develop a method of discerning the relative strengths of the *ṭəʿå̄mīm,* which I will not go into here, but which offers a closer correspondence between the pausal forms and the *ṭəʿå̄mīm.* Despite this closer correspondence, it is clear that "they cannot always be fully reconciled as variant orthographic manifestations of a single type of linguistic/prosodic constituency."[160] This means

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[155] Churchyard (1999:262-263)

[156] C.f. section 2.3 above

[157] C.f. Revell (1980)

[158] Churchyard (1999:466)

[159] Churchyard (1999:468)

[160] Churchyard (1999:597)

that while the *ṭəʿå̄mīm* do give prosodic information, they do not correspond entirely with the other prosodically motivated system found in 𝔐.

5.2.3 Conclusions on Prosody

These sections have been somewhat different from the preceding chapters in that they have been more concerned with theoretical questions and less with the actual parsing of the text. This is in fact the main reason why a purely prosodic understanding of the *ṭəʿå̄mīm* fails to make sense in modern terms. As I said above, there is no doubt that it is a prosodic guide, the question is merely what the basis for the parsing is. In this way, abstract theories of prosody don't seem to account for the system of the *ṭəʿå̄mīm.* I will come back to this discussion below, in chapter 6. As for the correlation between the pausal forms and the *ṭəʿå̄mīm,* it seems to me that the evidence for the pausal forms reflecting a much older tradition is too strong to allow for the *ṭəʿå̄mīm* needing to reflect it. One fact that I have not seen included in the discussions of the pausal forms and the *ṭəʿå̄mīm* is the fact that the so-called *primae nun* verbs (verb with roots beginning in the letter *nun*) do not show assimilation in the pause.[161] If this is the case, then the consonant text, which is accepted as older than the vocalization and accentuation, shows traces of the pausal forms. That would mean that the reading tradition passed down already knew of the pausal forms and the vocalization was done in accordance with this tradition. The fact that

[161] C.f. Gesenius, Kautzsch and Cowley (1963:174 = §166.f) and Joüon and Muraoka (2006:108 = §132.g and 186 = 172.b) For an alternative explanation c.f. Rössler (1977)

the accentuation does not match up rather shows that the accentuation was not meant to show the same hierarchy as the pausal forms.

5.3 The *ṭəʿå̄mīm* as Discourse Markers

An alternative to the prosodic analysis above, but still at the super-segmental level is that of Lars Lode[162] which interprets the *ṭəʿå̄mīm* in light of discourse linguistics. Lode's analysis divides the intonational system of the *ṭəʿå̄mīm* into six levels: "period, sentence, descent, clause, phrase, and word."[163]

5.3.1 The Phonological Hierarchy of the *ṭəʿå̄mīm*

The most interesting finding in Lode's analysis is that he finds the levels to be marked in different ways, and the *ṭəʿå̄mīm* to have different importance depending on the level.[164] At the lowest levels, this analysis corresponds to what we have seen above: the phonological word is marked with any accent and the phonological phrase is marked by the disjunctive accents. At the higher levels, only certain *ṭəʿå̄mīm* may be used. Thus the clause can only be marked by *rəḇīaʿ, zå̄qēp̄, seḡōltā, ʾaṯnå̄ḥ* and *sillūq*. The descent is marked by the descending pitch levels of clauses. The sentence is marked by *seḡōltā, ʾaṯnå̄ḥ* or *sillūq*.

This analysis of the *ṭəʿå̄mīm* means that only certain of them are neutral, meaning for punctuation purposes only. I will quote Lode in full here:

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[162] Lode (1994)

[163] Lode (1994:158)

[164] Lode (1994:166)

> Only the intonations Silluq, Atnach, Tifcha, Little Zaqef, and Pashta are neutral. They may be used in any type of context. They mark syntactic breaks and indicate progression in the text, but they carry no further overtones. The other disjunctive accents represent intonations that indicate overtones of focus or emphasis in addition to their value as syntactic markers.[165]

The neutral *ṭəʿå̄mīm* function together in verses like (112)

112 Exodus 2:25 וַיַּ֥רְא אֱלֹהִ֖ים אֶת־בְּנֵ֣י יִשְׂרָאֵ֑ל וַיֵּ֖דַע אֱלֹהִֽים׃

way-yár$_5$ *ʾĕlōhím*$_2$ *ʾɛṯ-bənḗ*$_5$ *yiśrå̄ʾḗl*$_1$ *way-yḗḏaʿ*$_2$ *ʾĕlōhím*$_1$
‘And God saw the Israelites, and God understood.’

Lode finds that the other *ṭəʿå̄mīm,* then, have discourse functions beyond marking the constituent boundaries.[166] *Segōltā* sentences introduce climax or complication with “emotional overtones.”[167]

113 Genesis 3:3 וּמִפְּרִ֣י הָעֵ֗ץ אֲשֶׁ֤ר בְּתוֹךְ־הַגָּן֙ אָמַ֣ר אֱלֹהִ֔ים לֹ֥א תֹאכְל֖וּ מִמֶּ֑נּוּ וְלֹ֥א תִגְּעוּ־בֹ֖ו

ū-mip-pərí$_5$ *hå̄-ʿḗṣ*$_3$ *ʾăšér*$_5$ *bə-ṯōḵ-hag-gå̄n*$_2$ *ʾå̄már*$_5$ *ʾĕlōhím*$_3$ *lṓ*$_5$ *ṯòḵlū́*$_3$ *mimmḗnnū*$_2$ *wə-lṓ*$_5$ *ṯiggəʿū́*$_2$ *b-ṓ*$_1$
‘**but from the tree that is in the middle of the garden**, said the LORD, you shall not eat, nor shall you touch it,’

Zå̄qēp̄ gå̄ḏōl marks strong emotions, as in (114)

114 Genesis 8:3 וַיָּשֻׁ֣בוּ הַמַּ֔יִם מֵעַ֖ל הָאָ֑רֶץ הָל֣וֹךְ וְשׁ֔וֹב וַיַּחְסְר֥וּ הַמַּ֖יִם מִקְצֵ֥ה חֲמִשִּׁ֛ים וּמְאַ֥ת יֽוֹם׃

way-yaḥsərū́$_5$ *ham-máyim*$_2$ *mi-qṣḗ*$_2$ *ḥămiššīm*$_5$ *ū-mʾáṯ*$_2$ *yṓm*$_1$
‘**At the end** of one hundred fifty days the waters had abated’

Təḇīr also marks prominence, but to a lesser degree, and is often associated with weak emotions, as in (115)

[165] Lode (1994)

[166] Lode (1994)

[167] All the following examples are taken from Lode (1994:167-171)

115 Genesis 4:4 וְהֶ֣בֶל הֵבִ֗יא גַּם־ה֤וּא מִבְּכֹרוֹת֙ צֹאנ֔וֹ וּמֵחֶלְבֵהֶ֑ן

wə-hébɛl$_5$ hēbí$_5$ gam-hú$_3$ mib-bəḵōrṓṯ$_5$ ṣōnṓ$_2$ ū-mè-ḥɛlḇēhén$_1$
'and Abel **for his part** brought of the firstlings of his flock, their fat portions.'

Gērēš, təlīšå̄ and *på̄zēr* indicate "a fairly sharp prominence"[168] and occur initially in a descent, as in (116):

116 Genesis 14:11 וַיִּקְח֗וּ אֶת־כָּל־רְכֻ֙שׁ סְדֹ֣ם וַעֲמֹרָ֔ה וְאֶת־כָּל־אָכְלָ֖ם וַיֵּלֵֽכוּ׃

way-yīqḥú$_4$ ʾɛṯ-kå̄l-rəḵúš$_5$ səḏṓm$_5$ wa-ʿămōrå̄$_3$ wə-ʾɛṯ-kå̄l-ʾå̄ḵlǻm$_2$ way-yēlḗḵū$_1$
'**So** the enemy **took** all the goods of Sodom and Gomorrah, and all their provisions, and went their way'

Rəḇīaʿ is considered in between, marking neither strong, weak nor sharp prominence, but rather indicates that the following section is more important than the preceding, as in (117)

117 Genesis 4:15 וַיֹּ֨אמֶר לוֹ֜ יְהוָ֗ה לָכֵן֙ כָּל־הֹרֵ֣ג קַ֔יִן שִׁבְעָתַ֖יִם יֻקָּ֑ם

way-yṓmɛr$_5$ l-ṓ$_5$ YHWH$_3$ lå̄-ḵén$_3$ kå̄l-hōréḡ$_5$ qáyin$_2$ šiḇʿå̄ṯáyim$_2$ yuqqǻm$_1$
'Then the **LORD** said to him, "Not so! Whoever kills Cain will suffer a sevenfold vengeance."'

Each of the *ṭəʿå̄mīm* is thus analyzed as either being neutral or having discourse function. The examples here are obviously only to demonstrate an instance of the phenomenon. Lode[169] includes lists from Genesis with details about the nuances of each text. It seems that a more detailed study of all genres and different books is needed, but Lode's preliminary results show an interesting connection between the most common *neutral ṭəʿå̄mīm* and the less common *discourse ṭəʿå̄mīm.*

[168] Lode (1994:165)

[169] Lode (1994:167-171)

5.4 Conclusion

This chapter has looked at two different levels of supra-segmental analysis, prosody and discourse linguistics. The objections to a purely syntactic reading that led to the prosodic analyses discussed in 5.2 are interesting. It seems that as long as prosody and syntax are in line, there are no issues. When syntax and prosody are not in agreement, complications arise and a syntactic model must find answers. That the prosody of the verse is relevant here, is not in question. I think prosody does at some level help the analysis. The trouble is finding a representation or a theory to explain it. Up to now, the best theory for explaining why the prosodic structure is how it is is not Dresher's modern prosodic representation, but rather the accent-syntactic analyses à la Jacobsen[170] and Price.[171] That is to say that finding a prosodic analysis that is both independent of the individual verse and not based on a resetting of the relative weight of the *ṭəʿå̄mīm* at the end of each verse is not possible. All of this does, however, suggest that when a syntactic analysis of the *ṭəʿå̄mīm* does not make sense, prosodic considerations are likely to aid in understanding. Churchyard's observation is quite important to understanding the relationship between prosody and the *ṭəʿå̄mīm:*

> The Tiberian Masoretes probably found it feasible to develop such an orthographic notation which can be interpreted as a hierarchical constituent parse because of a special property of the Hebrew language – that phrasal constituents always have prominence on their last subconstituent (i.e. are prosodically right-headed). This means that the more prominent (in phrasal terms) the main-stress on a word is, the higher the level of the prosodic constituency break that occurs immediately following that word; therefore, by creating a set

[170] Jacobson (2002)

[171] Price (1990)

> of graphemes to denote word-stresses of lesser and greater degrees of phrasal prosodic prominence, a linear sequence of such main-stress graphemes (or "accents") can be read off as a nested phrasal constituency parse, under the assumption of phrase-final prominence.[172]

The second section of this chapter, on discourse linguistics, poses an interesting question, but needs more research to be a viable hypothesis. The analysis presented makes a clear case for certain *ṭəʿå̄mīm* being interpreted as marking intonational difference that is relevant for discourse. The problem, however, is finding the whether or not the so-called neutral *ṭəʿå̄mīm* never cause such intonation. In other words, it is interesting that patterns emerge connected to the deeply embedded *ṭəʿå̄mīm,* but are shorter verses that follow the normal VSOX pattern analyzed differently based on the discourse features found within verse? A second question is what this means for other genres, such as legal texts, prophecy, etc. The structure of a narrative is after all quite different from a legal text or prophecy, but the *ṭəʿå̄mīm* are used in all genres. These matters aside, the discourse linguistic approach offers an interesting addition to the discussion on the linguistic basis of the *ṭəʿå̄mīm.*

[172] Churchyard (1999:221-222)

6 The Linguistic Basis of the *ṭəʿå̄mīm*

The starting point of this thesis was to investigate the linguistic basis of the *ṭəʿå̄mīm,* at as many levels as possible. It has been shown that at every level of linguistic inquiry, from the word to the discourse, that there are linguistic motivations for the use and placement of the *ṭəʿå̄mīm.* In this final chapter, I will review the major arguments for each of the linguistic levels (6.1) and present a few examples where the linguistic basis aids in the understanding and interpretation of a text (6.2). In the closing section I will discuss what the sum of the arguments and analyses given above mean for my understanding of the *ṭəʿå̄mīm.*

6.1 The Arguments

The investigation began by looking at word-level matter, where there are two important arguments for the linguistic motivation of the *ṭəʿå̄mīm.* First, the placement of the *ṭəʿå̄mīm* on the syllable bearing primary stress, and the additional marking of secondary stress by the *gaʿyå̄* serves to distinguish between forms that were otherwise identical. In addition to this, the rules governing stress-retraction would not be intuitive to non-native speakers trying to read the text. The placement of the accents secured the proper reading. Second, this placement of word stress is important for readers by marking where vowels are long in closed syllables. In these ways the placement of the *ṭəʿå̄mīm* is linguistically motivated at the word level.

At the phrase level, it was shown that the Masoretes were concerned with phonological phenomena in the way they allowed sandhi spirantization to take place

when using conjunctive *ṭəʿå̄mīm* but not disjunctive. At the syntactic level, the analysis of construct phrases shows the *ṭəʿå̄mīm* can distinguish cases that are only relevant from a syntactic point of view. In addition, the consistency with which phrases are analyzed shows a focus on the structure of the text.

At the level of the verse, the syntactic basis of the analysis seen at the phrase level was expanded. A variety of examples show that the placement of the *ṭəʿå̄mīm* was done with care to reflect the Masoretic understanding of the text. The Masoretic Parsing Principle was shown to be implemented on a variety of syntactic structures that diverge from the normal VSOX structure of TH. These examples show that even when difficult syntactic issues arise, there is a method to the distribution of the *ṭəʿå̄mīm.*

At the prosodic level, it was shown that prosody may play a role in the determination of the accents. Especially the fact that TH has been shown to have right edge restrictions explains the fact that the *ṭəʿå̄mīm* could function in the way they do. Prosody most likely complements the role of syntax in the distribution of the *ṭəʿå̄mīm.*

At the discourse level, a theory was presented that places the *ṭəʿå̄mīm* into two groups, the neutral *ṭəʿå̄mīm* and the discourse *ṭəʿå̄mīm.* The neutral *ṭəʿå̄mīm* are placed according to a syntactic analysis but the distribution of the discourse *ṭəʿå̄mīm* is dependent on an understanding of the flow of the narrative. The evidence points to this being a possible interpretation in the narratives of Genesis, but more research is needed in other genres to make a stronger case.

On top of all of this, it is certain that there were musical/melodic considerations in choosing certain *ṭəʿå̄mīm*. I discussed at length in chapter 1 the combinations of the *ṭəʿå̄mīm* and which ones would be substituted for another under certain circumstances, which is surely the result of the melodies of the individual *ṭəʿå̄mīm*.

6.2 The Importance of the Syntactic Analysis

The importance of the syntactic analysis given by the *ṭəʿå̄mīm* can be seen in numerous texts that would otherwise be ambiguous. I will look at several examples here were the interpretation of the text is dependent on the location of the *ṭəʿå̄mīm*.

6.2.1 Domain of a sentence adverbial

118 Exodus 17:9[173]

וַיֹּ֨אמֶר מֹשֶׁ֜ה אֶל־יְהוֹשֻׁ֗עַ בְּחַר־לָ֤נוּ אֲנָשִׁים֙ וְצֵ֣א הִלָּחֵ֔ם בַּעֲמָלֵ֖ק מָחָ֑ר אָנֹכִ֗י נִצָּב֙ עַל־רֹ֣אשׁ הַגִּבְעָ֔ה וּמַטֵּ֥ה הָאֱלֹהִ֖ים בְּיָדִֽי׃

D_I D_{II} D_{III} D_{IV}

way-yṓmɛr$_5$ *mōšɛ́*$_5$ *ʾɛl-yəhōšúaʿ*$_3$

bəḥar-lå̄nū$_5$ *ʾănå̄šī́m*$_2$

wə-ṣɛ́$_2$

hillå̄ḥḗm$_5$ *ba-ʿămå̄lḗq*$_1$

må̄ḥå̄r$_3$

ʾå̄nōḵī́$_5$ *niṣṣå̄ḇ*$_3$

ʿal-rṓš$_5$ *hag-giḇʿå̄*$_2$

ū-maṭṭḗ$_5$ *hå̄-ʾɛ̆lōhī́m*$_2$

bə-yå̄ḏī́$_1$

[173] Tov (2001:68)

There are two possible interpretations, depending on the location of the *ʾaṯnå̄ḥ*.

Following the Tiberian reading we read:

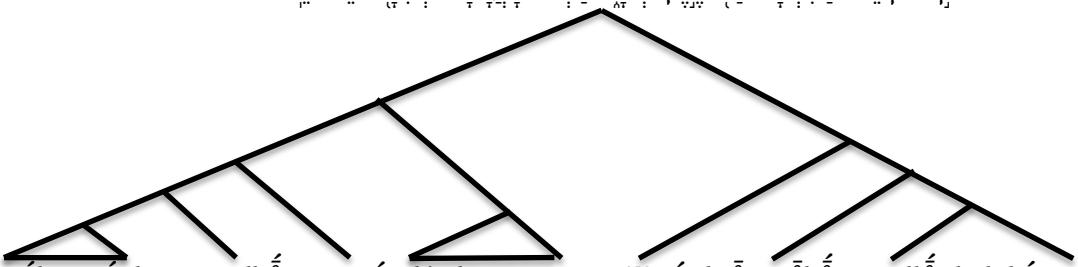
‘Moses said to Joshua, “Choose some men for us and go out, fight with Amalek. Tomorrow I will stand on the top of the hill with the staff of God in my hand.”’

However, had the *ʾaṯnå̄ḥ* been on the following word, thus connecting the sentence adverbial to the first half of the verse, not the second, the reading would be:

‘Moses said to Joshua, “Tomorrow, choose some men for us and go out, fight with Amalek. I will stand on the top of the hill with the staff of God in my hand.”’

6.2.2 Domain of an adverbial complement

119 Isaiah 40:3[174] קוֹל קוֹרֵא בַּמִּדְבָּר פַּנּוּ דֶּרֶךְ יְהוָה יַשְּׁרוּ בָעֲרָבָה מְסִלָּה לֵאלֹהֵינוּ׃



qṓl$_5$ *qōré*$_2$ *b-am-miḏbå̄r*$_2$ *pannṹ*$_2$ *dérɛḵ*$_5$ *YHWH*$_1$ *yaššərṹ*$_2$ *b-å̄-ʿărå̄bå̄*$_2$ *məsillå̄*$_2$ *lē-lōhénū*$_1$

In this case, the *ṭəʿå̄mīm* show an analysis at odds with the Greek *Septuagint,* the Greek reading shows a closer connection between *qōrē* ‘calling out’ and *b-am-miḏbå̄r* ‘in the desert’ giving:

‘A voice in the desert calling out “prepare the way of the LORD, make straight in the desert a highway for our God.”’

The Tiberian pointing, however, reads:

[174] Edzard (manuscript)

‘A voice calling out “In the desert prepare the way of the LORD, make straight in the desert a highway for our God.”’

6.2.3 Plural subject with singular verb

120 Genesis 7:7 וַיָּבֹא נֹחַ֮ וּבָנָיו֒ וְאִשְׁתּ֣וֹ וּנְשֵׁי־בָנָ֗יו אִתּוֹ֙ אֶל־הַתֵּבָ֔ה מִפְּנֵ֖י מֵ֣י הַמַּבּֽוּל׃

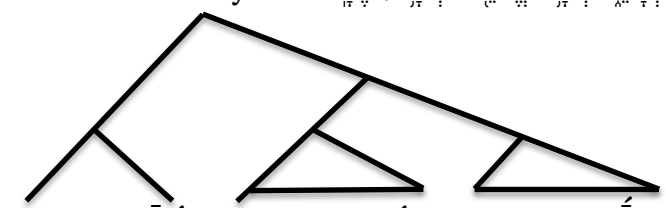
D_I D_{II} D_{III} D_{IV}
way-yā̱bō$_5$ *nṓaḥ*$_3$
ū-bā̱nā̱w$_4$
wə-ʾištṓ$_5$ *ū-nšê-bā̱nā̱w*$_3$
ʾitt-ṓ$_2$
ʾɛl-hat-tēbā̱$_1$
mip-pənḗ$_2$
mḗ$_5$ *ham-mabbū́l*$_1$

Here, a seeming anomaly in Hebrew grammar is explained by the placement of the *ṭəʿā̱mīm.* The verb, *way-hī,* is singular, but there are several subjects. The *ṭəʿā̱mīm,* however, show that *nōaḥ* is to be seen as the subject, and the others involved are separated from the verb by a major break (*ʾaṯnā̱ḥ*). Thus, the verse should be read:

‘And Noah went into the ark, with his sons and his wife and his sons’ wives, to escape the waters of the flood.’

6.2.4 Noun Phrase structure

121 Deuteronomy 6:4 שְׁמַע֙ יִשְׂרָאֵ֔ל יְהוָ֥ה אֱלֹהֵ֖ינוּ יְהוָ֥ה | אֶחָֽד׃



šəmáʿ$_2$ *yiśrā̱ʾḗl*$_1$ *YHWH*$_5$ *ʾĕlōhḗnū*$_2$ *YHWH*$_5$ *ʾɛḥā̱ḏ*$_1$

This example shows a notorious problem in interpreting a string of nouns. They could be seen as being in construct to one another, in apposition or as being nominal phrases. The conjunctive *ṭəʿå̄mīm* on *YHWH* and the strong disjunctive on *ʾĕlōhēnū* make the most likely analysis of the second half of the verse a string of two nominal phrases in apposition to one another:

'Hear, O Israel! The LORD is our God, the LORD is one.'

6.3 Conclusion

These examples show the importance of the placement of the *ṭəʿå̄mīm* for the interpretation of the Biblical text. And this was, of course, the primary concern of the Masoretes. We must not forget that in addition to the vowels and *ṭəʿå̄mīm,* the Masoretes annotated the entire text, counting minute details and noting how often certain phenomena occur (including the use of the *ṭəʿå̄mīm!)* Their singular goal was to transmit the text of the HB as they had received and assure that later generations would be able to use the HB properly. The *ṭəʿå̄mīm* are thus a part of a much larger system which was meant to protect the integrity of the text.

With this in mind, let us revisit the points above. Surely the placement of the *ṭəʿå̄mīm* on the main stress of the word fits this description of the goals of the Masoretes. At the level of syntax, I believe it is clear that the primary concern of the Masoretes was to avoid misunderstanding and misinterpretations of the text. The examples above show that the accentuation protects certain readings and makes others invalid – according to the Masoretic understanding of the text they had

received. In addition, the use of certain *ṭəʿå̄mīm* in certain situations may reflect discourse features, giving a rising intonation to increase the excitement of a text, or a decline to show the resolution of a situation. At all of these levels, the placement of the *ṭəʿå̄mīm* is linguistically motivated. Where the analyses don't seem to match up with syntax, I propose a very simple solution – in certain situations, where the syntax was otherwise clear, the Masoretes could choose a prosodically more accurate reading instead of the consistent syntactic parsing. As was pointed out above, the syntactic and prosodic structure of TH makes this analysis possible. More often than not, syntax and prosody agree on the parsing. Where they do not, if no misunderstandings were possible, a break may be moved to protect the melody. But, in difficult situations where the accentuation could change the meaning, the analysis was syntactic. Again, in addition to all this is the melody. Wherever the received pronunciation and recitation of the text required it, the Masoretes followed those – even marking in the text that they had done so.

I do not believe that a single theory of syntax, prosody, melody or any other feature will be able to take entirely explain the distribution of the *ṭəʿå̄mīm.* In the end, I believe it was precisely the desire to pass on their understandings of grammar and music, of syntax and prosody that led the Masoretes to mark the text with the *ṭəʿå̄mīm.*

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